Hospital Pharmacy

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Definition

- Hospital Pharmacy is a specialized field of pharmacy that is integrated within hospitals and healthcare institutions.
- It involves the preparation, compounding, storage, dispensing, and proper utilization of medications, along with providing drug-related information to healthcare professionals and patients to ensure optimal therapeutic outcomes.
- Hospital pharmacists are responsible not only for the supply of medicines but also for advising on their safe, effective, and cost-efficient use in clinical settings.

Scope of Hospital Pharmacy

The scope of hospital pharmacy includes:

1. **Drug Dispensing and Distribution**
   - Ensuring correct medicines reach the right patients.
   - Inpatient and outpatient dispensing.
   - Unit-dose and ward-based systems.
2. **Clinical Pharmacy Services**
   - Patient counseling.
   - Therapeutic drug monitoring (TDM).
   - Participation in medical rounds.
3. **Pharmaceutical Care**
   - Ensuring appropriate drug therapy.
   - Monitoring for drug interactions, side effects, and efficacy.
4. **Drug Procurement and Inventory Control**
   - Managing procurement processes.
   - Ensuring availability and proper storage.
   - Reducing wastage and expiration.
5. **Sterile and Non-Sterile Compounding**
   - Preparing IV admixtures, TPNs (Total Parenteral Nutrition), and cytotoxic drugs.
6. **Pharmacovigilance**

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- Reporting and analyzing Adverse Drug Reactions (ADRs).

7. Education and Research

- Training pharmacy students and staff.
- Conducting clinical research and audits.

National and International Scenario

A. National Scenario (India)

- **Evolution:** Traditionally focused on dispensing and stock management; now evolving towards clinical pharmacy.
- **Regulatory Bodies:**
  - **Pharmacy Council of India (PCI)**: Regulates pharmacy education.
  - **Drug Controller General of India (DCGI)**: Regulates drug approval and safety.
- **Trends:**
  - Increasing focus on patient-oriented services.
  - Growth of Pharm.D programs promoting clinical skills.
  - Implementation of Antimicrobial Stewardship Programs (AMSP) and NABH accreditation pushing for better standards.

B. International Scenario

- **Developed countries** (e.g., USA, UK, Canada):
  - Strong clinical pharmacy presence.
  - Hospital pharmacists integrated into medical teams.
  - Advanced systems for electronic prescribing and medication reconciliation.
  - Emphasis on evidence-based practice and pharmacoeconomics.
- **Developing countries**:
  - Varied infrastructure.
  - Transitioning from product-based to patient-based services.
  - WHO and FIP (International Pharmaceutical Federation) support through guidelines and training.

Organizational Structure of Hospital Pharmacy

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The structure varies based on the size and type of hospital, but typically includes:

1. **Chief/Head of Pharmacy Department**
   - Overseas all pharmacy operations.
   - Responsible for policy, budgeting, and compliance.
2. **Clinical Pharmacists**
   - Work directly with healthcare teams.
   - Provide recommendations for drug therapy and monitor outcomes.
3. **Dispensing Pharmacists**
   - Manage outpatient and inpatient pharmacy counters.
   - Ensure correct dispensing and documentation.
4. **Pharmacy Technicians/Assistants**
   - Assist in drug preparation, labeling, inventory, and storage.
5. **Specialized Units**
   - Sterile compounding unit
   - Cytotoxic reconstitution area
   - Drug information center
   - Research and Quality Control labs
6. **Support Staff**
   - Administrative personnel for record keeping, billing, and logistics.

Professional Responsibilities,Qualification & experience requirements of Hospital Pharmacists

Professional Responsibilities of Hospital Pharmacists

Hospital pharmacists have clinical, administrative, and technical responsibilities, including:

1. **Clinical Responsibilities:**
   - Ensuring rational drug use and therapeutic efficacy
   - Monitoring drug interactions, adverse drug reactions (ADRs), and patient compliance
   - Providing drug information and consultation to doctors, nurses, and patients

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- Participating in ward rounds with the medical team
- Counseling patients on medication use, storage, and side effects

2. Administrative Responsibilities:

- Inventory management and drug procurement
- Ensuring proper storage and handling of medications
- Complying with regulatory and legal standards (e.g., labeling, record-keeping)
- Maintaining Standard Operating Procedures (SOPs)
- Coordinating with Pharmacy & Therapeutics Committee

3. Technical Responsibilities:

- Compounding and reconstitution of medications
- Preparing sterile products, IV admixtures, and TPN
- Repackaging and labeling of bulk medications

Qualifications and Experience Requirements:

A. Chief Pharmacist / Director of Pharmacy

- **Qualification:** B.Pharm / M.Pharm / Pharm.D + Registration
- **Experience:** 8–10 years hospital experience

B. Clinical Pharmacist

- **Qualification:** Pharm.D / M.Pharm (Pharmacy Practice / Clinical)
- **Experience:** 2–5 years clinical/hospital experience

C. Staff Pharmacist

- **Qualification:** B.Pharm + PCI Registration
- **Experience:** 0–3 years (entry level)

D. Pharmacy Assistant/Technician

- **Qualification:** D.Pharm (Diploma in Pharmacy)
- **Experience:** 0–2 years

Job Specifications:

Job Title	Key Skills Required
Hospital Pharmacist	Knowledge of hospital formulary, drug storage, legal compliance, computer literacy (HIS, e-prescription), communication skills

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Clinical Pharmacist	Strong understanding of pharmacotherapy, lab values, patient counselling, evidence-based medicine
Pharmacy Technician	Drug compounding, labelling, inventory control, cleanliness, accuracy, and speed
Chief Pharmacist	Leadership, inventory budget management, regulatory compliance, staff training

Workload Requirements And Inter Professional Relationships

Workload Requirements:

- It depends on hospital size, bed strength, and service complexity.
- WHO/FIP guidelines recommend:
  - 1 pharmacist per 50–100 hospital beds.
- Workload includes:
  - **Prescription processing**: 100–300/day depending on hospital size
  - **Inventory items**: Management of 500–1000+ SKUs
  - Patient counseling sessions, ADR monitoring, and clinical documentation
- Shift duties and on-call responsibilities in 24×7 hospitals

Inter-professional Relationships:

- Effective collaboration is vital in hospital settings.

Pharmacists interact with:

1. **Physicians**
   - ➢ Discussing drug therapy plans.
   - ➢ Clarifying prescriptions.
   - ➢ Recommending alternative or cost-effective medications.
2. **Nurses**
   - ➢ Guiding administration techniques (IV push, infusion rates).
   - ➢ Monitoring ADRs and reporting medication errors.
3. **Dietitians**
   - ➢ Collaborating on nutritional support, especially in TPN and electrolyte balance.
4. **Laboratory Technicians**
   - ➢ Coordinating for TDM (e.g., vancomycin, digoxin) and renal/liver function data.

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