

Drug distribution

Drug Distribution

- Drug distribution refers to the process by which medications are delivered from a central pharmacy to patients, whether they are admitted to the hospital (in-patients) or visiting for treatment without being admitted (out-patients).
- The procedures differ between these two groups due to their distinct care settings.

In-Patient Drug Distribution

- In-patients are individuals who are admitted to the hospital and receive care over a period.

Process:

- **Prescription:** A doctor writes a medication order, usually electronically, in the patient's medical chart.
- **Pharmacy Review:** The hospital pharmacy reviews the prescription for appropriateness, dosage, interactions, and allergies.
- **Dispensing Methods:**
 - **Unit Dose System:** Medications are packaged and labeled for individual doses for each patient. These are usually delivered daily.
 - **Automated Dispensing Cabinets (ADCs):** Machines like Pyxis store medications on nursing units, allowing nurses to access prescribed drugs.
- **Delivery:** Medication is delivered to the ward, either manually by pharmacy staff or through systems like pneumatic tubes.
- **Administration:** Nurses administer medications according to the doctor's orders and document the time and dosage given.

Key Features:

- Continuous monitoring.
- Detailed documentation.
- Hospital bears full responsibility for storage and administration.

Out-Patient Drug Distribution

- Out-patients are individuals who visit a hospital, clinic, or pharmacy for diagnosis or treatment but are not admitted.

Process:

- **Prescription:** A doctor writes a prescription after a consultation.

- **Patient Visit to Pharmacy:** The patient physically takes the prescription to the hospital or community pharmacy.
- **Pharmacist Review:** The pharmacist checks for drug interactions, allergies, and ensures proper dosage and instructions.
- **Dispensing:** Medications are dispensed in larger quantities (e.g., a 30-day supply) and labeled with instructions for self-administration.
- **Patient Education:** Pharmacists often counsel patients on how to take their medications, side effects, and storage.

Key Features:

- Self-administration by the patient.
- Greater emphasis on patient education.
- Medications are often dispensed in bulk, not unit-dose.

Methods of Drug Distribution for In-Patients

1. Individual Prescription Order Method

Definition:

- Each patient receives drugs based on a specific prescription written by the physician, prepared individually in the pharmacy.

Advantages:

- Personalized therapy for each patient.
- Greater control over the type and quantity of medication dispensed.
- Reduces medication wastage.
- Promotes pharmacist involvement in therapy decisions.

Disadvantages:

- Time-consuming for pharmacists to prepare individual doses.
- More manpower required.
- Possible delay in drug delivery.
- Increases workload in pharmacy during peak times.

2. Floor Stock Method

Definition:

- Medications are stored in wards or nursing stations in bulk. Nurses administer them based on physician orders without needing to obtain them from the central pharmacy each time.

Advantages:

- Immediate availability of commonly used drugs.
- Reduces workload in the central pharmacy.
- Quicker administration during emergencies.

Disadvantages:

- Increased risk of medication errors and drug misuse.
- Inventory control becomes difficult.
- Higher chances of drug wastage and expiry.
- Less pharmacist supervision.

3. Unit Dose Drug Distribution Method (UDDD)

Definition:

- Drugs are dispensed in single-use, individually packaged doses, usually for a 24-hour period, by the pharmacy. The nurse administers one dose at a time.

Advantages:

- Significant reduction in medication errors.
- Reduced drug wastage.
- Improved inventory control.
- Enhances pharmacist's role in medication therapy management.
- Better patient safety and documentation.

Disadvantages:

- Requires more sophisticated infrastructure and packaging systems.
- Higher initial cost for implementation.
- Increased demand for pharmacy staff and space.

4. Drug Basket Method

Definition:

- Each ward has a basket labeled with patient names. The pharmacy fills prescriptions and places labeled medications into the respective patient baskets for nurses to administer.

Advantages:

- Easy to organize drugs per patient.
- Reduces chances of mix-up.
- Simplifies the nurse's task during drug rounds.

Disadvantages:

- Risk of error if labeling is wrong.
- Delays possible if baskets are misplaced.
- Manual process, prone to human errors.
- Requires coordination between pharmacy and ward staff.

Methods of Drug Distribution for Out-Patients

A. Individual Prescription Dispensing

Description:

- The patient brings a prescription written by the physician to the OPD pharmacy.
- The pharmacist reads, verifies, and dispenses the medication as per the prescription.

Advantages:

- Personalized dispensing.
- Pharmacists can counsel the patient on dosage, administration, and side effects.
- Ensures compliance with legal and ethical standards.

Disadvantages:

- It can cause crowding and long waiting times, especially in large hospitals.
- Risk of errors if prescriptions are illegible or incomplete.
- Manual documentation can be time-consuming.

B. Pre-Packaged Medication Dispensing

Description:

- Common drugs are pre-packed and labeled with necessary information.
- These packs are stored at the pharmacy counter and dispensed quickly based on the prescription.

Advantages:

- Reduces waiting time.

- Ensures uniform packaging and proper labeling.
- Help maintain inventory control and standardization.

Disadvantages:

- Limited to commonly used medicines.
- Cannot accommodate prescription variations or dose adjustments.

C. Automated Dispensing Systems (if available)

Description:

- Computerized systems that store and dispense medicines based on digital prescriptions.
- Pharmacists oversee the process and verify the final output.

Advantages:

- Enhances efficiency and speed.
- Reduces human errors.
- Good for high-volume out-patient departments.

Disadvantages:

- High initial setup cost.
- Requires technical training and regular maintenance.

D. Token/Queue System with Software Integration

Description:

- Patients are issued tokens or numbers, and prescriptions are entered into a pharmacy management system.
- Medicines are packed and labeled in sequence and handed over to patients.

Advantages:

- Organizes patient flow.
- Facilitates digital records, billing, and stock updates.
- Reduces manual work and waiting chaos.

Disadvantages:

- Requires IT infrastructure and trained staff.
- May not be feasible in smaller or rural healthcare settings.



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