

UNIT-I

Hospital and its Organization

A hospital is a health care institute providing patient treatment with specialized and trained medical staff, Pharmacist and nursing staff and medical equipment to cure the patient.

The word "Hospital" originated from the Latin word "Hospice" meaning Hospital Pharmacy: of which is guest.

The practice of pharmacy within the hospital under the supervision of a professional pharmacist is called hospital pharmacy.

- # Qualified person having a qualification of degree or diploma in pharmacy.
- # Registered pharmacist in state pharmacy council.
- # Have a licence and knowledge to sale, distribute and manufacturing of medicine.
- # A modern hospital is an institution which proper accommodation and well qualified and experienced personell.
- # To provide surmice of curative, resto-rative preventive and promotive character of the highest quality possible to all people regardless of race, colour, creed or economic status.

Classification of Hospital :-

Hospital can be classified in many ways -

- ① According to ownership/control
 - a) Public hospital (civil hospital)
 - b) Voluntary (Charitable) hospital
 - c) Private hospital and corporate hospital
- ② According to clinical specialities
According to length of stay
According to teaching or non-teaching

Based on objective :-

- a) General hospitals (All the)
- b) Special hospitals (like only cardiology department)
- c) Teaching cum research hospital (Medical college)

Based on administration, ownership, control, or financial income -

- a) Govt. or public (means civil, CHC, PHC etc)
- b) Non government or private
- c) Semi-government hospital (government + private)
- d) Voluntary agency hospital (NRI)

Based on length of stay :-

- a) Short-term or short stay hospital (stay less than 30 days)
- b) Long term or long stay hospital (stay more than 30 days)

Depending on type of Medical Staff :-

- a) Closed Staff Hospital :- (outsiders are not allowed)

#. Physician are held responsible for all medical activities in the hospital including the diagnosis and treatment of patient fee

paying and emergency.

#. A closed hospital system is one in which all doctors on staff, and also doc. that are not on staff may not have access or privileges at that hospital.

(b) Open staff-hospital

#. This type of hospital permits other physician in the community to admit and treat patient to the hospital and to use them.

#. Open medical staff; closed means all doc. are on staffs and also doc. that are not on staff may not have access ~~or~~ any physician can request to practice at the facility, regardless of their hospital affiliation.

#. Based on bed (Capacity) size

- (a) Small hospitals - upto 100 beds
- (b) Medium hospital - (more than 100 and less than 300 beds)
- (c) Large hospital - (more than 300 beds)

#. Based on type of Care

- (a) Primary care
- (b) Secondary care
- (c) Tertiary care

#. Based on teaching Affiliation

- (a) Teaching hospital → It is a hospital with medical college.
- (b) Non-teaching hospital → It is a hospital without medical college.

#. Based on System of Medicine

- (a) Allopathic hospital
- (b) Ayurvedic hospital
- (c) Homeopathic hospital
- (d) Unani hospital
- (e) Hospitals of other system of medicine.

Based on regionality →

- (a) Regional
- (b) District
- (c) Upzila health complex
- (d) Union health and family welfare centres (CHC, PHC)
- (e) Community ethics (village)

As per WHO Hospital (Based on WHO)

- (a) Regional hospital
- (b) Intermediate / District hospital
- (c) Rural hospital (NHRM)

Other Special Hospital →

- # Maternity Hospital
- # Children hospital
- # ENT hospital
- # Cardiology hospital
- # Neurology hospital
- # Orthopaedic hospital

Other Special Hospital

- # Railway hospital
- # ESIC hospitals
- # Military hospitals

#. Organization of Hospitals →

- The success of a hospital on a good community oriented planning, good design and construction, good administration
- The ultimate aim of the hospitals is to provide optimum health care and such its organization is based upon the following principle:

Classification of Hospitals →

- Clinical Basis
- Non clinical basis
- Miscellaneous Hospital.

Hospice - guest

(BAL)

ophenic - acid - derivative

Inulin - is the polysaccharide soluble in water

Date _____
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Objectives

- Provide optimum health service
- Provide care, cure and preventive service
- Protect the human rights of clients
- Provide training for professionals
- Provide

Functions of Hospital

- ① Patient care
- ② Health education
- ③ Health Promotion
- ④ Health related Research.

Organization of Hospital

Governing body or Board of trustees
Committees

Executive Finance Development Hospital administration Public relation

Clinical services

Administrative services

Ambulatory services

Nursing services

Pharmacy services

Paramedical department →

- ① Pathology dept
- ② Bacteriology
- ③ Biochemistry
- ④ Hematology laboratory
- ⑤ Parasitology laboratory
- ⑥ Histopathology lab.
- ⑦ Blood

Challenges to Hospitals:

- Changes in pay structure - high cost
- Quality services
- Management by clinicians in Bureaucratic way
- Lack of trained professional manpower
- Awareness of clients to rights and obligations
- Patient satisfaction
- Legislations in the health care.

Hospital Pharmacy and Its Organization:

Hospital pharmacy is defined as actual practice of pharmacy in a hospital.

- Hospital ph. is also defined as department where the drugs are procured, stored, compounded, dispensed, manufactured, assayed, packed and distributed to the patient by professionally trained and qualified pharmacist.

Functions of Hospital Ph. →

- Dispensing of drugs, chemicals and pharmaceutical preparation in hospital
- Preparation & sterilization of injectible drug if prepared in hospital.
- Necessary inspection of all pharmaceutical supplies in other depart.
- Maintenance of an approved stock of antidotes and other emergency drugs in hosp.

- Maintenance of records of dispensing of all narcotic drugs and alcohol in hospital.
- Maintenance of records and specifications of purchase of drugs.
- Collection & circulation of information about use of drugs.
- Medical staff in hospital
- Hospital pharmacy take responsibility to educate and
- Pharmacy trainee on various aspects of drug in the hospital.

Objective of Hosp. Ph:

- To teach hospital pharmacist about ethics of Hospital Pharmacy.
- To ensure the availability of right medication at reasonable cost.
- To educate nurses
- To establish drug information services in hospital.
- To attract greater no. of qualified pharmacist.
- To coordinate and cooperate with other department of hospital.

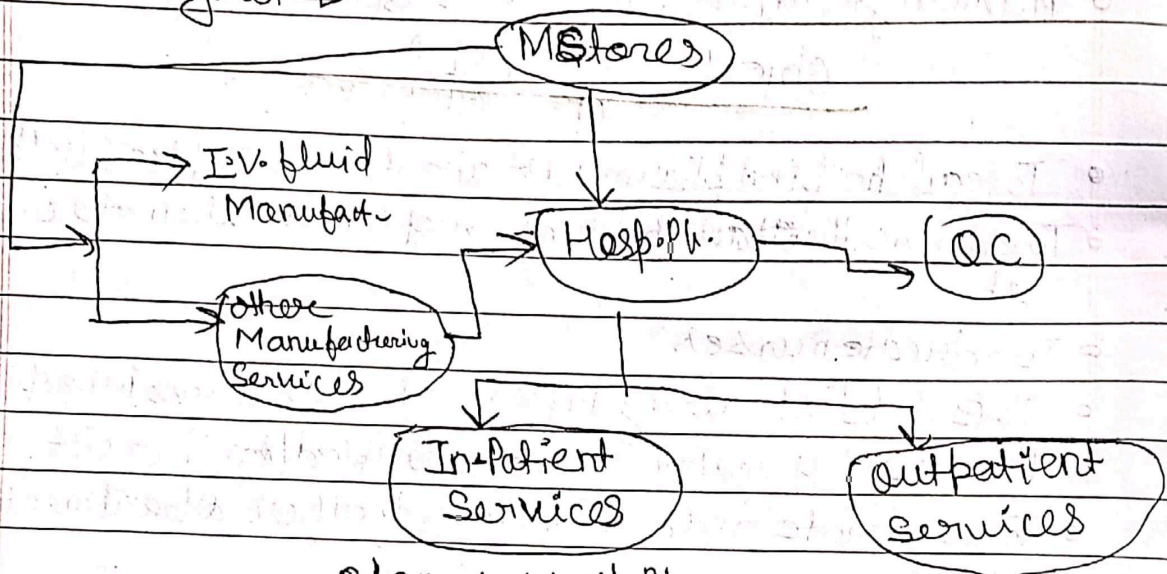
Goals of Hosp. Pharmacy

- To provide benefits of a qualified hospital pharmacist
- To assist in providing an adequate supply of such qualified hospital pharmacists
- To assure a high quality of professional practice
- To promote research in hospital pharmacy practice
- To disseminate pharmaceutical knowledge by providing for interchange of information among hospital pharmacist and with members of allied specialties and professions

① Location & Layout of Hosp. Pharmacy →

The location of Hosp. Pharmacy should be such that it is convenient for providing service to their departments of Hospital and personnel who make daily use of such services.
 • It is situated in some ground floor or first floor which is well connected to all departments as well as nursing station.

Layout →

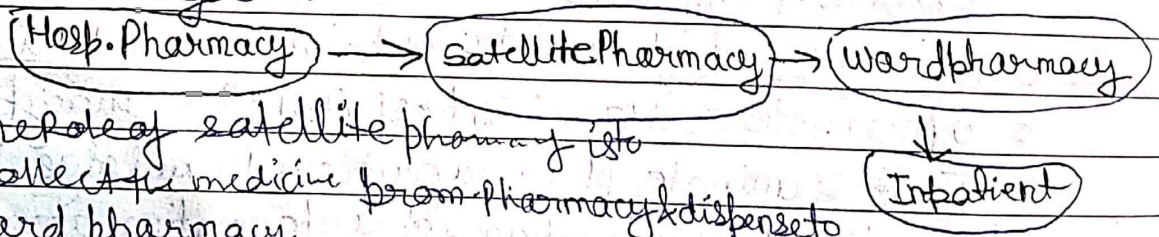


• Layout of Hosp. Ph.

① For in-patients →

Doctors - prescribed medicines and nurses dispense medicine to in-patient.

• Atree-diagram.



• The role of satellite pharmacy is to collect the medicine from pharmacy & dispense to ward pharmacy.

• Ward pharmacy is controlled by Nurses where drugs are prescribed and dispensed in patients.

② • For outdoor patient

③ • Manufacturing unit →

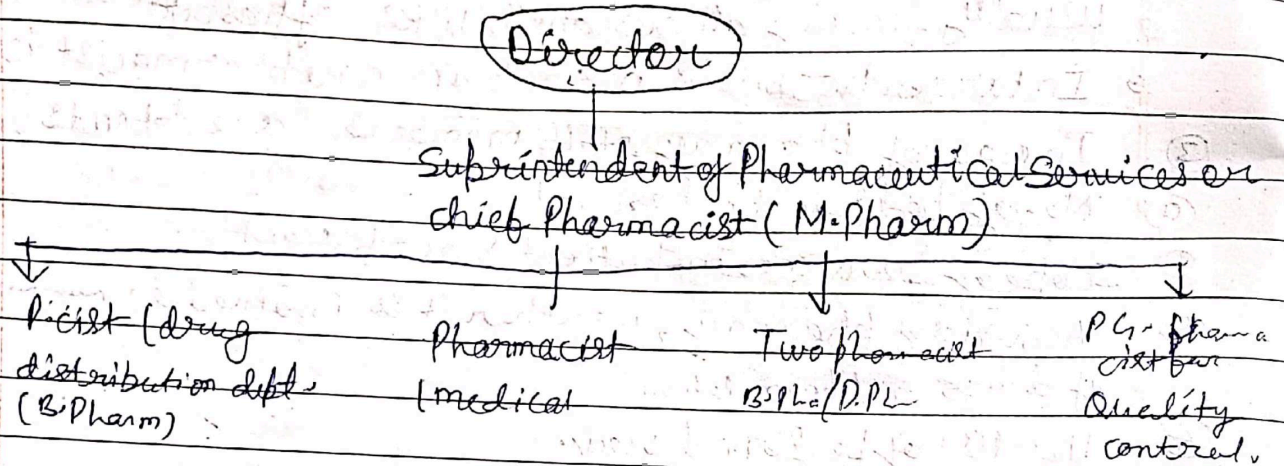
Requirement of Personnel or Staff in Pharmacy

- ① All members of pharmacy shall be competent; of good moral character, and mentally and physically fit to perform their duties acceptably.
- ② The list of personnel req. areas follows
 - Smaller hospital required only one pharmacist who is usually sharing all responsibilities of hospital pharmacy
 - In larger hospitals more than one pharmacist is selected.
- ③ The no. of pharmacy staff members are depends on
 - (a) No. of beds in the hospital
 - (b) Scope of services in-patient & out patient
 - (c) Activities of pharmacy, whether it is involved in manufacturing of drugs and formulation
- ④ The list of personnel req.
 - (a) Dir. of pharmacy
 - (b) Associate Direct.
 - (c) Two to three assist. direct.
 - (d) Chief Pharmacist. Graduate in ph
 - (e) Assist chief Pharmacist. Diploma in Ph. } Reg. as Pharm. in PCI
 - (f) Staff phr
 - (g) Non-professional
 - (h) Clerical help.

• Req^o of Equipments
The store

- (A) Administrative Materials and Equipments
- (B) Professional materials and equipments
- (C)

Req^o for Hospital Pharmacist



Adverse Drug Reaction →

WHO defines ADR as, "Any response to drug which is Noxious, unintended and occurs at dose used in a man for prophylaxis, diagnosis or therapy"

Classifications of ADR →

- (1) Excessive pharmacological effects →
- (2) Secondary pharmacological effects (Type-A) (Predictable) ADR
- (3) Idiosyncrasy -

• The term 'idiosyncrasy' originates from Greek word idiosynkresia, "a peculiar temperament" habit/body" (bromidies means 'one's own' and Kresis, means "mixing together" or literally "self-ruled".

• It is also called as Type-B adverse drug reactions.

◦ Characteristics →

- It occurs in genetically abnormal subjects
- It arises only over few days
- Prior drug exposure is necessary
- AS response is dose dependent

④ Allergic drug reactions →

These are also called as Type-B ADR. These are common but unpredictable in their occurrence.

- The term allergy is an adverse response to a foreign substance resulting from previous exposures to that substance.
- # "Hypersensitivity" is synonymous with allergy. Hypersensitivity (also called hypersensitivity reaction or intolerance) refers to undesirable reaction produced by the normal immune systems, including allergies and autoimmunity.

⑤ Genetically determined toxicity → (GDT)

In case of patients with special genotype or genetic makeup, there is increased in chances of drug toxicity.
ex; Patients with pseudocholinesterase deficiency (hereditary disorder) are highly susceptible to succinylcholine

Toxicity Following Sudden Withdrawal of Drugs →

- Some drugs are used for longer period of times, tolerance may occur in such cases, sudden withdrawal of such medications may give rise to severe adverse effects.
- Clonidine is a mild hypotensive agent which has property of causing severe hypertension if its use should be stopped suddenly
- Long term use of corticosteroids results in the atrophy of recipient's adrenal glands.
- Sudden withdrawal of these can therefore causes acute adrenal crisis which is also called as Addison's disease.

Drug-Interactions

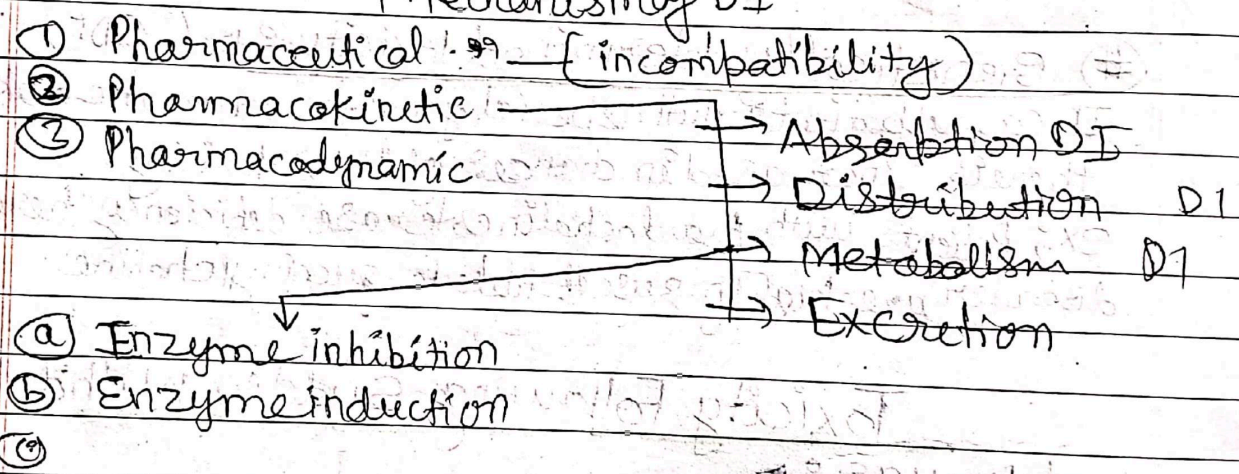
There is a delay between the first exposure to the drug and the development of a reaction.

- The Reaction occurs on repeated exposure even to minute quantities of the drug.
- The drug whose activity is affected by such an interaction is called as an "object drug"

Types of Drug Interactions

- ① Drug-drug interactions
- ② Drug-food interactions
- ③ Chemical-drug
- ④ Drug-laboratory test
- ⑤ Drug-disease interactions

Mechanism of DI



③ Pharmacodynamic Interactions

The interactions are those in which the activity of the object drug at its site of action is altered by the precipitant.

(a) Direct thermodynamic interactions

- ① Antagonism
- ② Addition or summation
- ③ Synergism or potentiation

(b) Indirect pharmacodynamic interactions

Methods of Detecting Adverse Drug Effects

No drug is absolutely safe, a drug introduced in the market, most of the pharmacological effects are known. Adverse effects resulting from excessive pharmacological activity, are well documented.

⊕ The various methods are given below —

1. Cohort studies
2. Spontaneous case reports
- ③ Vital statistics and record linkage studies
- ④ Control studies

Community Pharmacy

Community pharmacy means any place under the direct supervision of a pharmacist where the practice of pharmacy occurs or where prescription orders are compounded and dispensed other than a hospital pharmacy or a limited service pharmacy.

- Community pharmacy includes all of these establishments that are privately owned and whose function, in varying degree, is to serve society's need for both drug products and the pharmaceutical services.

Scope of Community Pharmacy

⊕ In processing prescriptions

The pharmacist verifies the legality, safety and appropriateness of the prescription order, checks the patient medication record before dispensing the prescription.

⊕ Patient care

⊕ Drug monitoring

⊕ Extemporaneous preparation

⊕ Alternative medicines.

- ⊕ Checking symptoms of minor ailments
- ⊕ Health care professionals
- ⊕ Counselors
- ⊕ In prophylaxis and health promotion

Objective of layout Design →

- ① To attract large no. of customers
- ② To increase the sales of store
- ③ To have proper entrance of coming goods and space for space for reserve stock, office and resting place.
- ④ To reduce the selling expenses and provides customer
- ⑤ To project a professional image and
- ⑥ To minimize the movement of customers

Types of a Drug Store → on the basis of Design →

- ① Traditional drug store
- ② Personal service drug store
- ③ Prescription oriented drug store
- ④ Pharmaceutical center-
- ⑤ Super drug store

Legal Requirements for establishment of Retail drug store →

1. Licences
 - (A) General licences
 - (B) Restricted Licences
2. Personal staff
 - (A) Selection of staff
 - (B) compensation
3. Type of records required
 1. Legal records
 2. Patients records
 3. Financial records