

Accredited Drug Shops Training

Uganda

Background on Accredited Drug Shops (ADS)



Objectives

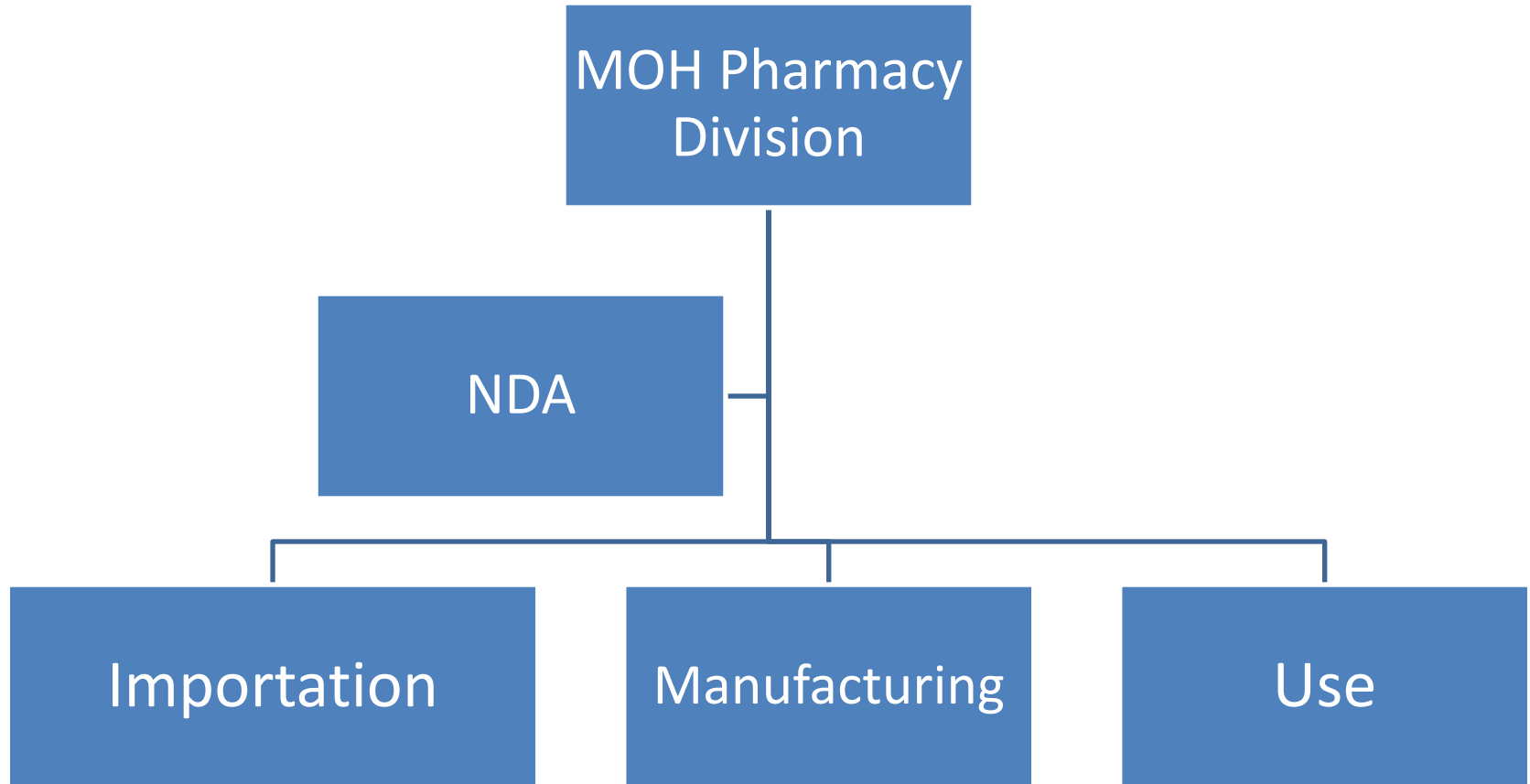
As a result of actively participating in this session, the individual will be able to:

1. Describe the pharmaceutical sector of Uganda.
2. Describe the Accredited Drug Shop (ADS) concept.
3. Describe the role of ADS in service delivery.

The Pharmaceutical Sector in Uganda

- Headed by the Pharmacy Division of the Ministry of Health (MOH).
- National Drug Authority (NDA) under the MOH is responsible for controlling importation, manufacturing, and use of medicines in Uganda.
- Most of the medicines used in Uganda are imported and a small percentage are manufactured locally.

The Pharmaceutical Sector in Uganda



Pharmaceutical Sector (cont.)

Local manufacturers in Uganda include:

- Kampala Pharmaceutical Industries
- Rene Industries
- Medipharm
- Abacus
- Mavid Pharmaceuticals

Imported Pharmaceuticals

- The biggest percentage of medicines imported into the country come from India and China.
- A small percentage come from Europe and the rest of Africa, mainly from Kenya and Egypt.

Distribution of Pharmaceuticals

- The distribution of pharmaceuticals in Uganda is through either public or private sources.
- Public distribution is controlled by the National Medical Stores, which distributes all medicines and health supplies to government health centres and hospitals.

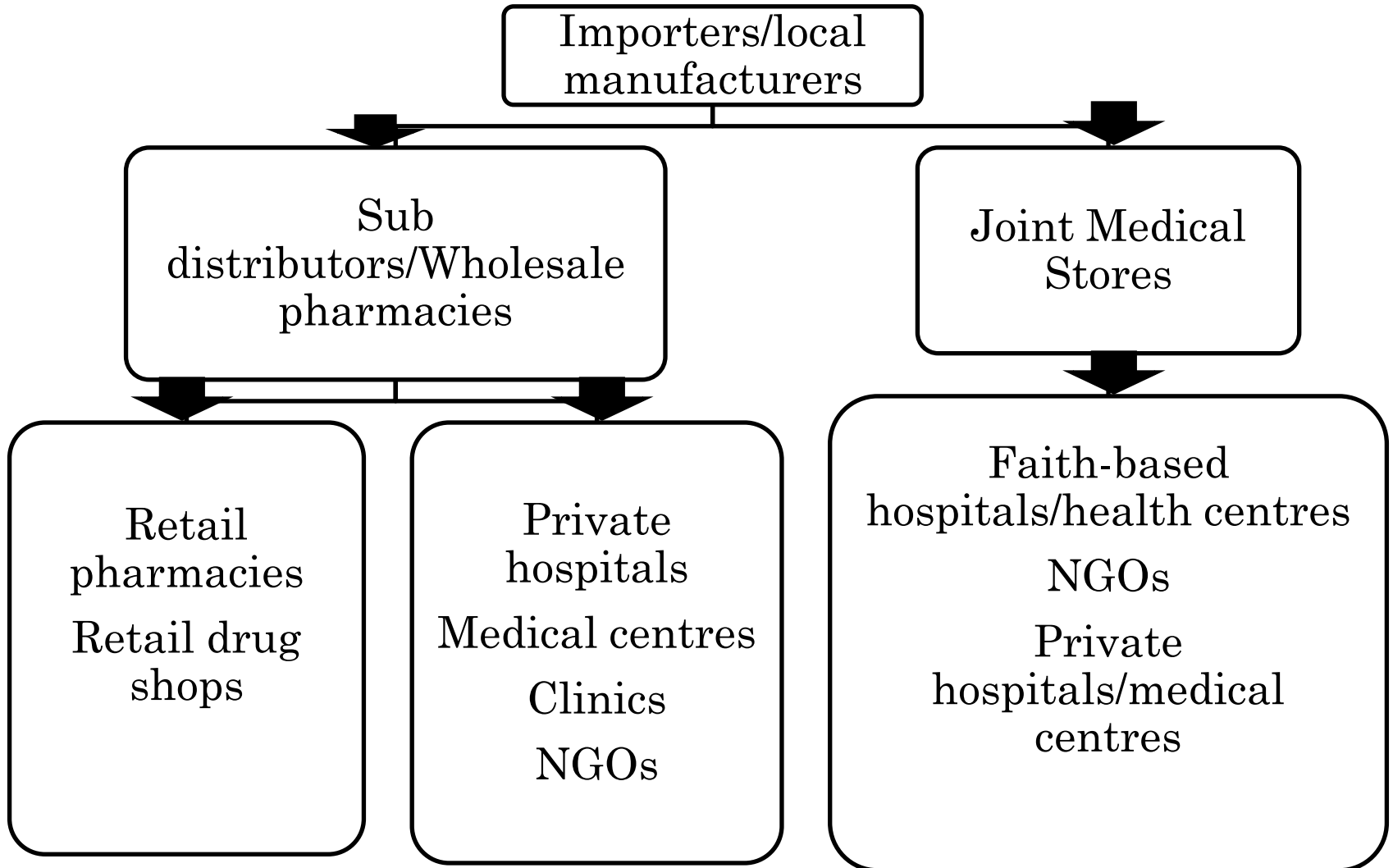
Distribution in the Private Sector

- The distributors of pharmaceuticals in the private sector include direct importers and wholesalers.
- The direct importers supply wholesalers, which are distributed countrywide, especially in major towns, such as municipalities and town councils.

Distribution (cont.)

- Wholesalers then sell the medicines and supplies to retail pharmacies, drug shops, clinics, private hospitals, nongovernmental organizations (NGO), and faith-based hospitals.
- Joint Medical Stores mainly supply faith-based hospitals, NGOs, and medium-size medical centres and private hospitals.

Pharmaceutical Sector



Pharmaceutical Services

- Pharmaceutical services are mainly concentrated in big towns, such as Kampala, Mbarara, Jinja, Masaka, Gulu, etc.
- Retail pharmacies, which are allowed to stock a wide range of both prescription and over-the-counter (OTC) medicines, mainly serve the urban community.

Pharmaceutical Services (cont.)

- Class C drug shops are allowed to stock OTC medicines only.
- These shops are left to serve the rural community, which has an equal need for prescription medicines.
- This imbalanced distribution of pharmaceutical services has led to the establishment of ADS.

Pharmaceutical Services (cont.)

- ADS are allowed to stock a wider range of medicines than Class C shops, including some prescription medicines that are highly needed in the community.
- The ADS are mainly intended to serve the rural communities that are far from pharmacies.

The Accredited Drug Shop Model

- An ADS is a drug shop that is allowed to sell a wider range of medicines, including some prescription medicines.
- The ADS are medicine outlets that were created by the National Drug Authority in response to poor access to medicines.

ADS Model (cont.)

- The current ADS are created from an existing Class C drug shop.
- The idea of setting up ADS originated from Tanzania, where the results were excellent in terms of medicine access.
- It was then introduced to Uganda and started in Kibaale district, with the help of Management Sciences for Health (MSH).

ADS Model (cont.)

- The operations of ADS are regulated by the NDA, in conjunction with the office of the District Health Officer (DHO) and the district association of accredited drug shops sellers and owners.

ADS Model (cont.)

Besides the NDA, professional bodies with keen interest in the operation of the ADS include:

- Uganda Nurses and Midwives Council
- Allied Health Professionals Council
- Pharmaceutical Society of Uganda (PSU)

ADS Model (cont.)

- Professional bodies such as PSU are responsible for the regulation of pharmaceutical services in Uganda.
- Nurses' council and allied health professionals' council are involved because of the individuals who are involved in the operation of the ADS.

Why Are ADS Needed in Uganda?

To improve the availability of medicines:

- Essential medicines are available in all drug shops.

To improve care provided in the community for:

- Malaria
- Family planning (FP)
- Maternal health
- Childhood illness care

To reduce inappropriate practices:

- Prescribing unneeded antibiotics for ailments (respiratory problems, gastrointestinal problems, etc.)
- Injecting medicines when tablets are safer and equally effective
- Poor storage of medicines
- Untidiness
- Dumping of expired medicines

Requirements for Accreditation

- Class C drug shops (licensed) that meet specific criteria are eligible for accreditation.
- Accreditation: Means approved by the NDA to dispense an enhanced list of medicines and manage selected diseases.

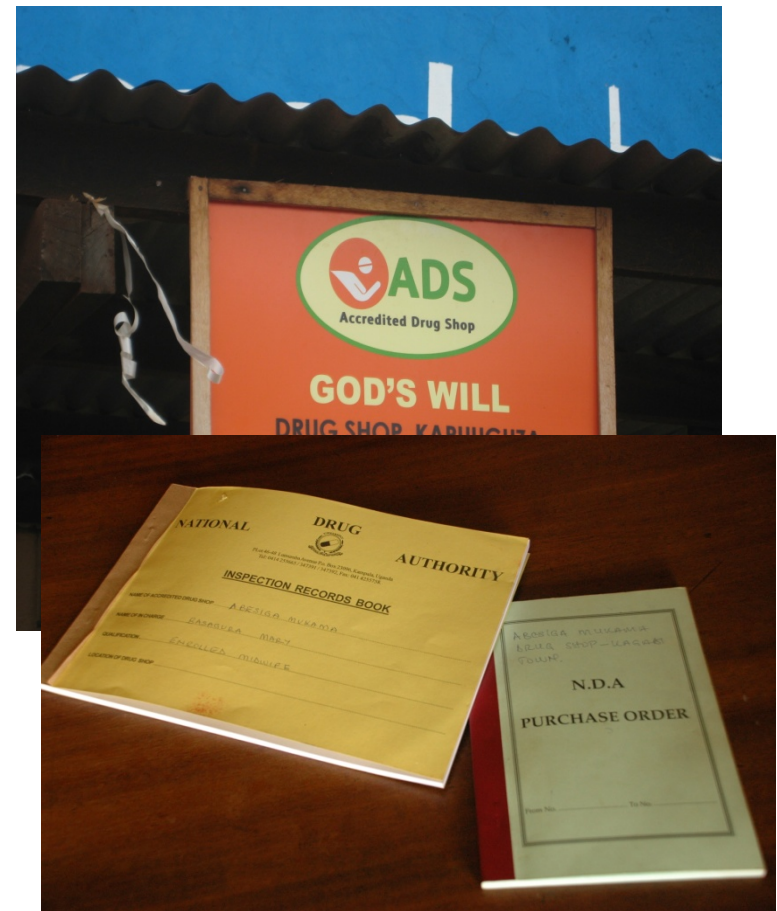
Requirements (cont.)

This happens after:

- Passing inspection
- Completing the training component and passing the examination
- Adopting the approved ethical code
- **Note:** Once accredited, the Class C shops are called Accredited Drug Shops (ADS).

Requirements (cont.)

- Local monitors are trained and report drug shop regulatory abuse to the NDA.
- Regular inspection is conducted by the NDA.
- An accreditation certificate is issued to the successful applicants.



Requirements (cont.)

The ADS is supplied with materials, such as a dispensing coat, record books, ADS sign post, etc.

Expected Practices at the ADS

- Purchasing from licensed suppliers
- Proper storage
- Ensuring the quality of medicines
- Proper dispensing of medicines
- Management of selected illnesses in children above 2 months and adults

Expected Practices at the ADS (cont.)

- Management of childhood illnesses (non-bloody diarrhoea, pneumonia, and malaria)- Integrated Community Case Management (ICCM) strategy
- Referring in cases of danger signs
- Education and referral of patients with chronic conditions
- Counselling and initiating mothers for FP
- Counselling mothers on newborn care, nutrition, and immunisation of children under 5 years
- Early reporting of outbreaks

Conditions That Can Be Managed at the ADS

- Uncomplicated malaria in both adults and children
- Upper respiratory tract infections
 - Common colds, allergic rhinitis (adults and children)
 - Non- severe pneumonia **only in children 2 months to 5 years** (with no danger signs or chest in-drawing, or stridor in calm child)
- Non-bloody diarrhoea in children and adults **except** in cases of severe diarrhoea or severe dehydration, or persistent diarrhoea

Conditions That Can Be Managed at the ADS (cont.)

- Anaemia and malnutrition in children 2 months to 5 years only, except for severe cases as defined in the ADS manual
- Sexually transmitted infections (STI)
- Minor skin conditions, such as boils, ringworm, athlete's foot, scabies, chicken pox, nappy rash, minor cuts, and skin allergies
- Eye conditions only, including foreign bodies and sty
- Treatment of lice
- Management of some STIs

Benefits of ADS

- ADS will be allowed to stock medicines and other health-related commodities beyond what is generally allowed by ordinary Class C drug shops.
- Medicine sellers and owners will be trained in business management, medicines management, and patient care.

Benefits (cont.)

- There will be a public awareness campaign so that patients will know that ADS provide good care and are a good place to seek help.
- There will be support supervision and regular monitoring.

Conclusion

The health sector in Uganda is faced with a number of problems, which include:

- Poor access to medicines, especially the rural community.
- Poor access to FP methods.
- Inadequate access to child health services.

The creation of ADS is intended to solve these above problems.

Accredited Drug Shops Training

Uganda

Ethics, Laws & Regulations



Objectives

As a result of actively participating in this session, the individual will be able to:

1. Explain the laws governing the ADS.
2. Describe the acceptable standards for setting up an ADS.
3. Describe the required code of ethics of an ADS seller.

Definitions

Laws

- Laws are rules that govern human conduct and are binding to all persons within a given state or nation.

Regulations

- Regulations are more specific rules controlling or restricting a specific activity.

Guidelines

- These are instructions on how to implement or to enforce the laws.

Policy

- A policy is a point of reference or general understanding to guide or influence decision making regarding long-term actions.

Drug policy

- Is a policy that is focused on improving the availability and accessibility of medicines, e.g., a policy on the accreditation of drug shops.

Regulation of Medicines

- A set of laws, regulations, guidelines, and policies.
- It provides a basis for control over the manufacture, distribution, marketing, and surveillance of these products.

Why Regulate Medicines?

- Patients' dependence on health workers for medicines advice.
- Conflict of interest.
- Possibility of the medicines causing harm.
- The increased number of individuals involved in the manufacture and sale of medicines.

Aim of Regulating Medicines

- To ensure that quality medicines are available to retailers and consumers.
- To safeguard the welfare of the patient and the community.
- To ensure that qualified personnel are involved in the handling of medicines.
- To ensure that medicines are supplied and sold in suitable premises and using suitable equipment.

What Products Are Regulated?

Any products for:

- Diagnosing
- Treating
- Preventing
- Managing disease
- Control of contraception both in humans and animals
- Compensating for an injury or handicap

Regulation of ADS

- Regulatory body for the ADS is the NDA, which is guided by the National Drug Policy and Authority statute.
- The NDA works with the DHO and other players (e.g., PDSA and local district authorities) to support its functions.

NDA Functions

- Sets standards for the operation of drug shops and pharmacies.
- Licensing and accreditation.
- Regular inspection to ensure compliance with set standards and practices.
- Approves essential medicines list; determines which medicines are to be stocked in drug shops.
- Controls the sale of pharmaceuticals.
- Controls medicines quality.

Regulation: Role of District Authorities

- The DHO in every district is mandated to oversee all health-related activities and ensure that they meet the required standards.
- The DHO will delegate teams to regularly assess the health-related activities in both the public and private sectors.
- The DHO is also involved in the licensing and accreditation of ADS.

Self-Regulation: The Role of the DSA

- The Drug Sellers' Association (DSA) will provide a framework for self-monitoring and will develop a supervision program that will help the Association monitor its members.
- Self-regulation will allow members of the DSA to manage their own affairs, including managing their own performance.
- A team composed of representatives from the DSA shall regularly visit the ADS, at least every two months using the checklists developed.

Regular Monitoring and Supportive Supervision

- The objectives are:
 - To ensure that the ADS sellers and owners perform and conform to the regulatory guidelines.
 - To provide onsite support and mentoring.
- The team will include:
 - In-charge from a Health Centre (HC) III
 - A representative of the DSA at the sub-county level.

This team shall make quarterly supervision visits using a standard checklist and will be trained to supervise and write reports.

Procedures for Routine Supportive Supervision

The supervision team will:

- Inform owners and drug sellers about the activity.
- Notify the local authorities about the impending inspection exercise before starting.
- Visit each outlet and assess the premises, stock management, and dispensing practices using a supervision checklist.
- Share findings with the drug seller and owner.
- Provide practical training, orientation, and mentoring onsite.

What is the ADS Seller's Role During Supervision?

- Make yourself available to the supervision team.
- Provide the supervisors access to the shop.
- Make any records and documents related to the shop available.
- Take notes; respond to questions.
- Obtain ideas from the supervision team.

Standards for Operating ADS

A **standard** refers to a level of quality or a specified level of quality. Services will be considered to be of poor quality if they are perceived to fall below the stipulated standard.

- **Standards for Personnel**
- **Standards for Premises**
- **Standards for Dispensing**
- **Standards for Record Keeping and Documentation:**
Purchase record, Rx books, expiry record book, sales record, inspectors' record book , referral notes, FP register, ADS manual, BNF

Standards for Personnel

Personnel in-charge of the ADS should have medical background, e.g., nurse, midwife, clinical officer.

Seller:

- Personnel selling at the ADS should have minimum qualifications assistant with UCE certificate.
- In addition, they should attend a training course for ADS.

Standards for Personnel (cont.)

Code of conduct:

- Dress in a professional manner, e.g., wear a clean white coat.
- Do not work under the influence of alcohol or illicit drugs.
- Prominently display his/her ADS certificate in the accredited drug shop.

Standards for Personnel (cont.)

- Wear a photo identification badge that identifies him/her as an accredited drug seller.
- Observe all regulations pertained to operating the Accredited Drug Shop.
- Observe laws contained in the NDP/A Act.
- Be of sound mind and in sound medical condition.
- Conduct himself/herself in a manner that does not cause professional disrepute.
- Observe high standards of personal hygiene.

Standards for Personnel (cont.)

- A commitment letter shall be written and signed by the drug seller committing him/her to working with an ADS for a specific period of time.
- Three month's notice shall be required if a drug seller plans to resign from a particular accredited drug shop.

The ADS Personnel Code of Ethics and Conduct

- Honesty and integrity
- Patient care
- Special relationship with patients
- Confidentiality
- Do not condone low quality medical service
- Collaborate with other health workers
- Be responsible for assuring and improving competence
- Owners not to require sellers to act illegally
- Health promotion
- No other businesses in the same premises

Examples of Ethical Violations in Medicines Management

- Fraud (giving false information)
- Theft
- Bribery (Kintukidogo)
- Threats
- Nepotism (favoring one tribe)
- Favoritism
- Lack of transparency

Note that some of these ETHICAL violations are also ILLEGAL.

Offences and Penalties

Examples of offences include:

- Selling expired medicines or medicines outside the ADS extended medicines list.
- Purchasing medicines from non-licensed dealers.
- Dispensing medicines purchased from unauthorized dealers.
- Illegally opening an ADS.
- Not paying officially assessed business taxes.

Standards for Documentation and Recording

The following documents shall be used at the ADS:

- Invoices and receipts
- Purchases records book (**Annex 2 in manual**) indicating:
 - name of supplier
 - date of purchase
 - name and quantity of medicines
 - manufacturer, batch number, and expiry date
- A register for expired items shall be maintained (**Annex 3**) and provided to the NDA every quarter.
- An inspector's record book (**Annex 5**).

Expired Medicines Register

EXPIRED AND DAMAGED DRUGS RECORDS BOOK

NAME OF ACCREDITED DRUG SHOP.....

NAME OF IN CHARGE.....

LOCATION OF DRUG SHOP.....

THE FOLLOWING MEDICINES WERE DAMAGED /EXPIRED.

No.	NAME OF THE MEDICINE	QUANTITY	BATCH No.	EXPIRY DATE	DATE DRUGS REVIEWED & COLLECTED BY INSPECTORS	NAME AND SIGNATURE OF INSPECTORS

NB: THESE DRUGS AFTER RECORDING MUST BE SEALED, QUARANTINED AND LABELLED WITH RED INK WITH A STATEMENT "EXPIRED/DAMAGED DRUGS –NOT FOR SALE".

Inspector's Record Book

DRUG

NATIONAL



AUTHORITY

INSPECTORS RECORD BOOK

DATE OF INSPECTION	NAME OF INSPECTORS	PURPOSE OF INSPECTION	OBSERVATIONS AS PER INSPECTION	RECOMMENDATIONS

NB: THIS BOOK SHOULD BE FILLED BY THE SELF REGULATION, SUPPORT SUPERVISION AND INSPECTION TEAMS WHENEVER THEY VISIT THE ACCREDITED DRUG SHOP.

Standards for Documentation and Recording (Cont.)

- Prescribing and dispensing log (**Annex 4**) indicating:
 - Name of the patient and condition/disease for which the prescription was written.
 - Name of the medicine and quantity dispensed.
 - Date the medicine was dispensed.
 - Origin of the prescription and the prescribing doctor.
- All records shall be maintained in the ADS for at least two years.

ADS Accreditation Process

1. Obtain application forms for accreditation (from District Assistant Drug Inspector [DADI], NDA Zonal Inspector, or association).
2. Submit completed forms (to inspector).
3. Wait for NDA inspection.
4. Inspection report is sent to Regional Drug Inspector for NDA approval.
5. After inspection, successful applicants will be given training for accreditation.
6. Certificates are issued after successful completion of the training, deeming them fit to operate as an ADS.

Note: Accreditation will only be given for business to be carried out in an area that is not sufficiently served by existing retail pharmacies.

Standards for Dispensing

- Availability of dispensing materials.
- All medicines stocked must be registered with the NDA.
- All medicines in the ADS should be stored according to the manufacturer's guidelines.
- Should not dispense expired medicines.
- Should be able to identify and refer complicated cases.

Standards for Dispensing (cont.)

- All prescription medicines to be dispensed on a written valid prescription.
- Maintain proper records of dispensed medicines.
- Medicines should be dispensed in proper containers that are clearly labelled.
- All medicines should be given with proper instructions.

Standards for Premises

- Be of a permanent nature.
- The roof should not be leaking and should have a ceiling.
- Space should be big enough (at least 16m²) to carry out proper dispensing.
- The walls and floors should have smooth surfaces.

Standards for Premises (cont.)

- The walls should be painted white or any other bright colour.
- Availability of water, latrine.
- Availability of sign post for ADS.

Resources to Keep at the ADS

Readings:

- Pharmacy and Drugs Act, 1970
- National Drug Authority and Policy Act
- ADS (expanded) list of medicines
- ADS training manual
- Uganda Clinical Guidelines

Conclusions

- We hope that we have empowered you to provide better health services to our communities, with the elements of the ADS concept in mind.
- We urge you to abide by the ADS Code of Ethics and Conduct while executing your duties.

Accredited Drug Shops Training *Uganda*

Basic Principles of Medicines Management



Objectives

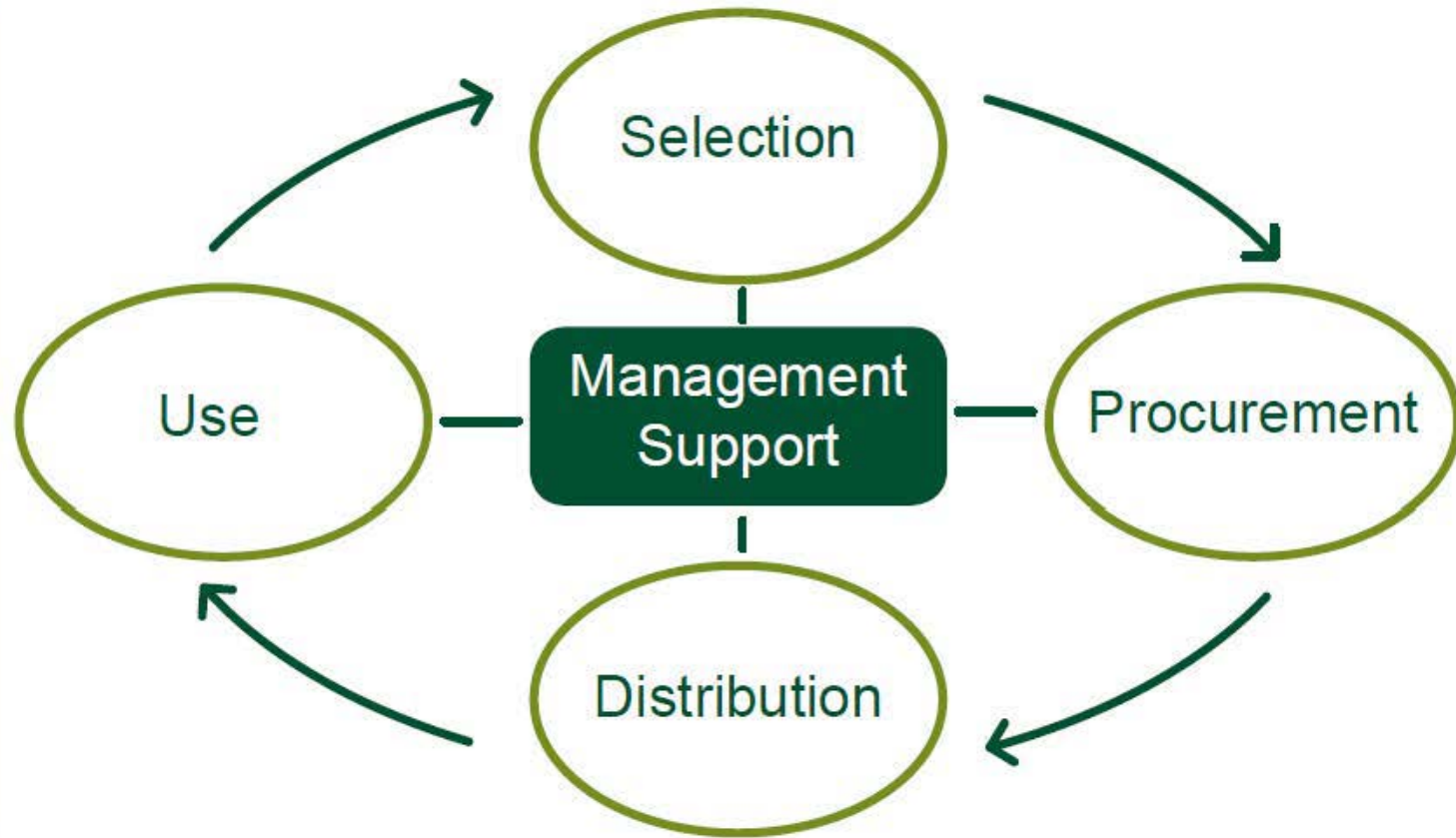
As a result of actively participating in this session, the individual will be able to:

1. State the factors to consider when **selecting** medicines to be stocked.
2. Accurately estimate the **quantities** of medicines to be stocked.
3. State the steps followed when **receiving** medicines.
4. Describe the proper **storage** of medicines in an ADS.
5. State the factors that influence the storage of medicines.

Overview: Medicines Management

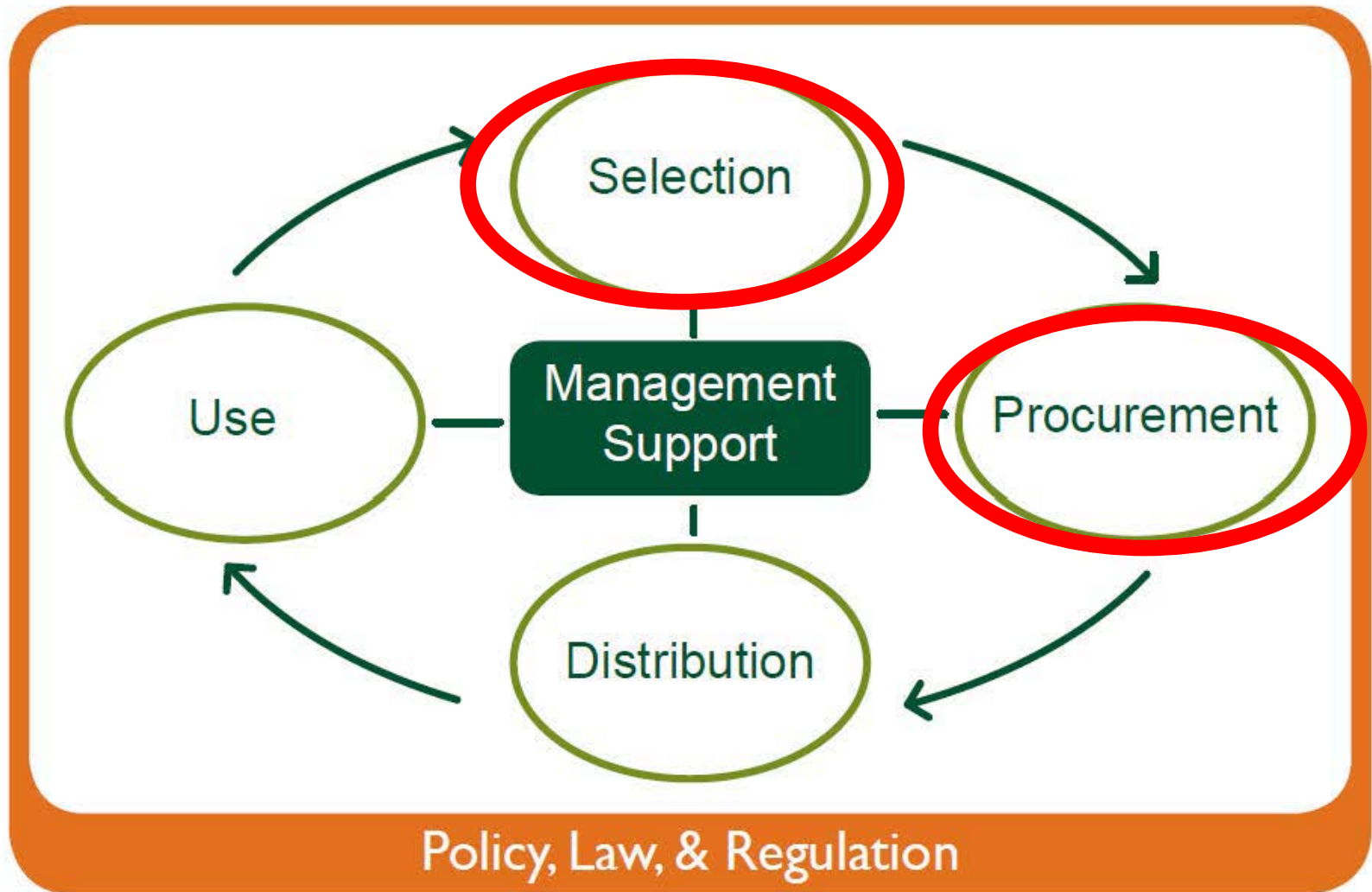
Medicines management is the set of practices aimed at ensuring the timely availability and appropriate use of safe, effective, quality medicines and related health products in any health care setting.

Medicines Management Cycle



Policy, Law, & Regulation

Medicines Management Cycle



Selection

Selection of Medicines

Effective medicines management for the ADS ensures that:

- The right medicines are selected
- Medicines are available:
 - Right quantity
 - Right quality
 - Right cost
 - No stock-outs

Selection of Medicines (cont.)

The type and quantity of medicines selected depend on:

- Prescriptions
- Clients/OTC medicines
- ADS List of Medicines
- Conditions that the ADS can treat
- Special circumstances
- Funds available

Proper Selection

- Limited to ADS expanded list and OTC medicines list.
- No stocking of injectables in ADS.

Proper Selection (cont.)

Thus, the ADS operator needs to:

- Select the proper medicines.
- Make accurate estimates.
- Keep proper records of medicines purchased.
- Keep proper records of medicines dispensed.

Buying/Purchasing/Procurement

Definition and Overview

- Procurement is the process of obtaining medicines from a supplier.
- To buy medicines, the ADS operator needs:
 - List of medicines to be purchased and their quantities.
 - Total amount of money required to purchase the medicines.

How Much Medicine to Buy?

Take into consideration:

- The population served
- Rate of consumption of the medicine
- Pattern of diseases in the area
- Frequency of procurement
- Availability of storage facilities
- Availability of funds
- Distance to be traveled

Calculation

For a particular period of time (e.g., weekly):

- Consumption in the previous week(s)

Source of information on consumption:

- Receipt book
- Sales book

Exercise 1

- KN drug shop sells an average of 6 packets of Coartem adult daily.
- The owner buys the medicines for the drug shop every Monday.
- Calculate the amount needed to be stocked for a week.

Calculation

Name of medicine	Amount sold in a day	Amount sold in a week (7 days)	Amount available before purchase	Amount needed to be purchased
Coartem adult	6	$6 \times 7 = 42$	2 packets	42 packets (the amount to be purchased should not be exact as per the average consumption, i.e., for extras packets)

Sources of Medicine

Medicines and OTC items may be obtained from any of the following:

- Licensed wholesale pharmacies
- Licensed importers
- Licensed cosmetic distributors/wholesalers, in the case of cosmetics
- Licensed general merchandise wholesalers, in the case of items like glucose powder, JIK.

Advantages of Purchasing from Licensed Suppliers

- The products can be obtained at the lowest price.
- Minimizes the chances of buying counterfeit medicines or items.
- In case of any fault in the product, it can be replaced with a new one.
- Licensed suppliers provide receipts for record keeping and for any legal requirements.

Note

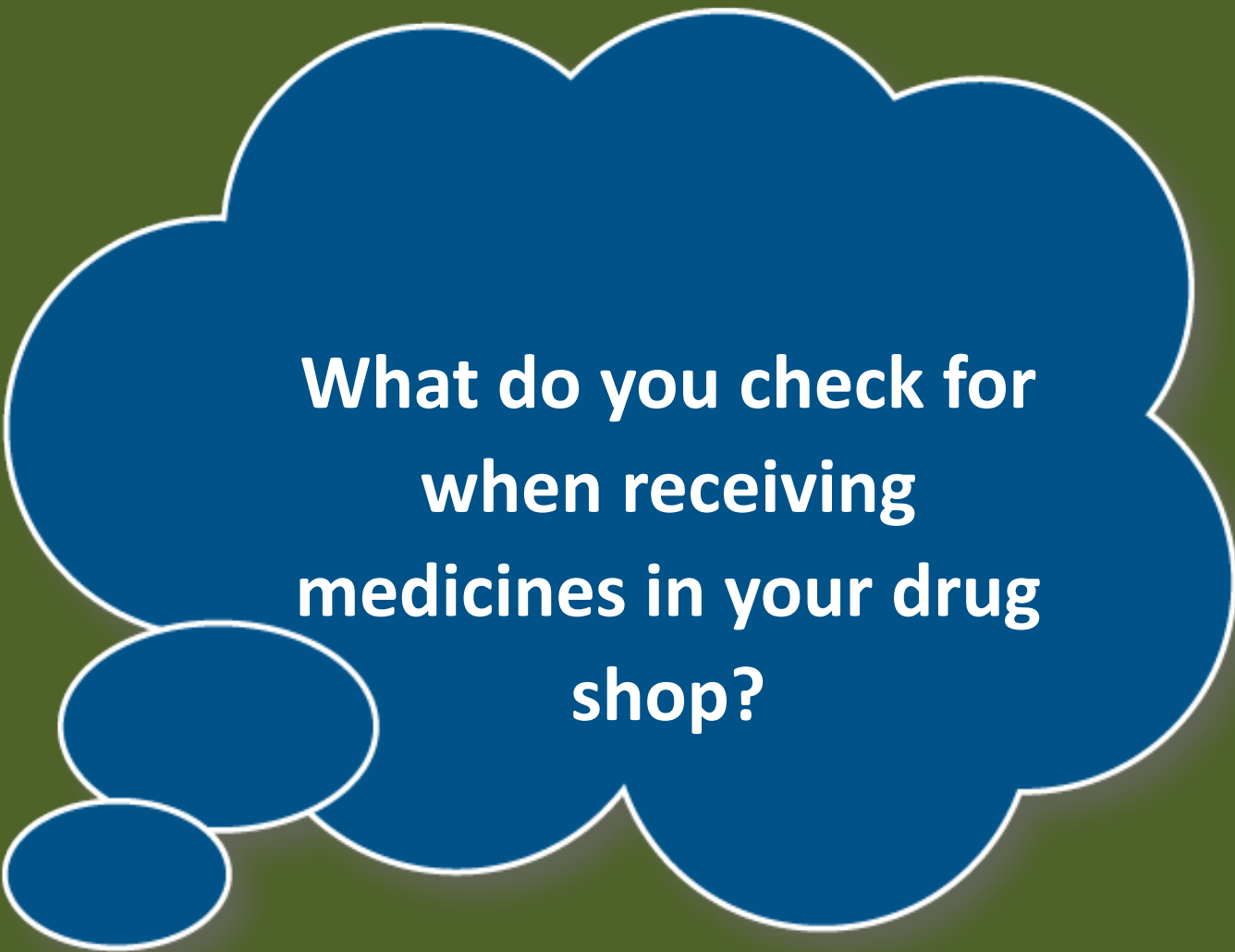
- Never buy medicines from hawkers because the chances of buying stolen medicines or counterfeits are very high.

Sample of Purchase Order List

Name of medicine	Form/ Strength	Unit pack	Unit price	Quantity needed	Total cost
Amoxicillin	Caps 250 mg	100's	3500	2×100	7000
Amoxicillin	Syrup 125 mg/5 ml	100 ml	900	5 bottles	4500
Paracetamol	Tabs 500 mg	100's	2000	2×100	4000
Coartem	Tabs 20/120 mg	24's	1000	8 packets	8000
ORS	Sachet	1's	400	20 sachets	8000
Total amount of money needed					31,500

Receipt of Medicines

- Many times, the receipt of medicines will be done by the pharmacy from where medicines are purchased.
- On rare occasions, the medicines may be delivered by your supplier to the drug shop premises.



**What do you check for
when receiving
medicines in your drug
shop?**

Receipt of Medicines Checklist

Checklist	Remarks
Check the quantity supplied	<ul style="list-style-type: none">✓ Cross check the quantity ordered against what is being supplied on the invoice.✓ Some suppliers may give you more than what you have ordered.✓ This is common for slow moving items or items with short expiry.✓ Take only what you have ordered and budgeted for.✓ Do not accept to be over stocked because of reduction in price/abnormal discounts.
Check the expiry date	<ul style="list-style-type: none">✓ Cross check the expiry dates for every product supplied.✓ Check both the internal (primary) and the external (secondary) packages for uniformity of expiry dates.✓ Do not accept medicines with short expiry even if the price is too low.✓ Do not accept medicines without expiry dates as this might indicate a counterfeit medicine.

Receipt Checklist (cont.)

Check packaging materials	<ul style="list-style-type: none">✓ Helps to identify broken bottles, leakages, stained packaging material.✓ Do not accept medicines whose labels are stained or damaged.
Check the brands	<ul style="list-style-type: none">✓ Cross check the brand name quoted on the purchase list against that given to you.✓ Some customers prefer a particular brand, therefore stick to what your clients need, unless the brand wanted is out of stock.✓ Some suppliers may not inform you about the changes in the brand of medicines being supplied, therefore keep keen attention.
Check the medicine strength	<ul style="list-style-type: none">✓ Cross check the strength of the medicine ordered against what is supplied.✓ This prevents supplying a wrong strength of the medicine, i.e., children's packs may be supplied instead of the requested adult one.✓ Some strengths of medicines are not liked by some clients, e.g., amoxicillin 500 mg.

Receipt of Medicines (cont.)





Hey! I wanted
250 mg tablets,
not 500mg!

Transport of Medicines

- Exposure of medicines to unfavorable conditions (such as direct sunlight, high temperatures, water and dust) spoils them.
- Medicines should therefore be properly packed before transport to avoid exposure to the above conditions.



Pricing of Medicines

Proper pricing of medicines ensures profitability, competitiveness, and sustainability of the business.

Factors to be considered when determining prices include:

- Cost of the medicine
- Transportation cost
- Rent of premises
- Electricity/water
- Salaries/allowances for workers
- Taxes

Note

- Indicate the retail price on the medicine container and the purchase order book.
- Avoid keeping the prices off head and pricing according to the presentation of the customer.
- Variation in prices to different customers may lead to loss of trust and customers.

Storage of Medicines

- Medicines should be stored in a secure place to prevent theft and deterioration (loss of effectiveness).
- Medicines should always be stored:
 - In a locked cupboard or room that can only be accessed by qualified staff.
 - On shelves that can be regularly cleaned to prevent the accumulation of dust.
 - In a dry cool place, away from light.

Arrangement of Medicines

- Medicines should be arranged in such a way that they can easily be located during dispensing.
- They can be arranged on the shelves in various ways based on:
 - Alphabetical order (use generic names).
 - According to dosage forms, e.g., all medicines for oral use can be placed in the same section.
 - According to their clinical uses, i.e., antibiotics, antimalarials, pain killers, etc.

Note

- Arrangement based on clinical uses is the most practical way and the easiest to apply.
- For easy identification, all medicines on the shelves should have properly displayed labels on the containers.

Proper Shelving of Medicines

Section of shelves	Category of medicines	Remarks
Top shelves	Tablets, capsules, bulky light items like syringes, cotton wool	Medicines that are not commonly dispensed. The medicine should not be sensitive to heat.
Middle shelves	Syrups, oral suspensions, e.g., amoxicillin, magnesium trisilicate mixture	Do not put solid medicines (like tablets) below them. This prevents spoilage in case of a leakage.
Bottom shelves	Bulky and heavy items, like disinfectants, e.g., JIK and other liquid preparations, topical creams and ointments	Do not keep the medicines directly on the floor.

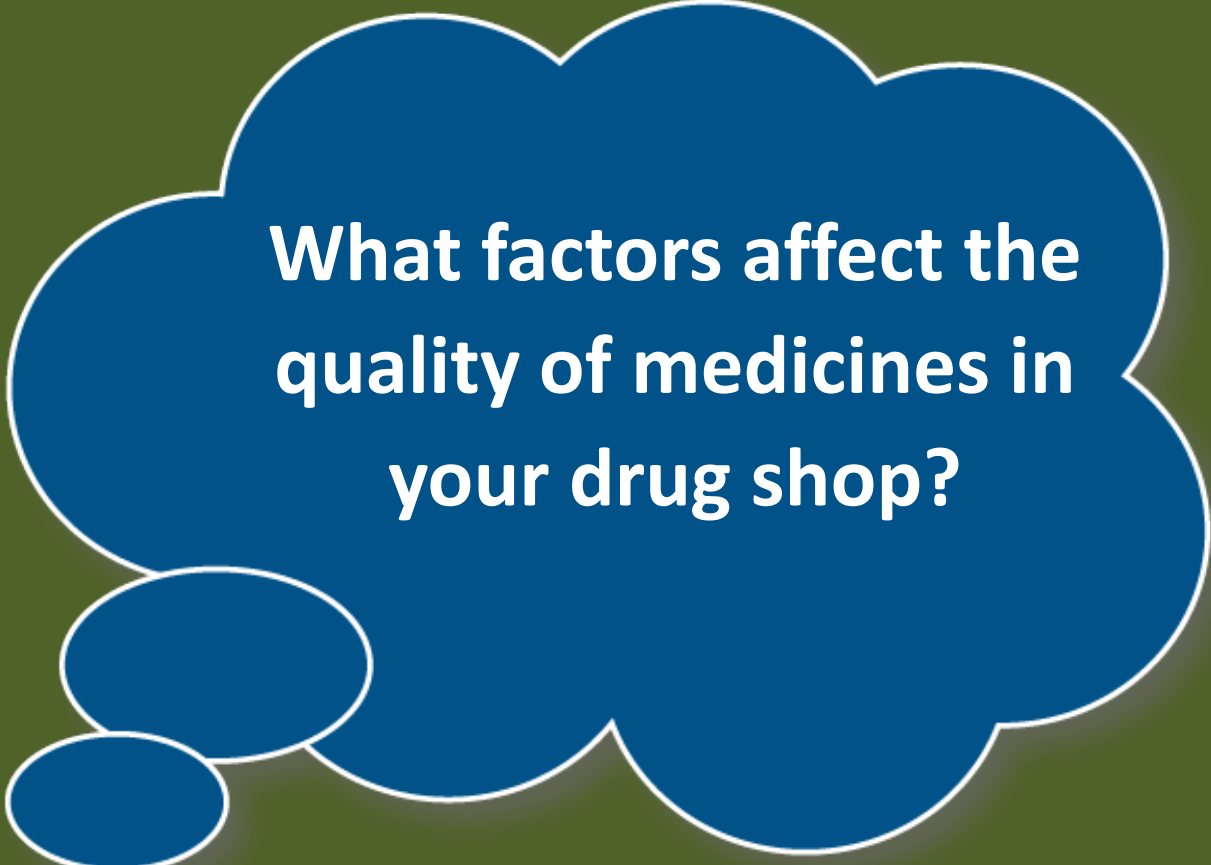
Comparison: Which is a Good Store?



Importance of Proper Arrangement

- Ensures easy dispensing.
- Helps to know the medicines in stock.
- Helps to add new stock without changing everything.
- Helps the qualified staff to get familiar with the medicines in stock and their uses.

Exercise 2



**What factors affect the
quality of medicines in
your drug shop?**

Exercise 3: Role Play the Storage of Medicines

Using the job aid, demonstrate how to prepare and arrange medicines in a store.

Factors that Influence Medicine Quality

The following factors may influence how medicines are stored in a drug shop:

- Heat
- Moisture
- Sunlight
- Dirt

Heat

If you feel **HOT** in your health centre, your drugs are probably **HOT** too! Are they stored in the **COOLEST** spot possible?



Heat

- Most medicines are sensitive to heat.
- Ointments, creams, and suppositories tend to melt when the temperature is very high, i.e., above 30°C.
- Most manufacturers recommend medicines be kept at room temperature (18-25°C).

Storage (cont.)

- Some medicines, such as insulin and vaccines, have to be kept at very low temperatures, i.e., in a fridge.
- Use of fans or proper ventilation of the drug shop maintains a good temperature suitable for medicine storage.

Moisture

- Moisture tends to make tablets crumble or stick together.
- Keep the medicines in a cool but dry place to maintain their effectiveness up to the expiry date.
- Keep all the medicines off the floor to prevent entry of water.

Moisture (cont.)

- Get all roof leaks repaired as soon as possible to reduce moisture and water damage.
- Keep the containers closed before and after use.

Direct Sunlight

- Light can easily damage medicines because it may speed up chemical reactions.
- Most medicines are supplied in containers that protect them from light.
- Prevent direct entry of light into the drug shop by using curtains, especially during the day.
- Paint windows and walls of the drug shop with any light colours, e.g., white, in order to reflect light.

Direct Sunlight (cont.)

- Keep medicines in their original containers provided by the manufacturer, which were designed to protect them from light.
- Keep the containers closed before and after use.



Cleanliness

- Dirt tends to make the medicine degrade faster and lose its effectiveness.
- Keep the drug shop and medicines clean at all times to prevent degradation.
- A clean drug shop creates confidence and shows professionalism.
- Keep the containers closed before and after use.

Summary of Storage Guidelines

- Store medicines on clean, safe, and well maintained shelves.
- Medicines should be protected from light and heat.
- Medicines should be stored in a cool dry place away from pests and rodents.
- Store medicines with short expiry at the front of the shelves and those with long expiries behind (first expiry, first out [FEFO]).

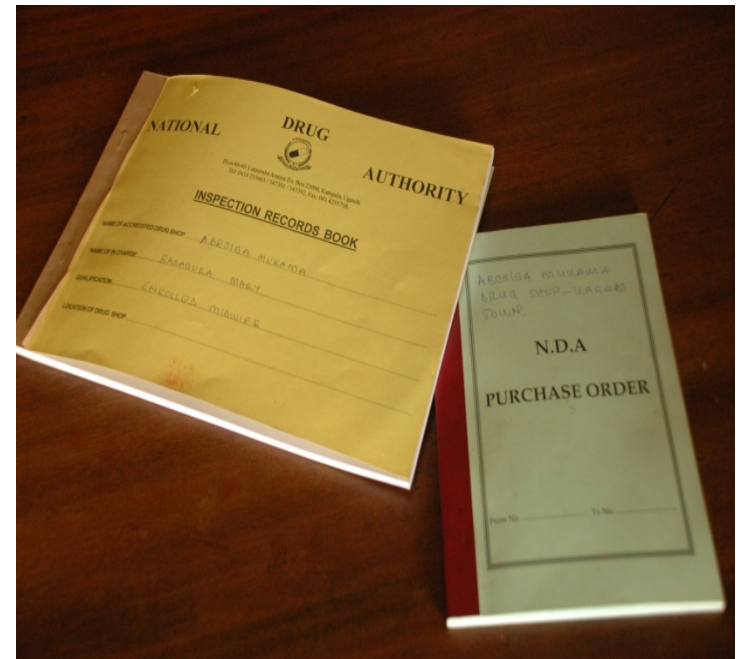
Summary of Storage Guidelines (cont.)

- Keep low weight medicines on higher shelves and heavy ones at the bottom.
- Arrange the medicines on the shelves according to what they are used for.
- Label all shelves for easy retrieval of medicines.
- Always read the standard operating procedures (SOP) provided to remind yourself of how to clean your ADS, and how to receive, store, and dispense medicines.

Knowing Your Stock

To ensure effective stock management, the ADS operator should have the following tools to monitor stock:

- Out of stock book
- Purchase order book
- Expired medicines register
- Dispensing log



Stock Management Tools

Tool	Purpose
Out of stock book	<ul style="list-style-type: none">✓ To record medicines that are out of stock.✓ Helps as a guide for restocking.
Purchase order book	<ul style="list-style-type: none">✓ Used to record medicines to be purchased from a wholesale supplier.✓ Helps to account for the money used to buy medicine.
Expired drug book	<ul style="list-style-type: none">✓ Record the names and quantities of expired medicines.✓ Helps to know the value of the expired medicines.

Stock Management (cont.)

- In addition, a good business should have a debtors' and creditors' book.
- A debtors' book is used to record those who take medicines without paying cash (take debts).
- A creditors' book is used to record those who give the shop medicines on credit (give credit).
- These will be reviewed later in the training.

Expired Medicine Register

EXPIRED AND DAMAGED DRUGS RECORDS BOOK

NAME OF ACCREDITED DRUG SHOP.....

NAME OF IN CHARGE.....

LOCATION OF DRUG SHOP.....

THE FOLLOWING MEDICINES WERE DAMAGED /EXPIRED.

No.	NAME OF THE MEDICINE	QUANTITY	BATCH No.	EXPIRY DATE	DATE DRUGS REVIEWED & COLLECTED BY INSPECTORS	NAME AND SIGNATURE OF INSPECTORS

NB: THESE DRUGS AFTER RECORDING MUST BE SEALED, QUARANTINED AND LABELLED WITH RED INK WITH A STATEMENT "EXPIRED/DAMAGED DRUGS –NOT FOR SALE".

Inspector's Record Book

DRUG

NATIONAL



AUTHORITY

INSPECTORS RECORD BOOK

DATE OF INSPECTION	NAME OF INSPECTORS	PURPOSE OF INSPECTION	OBSERVATIONS AS PER INSPECTION	RECOMMENDATIONS

NB: THIS BOOK SHOULD BE FILLED BY THE SELF REGULATION, SUPPORT SUPERVISION AND INSPECTION TEAMS WHENEVER THEY VISIT THE ACCREDITED DRUG SHOP.

Effective Medicines Management for the ADS Ensures That:

- Medicines are dispensed correctly:
 - Right dose
 - Right frequency
 - Right duration
- Clients receive correct information

Thus the ADS Operator Needs To:

- Dispense medicines with the right information.
- Verify that the client has understood the information.

Exercise 4: Group Work

- What problems do you face during the different stages of the Medicines Management Cycle and how can they be solved?
 - When choosing which medicines to buy?
 - When buying medicines?
 - When storing medicines?
 - When dispensing medicines?

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Appropriate Medicines Use: The Dispensing Process



Objectives

As a result of actively participating in this session, the individual will be able to:

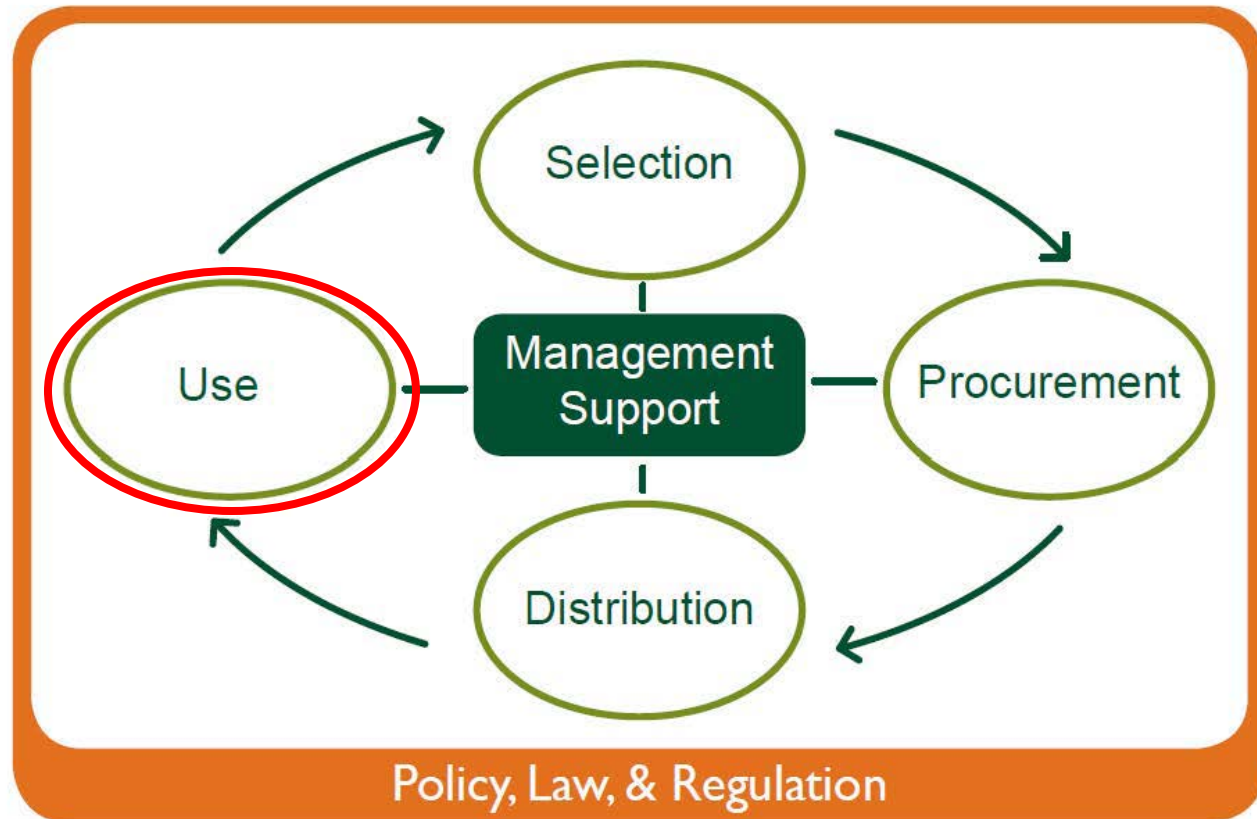
1. Name the five RIGHTS of dispensing medicines.
2. Explain the eight steps of good dispensing.
3. Demonstrate how to correctly read, interpret, and process a prescription.
4. Describe the minimum environmental requirements to ensure good dispensing practice.

Dispensing



- The process of giving out medicines to the client or caregiver.
- Medicines may be given to the client after presenting a prescription or without a prescription.
- Dispensing of medicines is the main activity carried out at the drug outlet.
- It is the last stage of the medicines management cycle.

Medicines Management Cycle

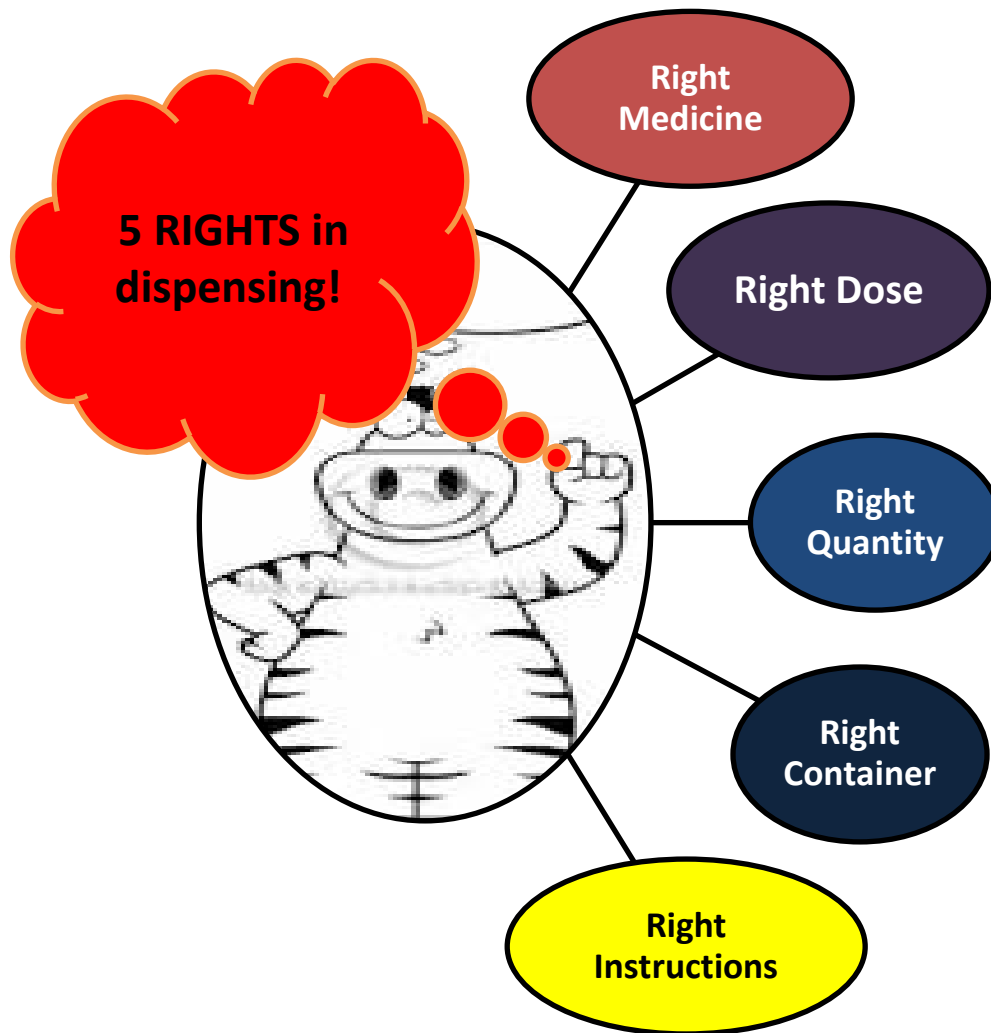


Dispensing (cont.)

Dispensing may be initiated by:

- A prescription written by a clinician who has examined the client, identified the problem, and indicated what needs to be done for the client, including any necessary medicines.
- An ADS seller, having identified a problem that the ADS is allowed to manage.

The 5 RIGHTS in Dispensing

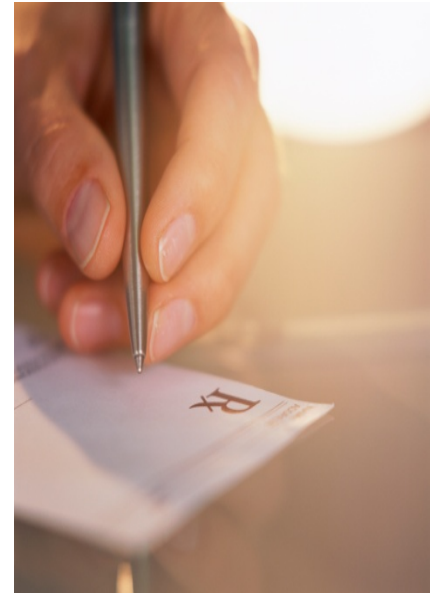


Common Dispensing Terms

- Dispensing
- Brand/trade name, Generic name/non-proprietary names
- Dose, dosage, dosage form
- Course of treatment
- Weight & volume
- Dilution
- Reconstitution
- Prescription
- Manufacturing date
- Expiry Date
- Contamination
- Cross contamination
- Adherence/compliance
- Weight & volume
- Dilution
- Reconstitution
- Side effects
- Toxic dose
- Formulation

Prescription

- A set of instructions written by a qualified prescriber to a dispenser for a supply of medicines after counselling the client on how to use the medicines.
- A prescription should include ALL of the following:
 - Name of the unit from where the prescription is coming
 - Name of the client and age (especially if a child)
 - Date



Prescription (cont.)

- Prescriber's signature and name
- **Generic name** and dosage form
- Dose
- Frequency of administration
- Duration of treatment
- Any other instructions considered important for the client

Generic Name

- Medicine names may be either generic or brand names.
- Generic name is the name given to a medicine that will be recognized all over the world.
- It remains the same regardless of which company manufactured the medicine.
- A prescription should be written using the generic name because this prevents mistakes during dispensing.

Examples of Generic Names

- Paracetamol
- Diclofenac
- Metronidazole
- Ciprofloxacin
- Quinine
- Mebendazole
- Artemether/ lumefantrine
- Gentamycin

Brand Names

- Names given to the medicines by the manufacturing company.
- Brand names can only be used by one company.
- Brand names are always short and easy to remember and write.
- This prompts prescribers to use them more frequently than the generic name.

Examples of Generic and Brand Names

Generic name	Brand name	Manufacturing company
Paracetamol	Panadol [®] Cetamol [®] Kamadol [®]	GlaxoSmithkline Regal Pharmaceuticals, Kenya Kampala Pharmaceutical Industries, Uganda
Artemether/lumefantrine	Coartem [®] Lumartem [®] Artefan [®]	Novartis, Switzerland Quality Chemicals, Uganda Ajanta, India
Quinine	Qunimix [®]	Medipharm, Uganda
Amoxicillin	Kamoxyl [®] Unixil [®]	KPI, Uganda Regal Pharmaceuticals, Kenya

Generic/Brand Name



Brand name

Generic name

Prescription Instructions

- The dosage form and the instructions for use of a prescription are often written in an abbreviated code.
- This code is based on the ancient language of Latin so special training is required to interpret it.
 - For example,
 - b.d. or b.i.d is often used to mean “twice daily”
 - p.o. is often used to mean “take by mouth”
 - t.i.d
 - q.i.d
- A list of the common abbreviations used in prescriptions is included in your manual.

Abbreviations Related to Frequency of Drug Administration

Abbreviation	Meaning	Time interval
o.d.	Once daily	Take medicine every after 24 hrs
b.d or b.i.d	Twice daily	Take medicine every after 12 hrs
Tds or t.i.d	Thrice/three times daily	Take medicine every after 8 hrs
Q.i.d	Four times daily	Take medicine every after 6 hrs
Stat.	Single dose	Take only one dose of medicine
Prn	Take the medicine whenever necessary, i.e., when symptoms occur	Take medicine whenever symptoms occur
Noct	Take the medicine at night	Take medicine only at night

Abbreviations Related to Dosage Form

Abbreviation	Meaning
Tab.	Tablet
Cap.	Capsule
Gutt.	Eye drop
Oint.	Ointment
Syr.	Syrup
Supp.	Suppository
Pess.	Pessary
Inj.	Injection
IM	Intramuscular injection
IV	Intravenous injection

Abbreviations Related to Duration of Treatment

- Prescriptions usually have an abbreviation that indicates the length of time the medicine is to be used.
- They are usually written in the form of fractions.
- The lower number of the fraction indicates either days, weeks, or months.
- Remember we have **7** days in a week, **52** weeks in a year, and **12** months in a year.

Examples Related to Days

Abbreviations	Meaning
5/7	Medicine is to be used for 5 days.
7/7	Medicine is to be used for 7 days.
3/7	Medicine is to be used for 3 days.
14/7	Medicines is to be used for 14 days.
10/7	Medicines is to be used for 10 days.

Examples Related to Weeks

Abbreviation	Meaning
1/52	Medicine is to be used for 1 week.
2/52	Medicine is to be used for 2 weeks.
3/52	Medicine is to be used for 3 weeks.
4/52	Medicine is to be used for 4 weeks.
6/52	Medicine is to be used for 6 weeks.

Examples Related to Months

Abbreviation	Meaning
1/12	Medicine is to be used for 1 month.
2/12	Medicine is to be used for 2 months.
3/12	Medicine is to be used for 3 months.
4/12	Medicine is to be used for 4 months.
6/12	Medicine is to be used for 6 months.

Abbreviations Related to Strength

Abbreviation	Meaning	Equivalent
Kg	Kilogram	1000 g
G	Grams	1000 mg
Mg	Milligram	1000 mcg
Mcg	Micrograms	0.001 mg
L	Litre	1000 ml
MI	Millilitres	-

Example of a Properly Written Prescription

Kakumiro Health Centre IV

OPD NO. 340/09

P.O. BOX 68 Kakumiro

Name: M/S Kibuuka, John

Date: 04.05.2009

Address: Kakumiro

Age: Adult

Weight: 70 kg

Rx

Co-trimoxazole tablets (480 mg) ii b.i.d. x 5/7

Paracetamol tablets (500 mg) ii tds x 3/7

Name of prescriber/qualifications Dr. Mwesigwa Emmanuel MBChB

(MUK) Signature_____

Exercise 1: Prescription Terms

Exercise 2: Abbreviations

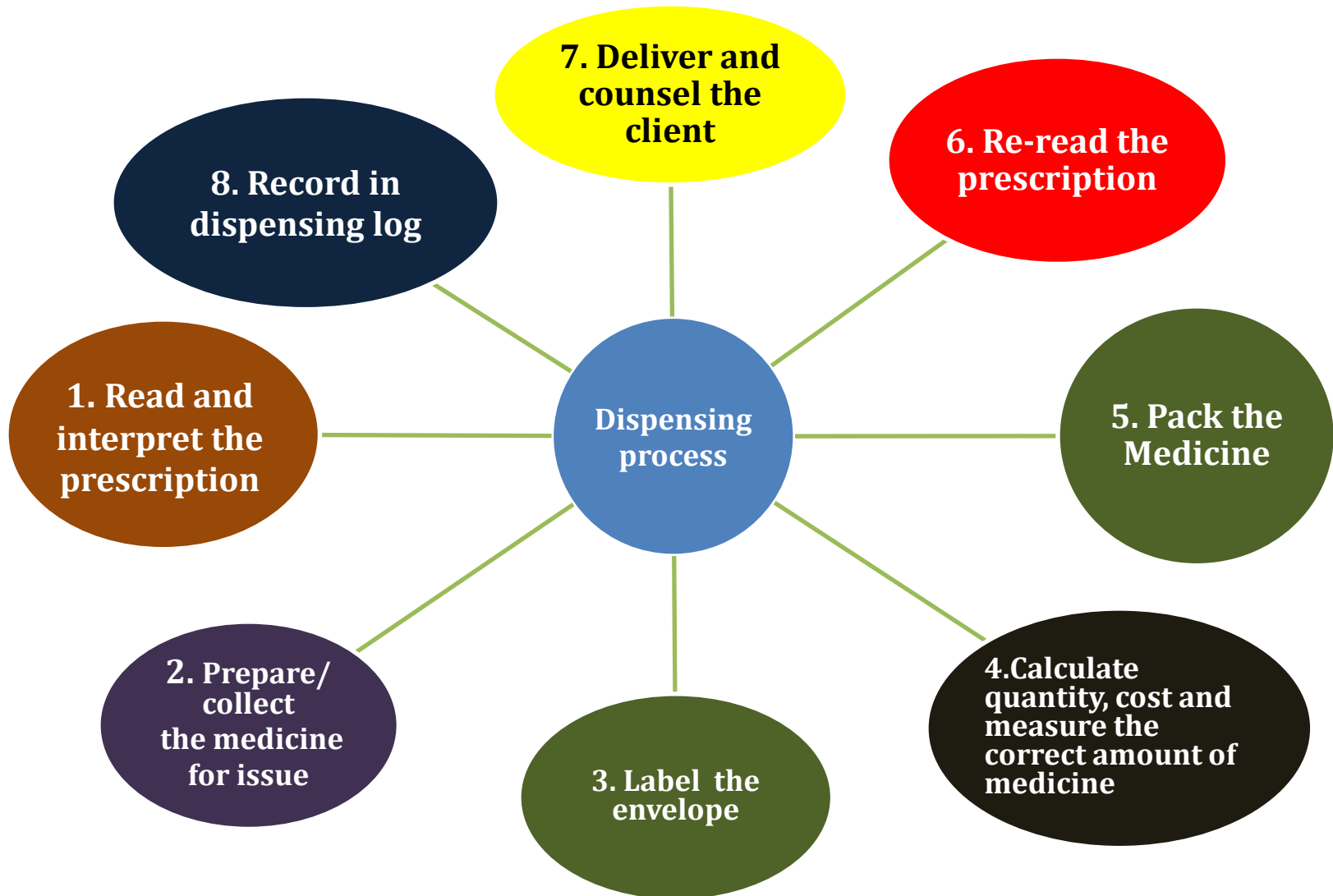
Dispensing Environment

- Dispensing environment must be:
 - Clean
 - Hygienic
 - Tidy
 - Quiet
 - Adequately lit
 - Have good air circulation
 - Conducive for interaction between the client and the medicine seller

Qualities of a Good Dispenser

- Knowledgeable about medicines and common diseases.
- Able to communicate well.
- Able to offer good customer care.
- Good writing skills.
- Well organized.
- Professionalism and integrity.
- Good attitude about work.

The Dispensing Process



Packaging and Labelling of Medicine

Before packing the medicine, you should write the label.

- It is better to write the label before counting or measuring the medicine.
- If you are dispensing more than one medicine, labelling before counting will reduce the likelihood of mixing up the medications and writing the wrong label.
- It will also be easier to write clearly without damaging or spilling the medicine.

What Information Should Be Found on the Label?

- Name of the client
- Name of the medicine
- Strength of the medicine
- Quantity of the medicine supplied
- Dose: How much to take each time
- How often per day
- Special instructions:
 - With or without meals
 - With plenty of fluids
- Date supplied
- Name and address of the health care facility or medicine outlet

Sample Labeling

God Cares Drug Shop

Name of client: Omach Lawrence

Name of medicine: penicillin V 250 mg **40 tabs**

Dose: 2 tabs every after 6 hours for 5 days

Instruction: Take the medicine 1 hour before food

Keep the medicine away from children.

22/4/2015

Useful Drug Information for Clients

- Verbally give the information on the label in a language the client speaks.
- The information should include:
 - How often to take the medicine
 - When to take the medicine (e.g., before meals)
 - How long the treatment is to last (e.g., why the entire course of an antibiotic treatment must be taken)



Useful Drug Information for Clients

(cont.)

- How to take the medicine (e.g., with water, chewing, or swallowing).
- How to store the medicine (e.g., avoid heat, light, and dampness).
- Not to share the medicine with another person.
- To keep medicine out of the reach of children.
- Expected side effects.

Common Side Effects of Medicines

- Allergic reactions to medicine
- Anaphylaxis (acute hypersensitivity)
- Abdominal discomfort (nausea, vomiting, diarrhoea)
- Mental effects (drowsiness, confusion, convulsions)
- Other common side effects
 - Headache
 - Photosensitivity

Packing of Solid Dosage Forms (tablets/capsules)

Packing material for these includes:

- Plastic dispensing bags
- Paper envelopes
- Small sterilized bags (are typically very expensive)

Packing of Liquids/Semisolid Dosage Forms (mixtures/syrups, ointments/creams, etc.)

Liquids and semisolids should be dispensed in their original/primary pack (e.g., hydrogen peroxide).



Reconstitution/Dissolving of Dry Powders

To correctly reconstitute powders:

1. Disperse the dry powder by first shaking the bottle.
2. If the volume to be added is given on the label, measure that amount.
3. Add water in small volumes, shaking the bottle each time you add a portion of water. Do so until the particles are evenly dispersed in the water.
4. Add the remaining water to make up to the marked point or to finish the volume of liquid you had measured.

Reconstitution/Dissolving of Dry Powders

To create ½ litre of ORS

1. Measure one-half litre of clean, boiled, and cooled potable water in a clean container or pot.
 - a. One tumpeco mug or one Nile special beer bottle equals half a litre or 500 ml.
2. Add the contents of one sachet into the water and stir until the liquid is clear and without visible powder particles. The powder is now dissolved.
3. Please note that ORS should be used within 24 hours. If any of it remains after 24 hours, throw it away (because it is no longer good). Prepare a new solution of ORS, following the instructions above.

To create 1 litre of ORS

1. Measure one litre of clean, boiled, and cooled potable water in a clean container or pot.
 - a. One tumpeco mug or one Nile special beer bottle equals half a litre or 500 ml. You will have to fill two of them to make one litre of water.
2. Add the contents of one sachet into the water and stir until the liquid is clear and without visible powder particles. The powder is now dissolved.
3. Please note that ORS should be used within 24 hours. If any of it remains after 24 hours, throw it away (because it is no longer good). Prepare a new solution of ORS, following the instructions above.

Making a Dilution

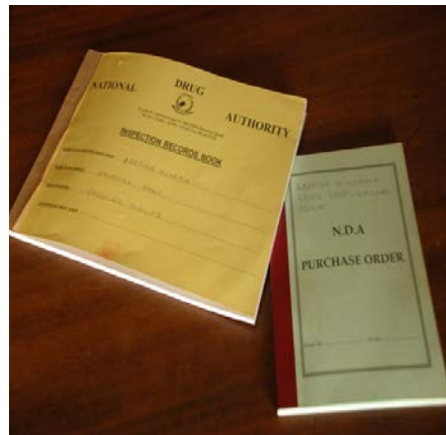
- Some liquid preparations need to be diluted before use, e.g., hydrogen peroxide is diluted with purified water when used for disinfection or antiseptic purposes.

COMMON RECIPES:

- **First aid:** To arrest bleeding and disinfect wounds: dilute 1 part of hydrogen peroxide with 3 parts of purified water, then apply using a piece of cotton wool on the affected area.
- **To remove dirty dressing:** Dilute 1 part of hydrogen peroxide with 3 parts of purified water, then soak the dressing in the diluted solution and leave it for some minutes before removing the dressing.
- **Mouthwash and deodorant:** Dilute one tablespoon in one glass of water and gargle.

Making Dispensing Records

- Documentation required to be kept by ADS includes:
 - **Dispensing records:** records of medicines distributed to clients on prescription or not.
- Records are required for audit and need to be easily retrieved.
- ADS should keep these records for a period of two years.



Dispensing: Potential Errors and Problems

- Wrong interpretation of prescription (or diagnosis).
- Retrieval of the wrong medicine from shelf.
- Wrong dosages.
- Inadequate packaging/labeling.
- Inaccurate counting.
- Inadequate or nonexistent labeling.
- No knowledge of proper drug compliance.
- Insufficient knowledge of the disease process.
- Insufficient time to talk with clients about their medications.
- Inability to communicate with clients about treatment.



Exercise 3: Dispensing Practice

Conclusion

- Dispensing is a critical part of client management, which determines the success or failure of a client encounter with a physician.
- It is possible to improve dispensing practices in a drug shop through implementation of the set standards and procedures.

Accredited Drug Shops Training

Uganda

Medicine Administration



Objectives

As a result of actively participating in this session, the individual will be able to:

1. Describe the three different routes of administering medicines.
2. Name at least four common medicine dosage forms.
3. Given a common medicine dosage form, describe it.
4. Define “drug interaction.”
5. Locate a list of common drug interactions in the ADS Seller’s Manual.

Routes of Administration of Medicine

Definition and Overview

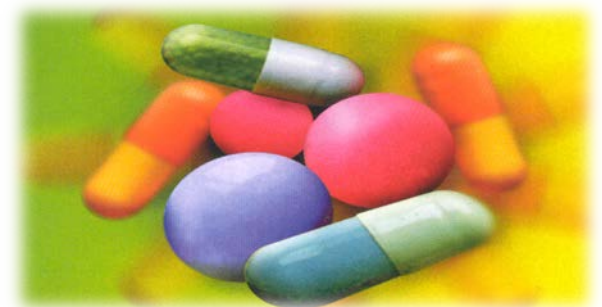
- **A route of administration** is the path by which a medicine is introduced onto or into the body.
- The route of drug administration is broadly divided into three major categories:
 1. Enteral route
 2. Parenteral route
 3. Topical route

Enteral Route

- The enteral route involves administering the drug into the gastrointestinal tract (GIT).
- It is classified as follows:
 - Oral route
 - Buccal route
 - Sublingual route
 - Rectal route

Enteral Route: Oral

- Medicines are given through the mouth.
- Most commonly used; cheaper and convenient .
- Tablets, capsules, syrups, oral suspensions, powders.



Advantages of Oral Route

- Safety: reversal is possible in case of a mistake.
- Convenient: self-medication is possible.
- Economical: administration itself is free.
- Some medicines can only be administered by the oral route.

Disadvantages of Oral Route

- Slow acting: not good for emergencies.
- Not for clients with nausea and vomiting.
- Not for unconscious clients.
- Not for uncooperative clients.
- Not for medicines that are destroyed by stomach juices.
- Absorption is not predictable.
- May irritate or damage the stomach lining.

Enteral Route: Rectal

- Suppositories or enema are placed into the rectum (anus).
- Local or systemic effect:
 - Local, e.g., use of Anusol in the treatment of haemorrhoids.
 - Systemic: e.g., Diazepam rectal in the treatment of convulsions in children.

Advantages of Rectal Route

- Used for children.
- Used for a client who is vomiting.
- Used for unconscious clients.
- Faster onset of action than the oral route.

Disadvantages of Rectal Route

- Inconvenient for the client.
- Embarrassing for the client.
- May cause irritation of the rectal mucosa (anus).
- Variation in drug absorption.

Parenteral Route

- Medicines are given with the help of a needle and syringe.
- This route is preferred for severe infections and emergencies.
- Examples:
 - Intravenous route
 - Intramuscular route
 - Subcutaneous route
- Remember: *It is illegal for the ADS to stock injectables.*

Topical Route

- For treating localized diseases or problems.
- Medicine applied directly to the surface of the skin or mucus membrane.
- Creams, gels, lotion, ointments, and powders.
- Examples:
 - Eye: eye drops or eye ointment
 - Vagina: pessaries, creams, or ointments
 - Nose and lungs: nasal spray, nasal drops, inhalers

Exercise 1: Plenary Discussion

- A mother came to Musa's ADS with a convulsing child. He administered rectal diazepam to the child.
- Was this a good choice of medicine?
- What advantages does rectal diazepam have over diazepam tablets?

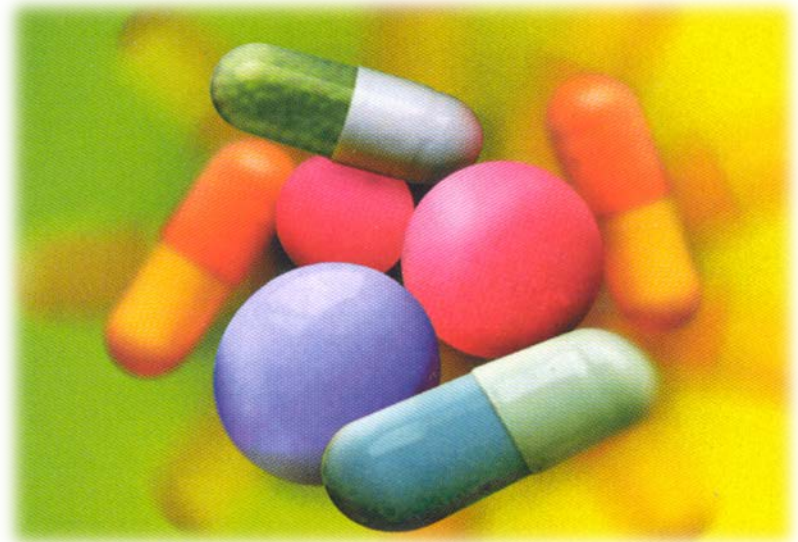
Dosage Forms

Introduction

- Dosage form = the way the medicine is presented for use by the client.
- The dosage form determines how the medicine is administered.
- To dispense properly, the ADS operator should know the different dosage forms and how they are used.

Common Dosage Forms

- Tablets
- Capsules
- Syrups
- Oral suspensions
- Eye drops
- Ear drops
- Suppositories
- Pessaries
- Creams and ointments



Tablets

- Solid dosage forms given by mouth.
- Oval, circular, triangular, or square.
- Once swallowed, tablets have to dissolve before they are absorbed into the blood.
- Used when:
 - The client's condition is not severe.
 - The client is able to swallow.

Exercise 2

- What are the different medicines that are in tablet form in your drug shop?

Types of Tablets

- Chewable
- Effervescent
- Slow release
- Enteric coated
- Sugar coated

Chewable Tablets

- Meant to be chewed before swallowing.
- The client should drink water after chewing the tablets.
- This helps the medicine to move down the stomach.

Examples of Chewable Tablets

- Magnesium trisilicate tabs (for heartburn and peptic ulcers)
- Charcoal (for treating excessive gas in the stomach and in cases of poisoning)



Effervescent Tablets

- Dissolved in a small amount of water in a glass forming a solution.
- The client swallows the solution.
- Note: effervescent tablets work faster than ordinary tabs.

Examples of Effervescent Tablets

- Effervescent paracetamol (Parafiz)
- Multivitamins (Lavit)




Slow Release (SR) Tablets

- These tablets produce a prolonged action.
- Labelled “retard” or “SR.”
- Should be swallowed whole (no chewing or breaking them).
- Example: Diclofenac retard or SR.

Enteric Coated Tablets

- Covered with a substance to prevent them from being destroyed by gastric acid.
- Swallowed whole (no crushing or chewing!); not broken.
- Examples:
 - Omeprazole (peptic ulcer)
 - Bisacodyl (constipation)
 - Aspirin

Examples of Enteric Coated Tablets

Example	Picture
Aspirin	

Sugar Coated Tablets

- Covered with a layer of sugar to mask the bitter taste.
- Swallowed whole without chewing to avoid the bitter taste.
- Examples:
 - Quinine tablets
 - Metronidazole

Film Coated

- Coated with a thin layer (to mask the bitter taste or smell).
- Examples:
 - Metronidazole
 - Quinine




Capsules

- Medicines are enclosed in a small gelatin shell.
- Intended to be swallowed whole (but sometimes the capsules may be opened).
- Two types:
 - Hard gelatin
 - Soft gelatin

Hard Gelatin Capsules

- Powdered medicine is enclosed in a shell.
- Different colours are used for identification.
- They mask the bad taste of the contents.



Examples of Hard Gelatin Capsules

Example	Picture
Amoxicillin	 A photograph showing a blue and white box of HIPEN Amoxicillin Capsules (250 mg) by Zydus Cadila. Next to the box is a blister pack containing 10 capsules, which are yellow and white.
Doxycycline	 A photograph showing a green and white box of asdoxin Doxycycline Capsules (100 mg). Next to the box is a blister pack containing 10 capsules, which are green and white.
Ampicillin	 A photograph showing a yellow and white box of ascillin Ampicillin Capsules (250 mg). Next to the box is a blister pack containing 10 capsules, which are red and white.

Soft Gelatin Capsules

- Liquid medicine is enclosed in a shell.
- Stable and easy to swallow.
- Release their content very quickly.
- They may be opened (e.g., vitamin A) or swallowed whole.



Examples of Soft Gelatin Capsules

Example	Picture
Vitamin A capsules	 A small white plastic bottle of Vitamin A capsules. The bottle is tilted, and its white lid is removed, revealing several bright yellow, oval-shaped capsules inside. The label on the bottle is partially visible, showing the text "VITAMIN A CAPSULES USP" and "200,000 IU".
Seven Seas [®] capsules (cod liver oil)	 A close-up photograph of a blue plastic spoon. The spoon is filled with several clear, gelatinous capsules. The background is a dense field of many yellow capsules, similar to the ones shown in the previous image. The lighting is bright, highlighting the texture of the capsules.

Granules

- Preparations consisting of solid, dry grains.
- Commonly supplied in single dose sachets.
- Usually dissolved in water before taking.

Examples of Granules

Example	Picture
Eno [®]	
Andrews [®] liver salts	

Mouthwash

- Used to cleanse the mouth, treat bad breathe, treat dental diseases, or other diseases of the mouth.




Examples of Mouthwash

Example	Picture
Sonatec [®] mouthwash	 A photograph showing the packaging for Sonatec Mouthwash. On the left is a pink and white box labeled 'SONATEC Mouthwash' with '200ml' at the top. Below the box, text reads 'FOR DAILY ORAL HYGIENE AND INFECTIONS OF THE MOUTH, GUMS AND THROAT'. To the right of the box is a brown glass bottle with a white label that also says 'SONATEC Mouthwash'.
Colgate [®] mouthwash	 A photograph of two bottles of Colgate Plax mouthwash. The bottles are blue and white. The front bottle is labeled 'Colgate Plax MULTIPROTECT' and 'Whitening'. The back bottle is partially obscured but also shows the 'Colgate Plax' branding.

Lozenges

- A solid preparation consisting mostly of sugar and gum.
- Used to treat discomfort of the mouth and the throat (e.g., cough or sore throat).
- Allowed to dissolve slowly in the mouth.
- Never to be swallowed whole.

Examples of Lozenges

Example	Picture
Zecuf [®] lozenges	 The image shows the packaging for Zecuf Herbal Lozenges. It consists of a green and white cardboard box with the brand name 'ZECUF*' in red and 'HERBAL LOZENGES' in green. Next to the box is a blister pack containing several green, diamond-shaped lozenges.
Travasil [®] lozenges	 The image shows the packaging for Travasil Herbal Lozenges. It features a white and green cardboard box with the brand name 'TRAVISIL' in green and 'HERBAL LOZENGES' in black. Below the box is a blister pack containing several green, oval-shaped lozenges.
Strepsils [®]	 The image shows the packaging for Strepsils. It includes a white and green cardboard box with the brand name 'Strepsils' in blue and 'Sore Throat & Blocked Nose Lozenges' in black. Below the box is a blister pack containing several blue, oval-shaped lozenges.



Suppositories

- Solid bullet-shaped preparations that are inserted into the rectum (anus).
- Suppositories may have a local or systemic effect:
 - Anusol suppositories are used to treat haemorrhoids.
 - Paracetamol suppositories are used to treat pain and reduce fever.

Shape of Suppository



Examples of Suppositories

Example	Picture
Diclofenac	 A photograph of a small, rectangular box of Diclofenac Sodium Suppositories. The box is primarily blue and white. The text on the box includes "Diclofenac Sodium Suppositories" in blue, "DICLODYNE" in large yellow letters with a red underline, and "Strip of 5 Suppositories" in small black text at the bottom right. The Bliss logo is visible in the bottom left corner.
Paracetamol (reduce fever & pain)	 A photograph of a rectangular box of Acetaminophen Suppositories USP. The box is white with a large orange curved graphic on the left side. The text includes "Acetaminophen Suppositories USP" in black, "RECTOL-250" in large red letters on a black background, and "RECTAL SUPPOSITORIES" in black below it. At the bottom right, it says "Strip of 5 Suppositories". The Bliss logo is in the bottom left corner.

Inserting a Suppository

1. Wash your hands with soap.
2. Lie on your left side with knees bent towards your chest.
3. Relax the buttock just before inserting the suppository.
4. Gently push the suppository inside the anus as far as possible.
5. Continue to lie down for a few minutes and hold the buttocks together.

Inserting a Suppository (cont.)

Wash your hands.

Remember: Do not visit the toilet/latrine for at least 1 hour after inserting a suppository.



Pessaries

- Solid preparations designed to be inserted into the vagina.
- Sometimes inserted with the help of an applicator.
- Used to treat vaginal candidiasis.

Example of Pessaries

Examples

Clotrimazole (to treat vaginal candidiasis)

Picture



How to Insert Vaginal Pessaries

1. Wash your hands with soap and water.
2. Remove the pessary from the packet and place it firmly into the applicator.
3. Lie on your back with knees bent towards the chest.
4. Insert the applicator with the pessary as deep as is comfortable into the vagina.
5. Slowly press the plunger on the applicator until it stops. This releases the pessary into the vagina.

Inserting Vaginal Pessaries (Cont.)

6. Gently remove the applicator.
7. Remain in this position for some time to prevent leakage.

Oral Suspension

- Liquid preparations for oral use containing one or more active ingredients.
 - May be in dry powder for reconstitution
 - May already be in liquid form
- Shake the oral suspension before measuring out the uniform dose.

Classification of Oral Suspensions

Dry powder oral suspensions

- Amoxicillin
- Erythromycin

Note

- Dry powders should be mixed with clean drinking water before use.
- Oral suspensions can only be kept for 1 week after mixing.



Liquid oral suspensions

- Cotrimoxazole
- Magnesium trisilicate mixture

Note

- Do not add water to liquid suspensions.
- Shake liquid suspensions before taking.

Examples of Oral Suspensions

Example	Picture
Amoxicillin oral suspension (Dry powder)	
Magnesium trisilicate (Alcid) oral suspension (liquid preparation)	



Topical Preparations

- Semi-solid preparations that are applied to the surface of the skin.
- Creams, ointments, lotions, or gels.
- For external use only.

Examples of Topical Preparations

Topical preparation	Use
Hydrocortisone cream 1%	✓ Used to treat eczema and insect bites
Betamethasone ointment	✓ Used to treat eczema
Deep heat rub (ointment)	✓ Used to treat muscle pain
Diclofenac gel	✓ Used to treat pain
Universal liniment	✓ To reduce muscle pain
Calamine lotion	✓ To treat chicken pox and herpes zoster

Some Common Topical Preparations

Example	Picture
Calamine lotion	
Hydrocortisone cream	



Eye Preparations

- Sterile preparations that are applied to the eye.
- Eye drops or eye ointment.
- May contain antibiotics, steroids, or antiviral medicines.
- Timing of application:
 - Eye drops: during day time
 - Ointments: at night

Examples of Eye Preparations

Ingredient	Use
Betamethasone (steroid)	✓ Used to treat allergies of the eye
Tetracycline eye ointment (antibiotic)	✓ Used in neonatal conjunctivitis
Chloramphenical (antibiotic)	✓ Used to treat bacterial infections of the eye
Dexamethasone (steroid) Neomaycin (antibiotic)	✓ Used to treat allergies of the eye associated with bacterial infection

Some Eye Drops

Example	Picture
Chloramphenicol eye drop	 The image shows a white rectangular box for ABCHLOR Chloramphenicol Eye Drops BP. The box features a red and white design with a stylized eye illustration. Text on the box includes "Chloramphenicol Eye Drops BP", "ABCHLOR Eye Drops", and "10ml".
Neomycin + Dexamethasone eye/ear drop	 The image shows a white rectangular box for DEXONA Eye - Ear Drops. The box has an orange and white design. Text on the box includes "DEXONA® EYE - EAR DROPS", "NEOMYCIN SULFATE & DEXAMETHASONE SODIUM PHOSPHATE OPHTHALMIC SOLUTION USP", "5 ml", and the manufacturer's name "Zydus Cadila".

Inhalers

- Solutions or suspensions given in the form of sprays.
- Medicine is delivered directly into the lungs.
- Used in the prevention and treatment of asthma.
- Example: Salbutamol (Vental) inhaler.

Exercise 3

Group work to answer questions about dosage forms.

Drug Interactions

Definition and Overview

- Drug interactions occur when the effect of one medicine is changed by the presence of another substance.
- The other substance may be:
 - Another medicine: on the same prescription, prescribed separately, or OTC
 - Herbal medicine
 - One or more foods

What May Happen with an Interaction?

- May reduce the overall effectiveness of the treatment.
- May create or increase harmful effects of the medicine.

Common Drug-Drug Interactions

Drug-drug interaction	Effect	Preventive measures to be taken
Doxycycline + iron supplements	✓The absorption of both drugs will be affected	✓Separate the administration by 2 hours
Ciprofloxacin + magnesium antacids	✓Magnesium antacids reduce the absorption and effectiveness of Ciprofloxacin	✓Take Ciprofloxacin first and wait for 2 hours before taking the antacid
Omeprazole + magnesium antacids	✓Antacids lead to destruction of Omeprazole in the stomach	✓Take Omeprazole and wait for 2 hours before taking magnesium antacids

Common Drug-Drug Interactions (cont.)

Drug-drug interaction	Effect	Preventive measures to be taken
Charcoal + any drug taken orally	✓ Charcoal prevents absorption of any drug given at the same time	✓ Do not take charcoal with any drug at the same time
Metronidazole + alcohol	✓ Alcohol reacts with Metronidazole, making the client vomit a lot	✓ Do not drink alcohol while on treatment with Metronidazole

Drug-Food Interactions

Drug-food interaction	Effect	Preventive <u>or</u> promotive measures to be taken
Ciprofloxacin + milk	✓ Milk reduces the effectiveness of Ciprofloxacin	✓ Take Ciprofloxacin and milk after 2 hours
Ampicilin + any food	✓ Presence of food in the stomach reduces the absorption of Ampicillin	✓ Take Ampicillin 1 hour before food
Coartem + fatty food	✓ Fatty foods improve absorption of Coartem and its effectiveness	✓ Take Coartem with any fatty meal
Griseofulvin + fatty food	✓ Fatty meals improve the absorption and effectiveness of Griseofulvin	✓ Take Griseofulvin with a fatty meal

Exercise 4: Drug Interactions

Group work to answer questions about drug interactions.

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Maintaining Good Quality Medicines at the ADS



Objectives

As a result of actively participating in this session, the individual will be able to:

1. State at least two effects of poor quality medicines on clients.
2. Name at least three causes of poor quality medicines.
3. For each of the following, name at least two signs of poor/bad quality: packaging, labels, tablets/capsules, and liquids.
4. Name at least four of the six things to check for to detect counterfeit medicines.
5. State where to report counterfeit medicines.
6. Name at least five ways to maintain the quality of medicines in the ADS.

Quality of Medicines

- To achieve the proper outcome of medicines, we need good quality medicines in the ADS shop.
- Therefore, we must have a way of ensuring that the medicines are of good quality.
- It is everybody's role, including the user, to ensure that medicines maintain their quality throughout their shelf life or until they are used.



Effects of Poor Quality Medicines on a Client

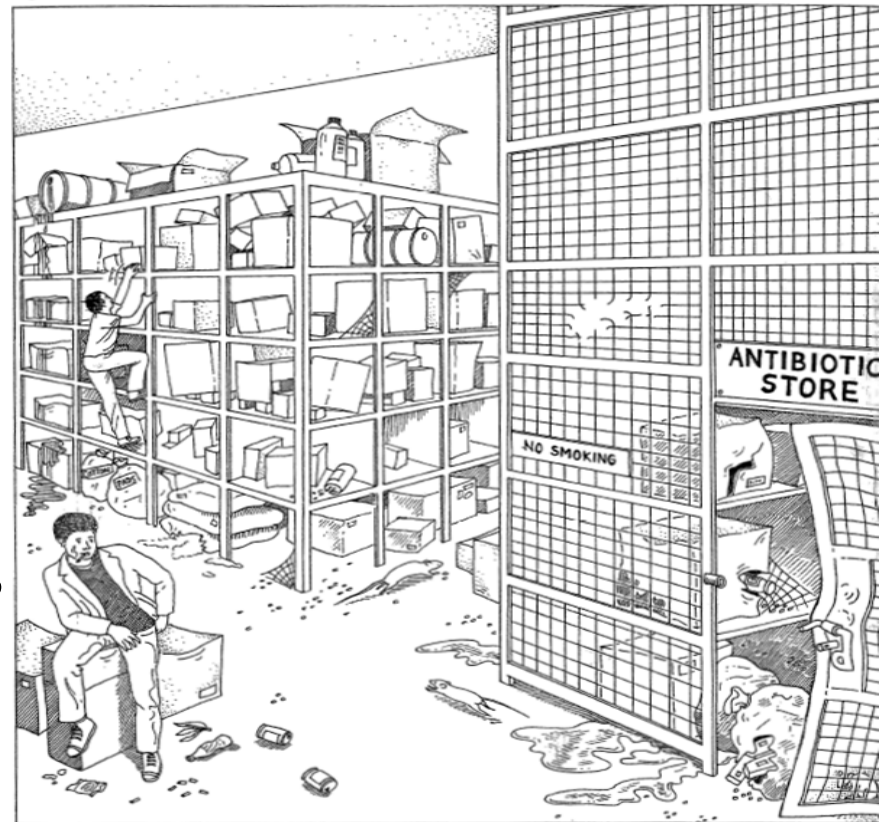
- Development of resistance to the disease by some antibiotics.
- Worsening of the disease and possibly death.
- Increased chance of developing adverse drug reactions, which may lead to permanent disability.
- Poor quality contraceptives (e.g., pills and condoms) may lead to unwanted pregnancies, which may progress to unsafe abortions and death.

Effects of Poor Quality Medicines on the ADS Seller

- Lack of confidence in the drug shop on the part of the client since most of your clients won't get better.
- Loss of income as a result of the reduced number of clients.
- Loss of practicing license as a result of unethical conduct.
- Closure of the drug shop by the police or NDA.

Causes of Poor Quality Medicines

- Poor manufacturing conditions
- Poor packing
- Poor transportation
- Poor storage conditions
- Poor dispensing methods
- Counterfeiting medicines



Signs of Poor Quality Medicines

Packaging

- Broken
- Ripped

Labels

- Missing
- Incomplete
- Unreadable

Tablets or capsules

- Discoloured
- Sticky
- Crushed or crumbled
- Unusual smell

Liquids

- Discoloured
- Sedimentation
- Cloudiness
- Unusual smell
- Broken seal on bottle
- Cracked bottles
- Dampness inside packages

Counterfeit Medicines

- Counterfeits are medicines that are falsely labelled regarding their identity or source.
- They duplicate or copy existing medicines that are in high demand, and so they have similar appearance as the original.
- BUT...they may be contaminated!
- OR...they may contain little or no active ingredients!

How to Detect Counterfeits

<i>What to check for?</i>	<i>Remarks</i>
Price	<ul style="list-style-type: none">✓ Counterfeit medicines are usually very cheap compared to the real product.✓ This is intended to attract buyers to purchase the product with an intention of maximizing profits.
Source of supply	<ul style="list-style-type: none">✓ Counterfeit medicines are usually sold by hawkers who do not have a registered pharmacy or drug shop.✓ They usually sell on a cash basis.✓ Some pharmacies may also be involved in whole selling counterfeits.

How to Detect Counterfeits (cont.)

<i>What to check for?</i>	<i>Remarks</i>
Batch number	✓ The batch number on the main box may differ from that on the blister strip.
Colour and package size	<ul style="list-style-type: none">✓ The colour of the counterfeit medicine may differ slightly from the original product.✓ The measurements of the counterfeit medicine box may differ from the original.✓ Quality of packaging material is usually poor.

How to Detect Counterfeits (cont.)

<i>What to check for?</i>	<i>Remarks</i>
Texture of the tablet	<ul style="list-style-type: none">✓ Counterfeit medicines usually have a rough surface and easily get broken or form powders.✓ Or the tablets tend to stick together.
Expiry dates	<ul style="list-style-type: none">✓ Some counterfeit medicines may not have an expiry date, or if they do, it may have been altered.✓ Expiry date on the primary package may differ from the secondary.

Where to Report Counterfeits

In case you identify a counterfeit medicine, report to any of the following:

- National Drug Authority representative (DADI, police, supplier) in your area
- District Health Officer

Maintaining the Quality of Medicines in the ADS

- Maintain the premises/building.
- Regularly clean the medicine outlet.
- Keep the outlet shelves tidy.
- Cross check all new consignments of medicines for any physical changes in the medicines, which is an indicator of poor quality.
- Routinely cross check medicines for quality.

Maintaining Quality of Medicines in the ADS (cont.)

- Do not keep medicines on the floor.
- Keep records of all transactions to help track the source of poor quality medicines.
- Make sure medicines are adequately packed when they are dispensed to clients.
- Give clients information on how to keep medicines at home.
- Remove all expired and damaged medicines from stock and contact DADI for their proper disposal.

Conclusions

- The quality of medicines is important in determining client care outcomes.
- Everyone involved in the handling and use of medicines has a role to play in quality assurance.
- ADS operators have to set up the necessary standards to maintain the quality of their medicines.
- ADS operators have to provide the right information to clients when they dispense or distribute medicines.

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Adverse Drug Reaction Detection and Reporting



Objectives

As a result of actively participating in this session, the individual will be able to:

1. Explain what an adverse drug reaction (ADR) is.
2. Explain what the ADS operator should do once he or she has detected an ADR.

Definition of Terms

Side effects:

- Unwanted but expected effects of a medicine that can occur when it is given in the right dose (e.g., Piriton makes the client feel sleepy).
- All medicines can produce side effects, whether prescription only medicines or OTC medicines.

Definition of Terms

Adverse drug reaction:

- An unexpected and harmful or unpleasant response to a medicine.
- The reaction occurs when the medicine is given in the correct dose.
- ADRs may have a major effect on the client.

Definition of Terms

Serious adverse drug reactions may lead to:

- Prolonged hospitalization
- Death
- Permanent damage to organs
- Birth defects in new born children

Consequences of ADRs: Examples

Example



Remarks

Seprin reaction

- ✓ This was a male HIV + client who was given Septrin for prophylaxis.
- ✓ He developed severe reactions and the medicine was stopped.

Examples of ADRs



Reaction to antiretrovirals

- ✓ This adult female client reacted to one of the anti-retrovirals in the combination that had been given to her to treat HIV.

Examples of ADRs



Body deformity

- ✓ It occurred when a medicine that was thought to be safe for use during pregnancy was given to a pregnant woman.
- ✓ The baby was born with deformities.
- ✓ This explains the need to report ADRs so that such cases can be minimized.

Who is at Risk of ADRs?

The chances of ADRs are higher in the following categories of people:

- Older people, above 60 years
- A person taking many medications at the same time
- A person using a newly discovered medicine, e.g., drugs for HIV
- Pregnant women
- Alcoholics
- Drug abusers

Role of ADS in ADR Reporting

- When dispensing, give proper instructions about the medicine to clients or caregivers.
- Inform client/caregiver to immediately report back in case of any drug reaction.
- Refer all cases of ADRs to the nearest health unit.
- Record ADRs in the NDA forms and send them to the DHO's office or the representative of the NDA.

Exercise 1

- Situation:
 - James, aged 32 years, bought diclofenac tablets from the MM drug shop to treat his backache.
 - He developed a severe burning sensation in the mouth and a skin rash all over his body after taking the first dose.
- Question:
 - What steps would you take as an ADS seller?

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Communication at the ADS



Objectives

As a result of active participation in this session, the individual will be able to:

1. Name at least three qualities of effective communication.
2. Name at least three barriers to effective communication.
3. Explain how to overcome each of the barriers.

Introduction

Effective communication between the ADS dispenser and the client or caregiver plays a very big role in:

- Whether the client uses a medicine appropriately.
- Whether the client's condition improves.
- Whether the client or caregiver returns to use the ADS again.

Effective Communication



- In the ADS, communication involves the dispenser and the client or caregiver.
- Effective communication involves sincere compassion and concern for the client and his/her wellbeing.

Types of Communication

Verbal communication

- Involves the use of words.
- Requires the receiver to be attentive in order to remember the information given to him/her.

Nonverbal communication

- It includes: tone of voice, physical appearance, eye contact, leaning forward or backward, nodding the head, etc.

Qualities of a Good Communicator

Quality	Importance
Maintaining confidentiality/ privacy	<ul style="list-style-type: none">✓ Helps to earn/builds trust from the client.✓ Encourages sharing of information.
Ability to use simple and clear messages	<ul style="list-style-type: none">✓ Client gets clear instructions regarding the disease and medicines.✓ Improves client's compliance with treatment.✓ Helps the client to make informed decisions.

Qualities (cont.)

Empathy (putting yourself in the client's situation)

- ✓ Shows interest and concern for the client's wellbeing.
- ✓ Improves information exchange.

Active listening

- ✓ Helps to gather information from the client for decision making/diagnosis.
- ✓ Helps the client/caregiver to give all the relevant information.

Have a positive (caring) attitude

- ✓ Helps the client to feel free to talk to the ADS dispenser.

Qualities (cont.)

Good counseling skills

- ✓ Helps the client to make informed decisions and use medicines appropriately.

Using appropriate body language

- ✓ Shows that you are interested, attentive, and willing to help the client.

Good questioning skills

- ✓ Use open-ended questions that require explanation.
- ✓ This helps to get as much information as possible from the client.

Note: Limit use of questions that require a “yes” or “no” answer.

Active Listening

- Clear your mind of anything that can interfere with listening, e.g., turn phones off/ in silence, reduce the volume of the radio/TV.
- Face the sender or speaker.
- Focus your full attention on the speaker.



Active Listening

- Demonstrate your full attention through appropriate non-verbal gestures (e.g., nodding, sitting upright).
- Do not make quick judgments about what you are hearing.
- Do not interrupt the speaker.
- Be close enough to ensure privacy.



Barriers to Communication

- Use of complex medical terms.
- Noise in the background.
- Lack of privacy.
- Lack of concentration by the seller.
- Inability to speak the language the client understands.

Barriers to Communication (cont.)

- Poor attitude of the seller.
- Hearing problem of the client.
- Reluctance by the client to discuss sensitive issues.
- Misleading beliefs/myths.
- Poor listening skills.
- Use of unclear signs and symbols.

How to Overcome Barriers to Effective Communication

- Have a caring attitude as you talk to the client (e.g., smile).
- Do not act as if you are in a hurry.
- Listen carefully to the client's problem and concerns.
- Maintain eye contact (i.e., look at the client in the eye).
- Involve the client in the decision making.

How to Overcome Barriers to Effective Communication (cont.)

- Provide privacy to enable the client to talk freely.
- Clarify the client's communication if you are not sure of the meaning.
- Explain why the treatment is necessary.
- Use official (known) signs and symbols.



How to Handle an Angry Client

- Never respond in a rude way to an angry client.
- Remain calm and attentive.
- Listen attentively to the client's concern.
- Apologize to the client if necessary.
- Do not raise your voice.
- Be careful to have your body language match your words.

How to Handle an Angry Client (cont.)

- Express your concerns and interests.
- Address the client's concern.
- If you cannot solve the problem, invite a supervisor or co-worker to help.