Program	**:**	B. Pharmacy
Name of Unit	**:**	Pharmacy and therapeutic committee, Drug information services
Subject /Course name	**:**	Pharmacy Practice
Subject/Course ID	**:**	BP 703T
Class: B.Pharm. Semester	**:**	VII
Module	**:**	III
Course coordinator	**:**	Ms. Amanpreet Kaur
Mobile No.	**:**	9056661610
Email id	**:**	pharmaceutics23@gmail.com

Learning Outcome of Unit

LO	Learning Outcome (LO)	Course Outcome Code
LO1	Students will learn about the Pharmacy and therapeutic committee.	BP703.4
LO2	Students also studied about the drug information services	BP703.4
LO3	Students will understand the education and training program in hospital.	BP703.4
LO4	Students are studied about prescribed medication order and communication skills.	BP703.3
LO5	Students will learn about the need of patient counseling.	BP703.4

Module Content Table

No.	Topic
1	Pharmacy and therapeutic committee:- Oganization, functions, Policies including drugs into formulary, inpatients and outpatients prescription, Automatic stop order, Emergency drug list preparation.
2	Drug information services:- Drug and Poison information centre, sources of drug information, computerized services and storage and retrieval of information
3	Patient counseling:- Definition, Steps involves in patient counseling and special cases that require pharmacist.
4	Education and training program in hospital:- Role of pharmacist, Internal and external training program, Services to the nursing homes/ clinics, code of ethics for community pharmacy, and Role of pharmacist in the interdepartmental communication and community health education.
5	Prescribed medication order and communication skills:- Prescribed medication order- Interpretation and legal requirements, and communication skills with precribers and patients.

TOPIC-1

PHARMACY AND THERAPEUTIC COMMITTEE

One of the methods or mode of ensuring the proper rationality in the use of drugs is that the hospital organize and constitute, The Pharmacy and Therapeutic Committee.

Definition: The pharmacy and therapeutic committee isv a policy framing and recommending body tothe medical staff and the administration of hospital on matters related to therapeutic use of drugs.

This committee is composed of physicians,v pharmacists and other health professionals selected with the inclusion of medical staff.

Objective of the PTC: The PTC has 3 major roles to play. These are

1) Advisory

2) Educational

3) Drug safety and adverse drug monitoring

1) Advisory:

- The committee recommends the adoption of policiesv or assists in the formulation of broad professional policies regarding evaluation, selection and therapeutic use of drugs in the hospital.
- The committee serves in an advisory capacity tov medical staff and hospital administration in all matters pertaining to the use of drugs, including the investigational drugs.
- It makes recommendations concerning the drugs tov be stocked in hospital patient care areas.
- The committee advises the pharmacy inv implementation of effective drug distribution and control procedures.

2) Educational:

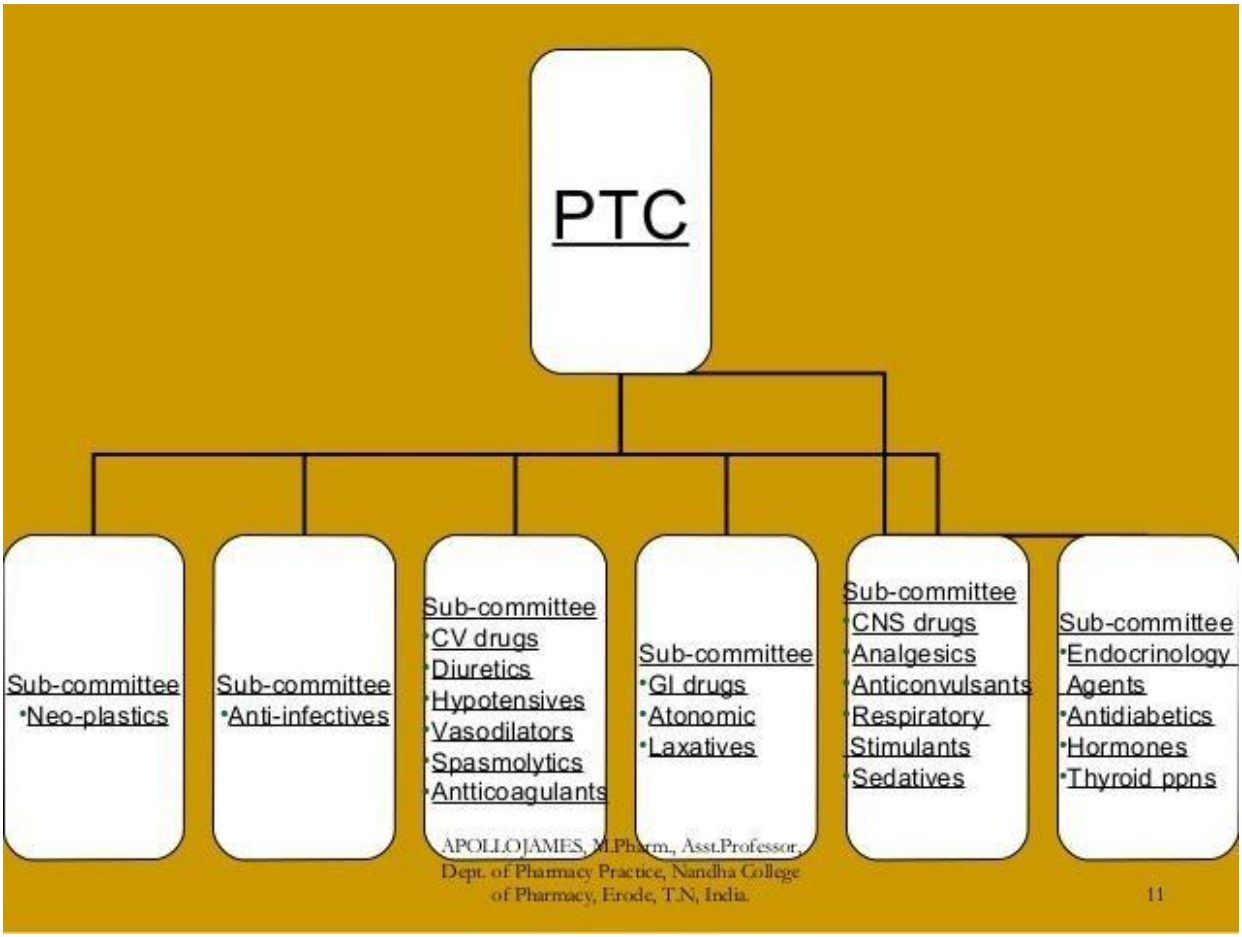
- The committee recommends or assists in thev formulation of functions, designed to meet the needs of professional staff like the physicians, nurses, pharmacist and other health care practitioners, for the complete current knowledge of the matter related to the drugs and their use.
- The committee evaluates the problemsv related to the distribution and administration of medications, including medication incident.
- The committee develops and compiles a formulary of drugs and prescriptions of formulations accepted for use in the hospital.
- The committee should minimize duplication of the same basic drug, drug safety, and cost.
- It establishes or plans suitable educational schemes for the hospital's professional staff on the matters related to the use of drugs.

3) Drug safety and adverse drug monitoring: This function is assigned to or taken up by the PTC and it should be continuous scheme of exerting vigilance.

ORGANIZATION OF PTC:

Composition of PTC may varies from hospital to hospital. It is composed of:

- At least three physicians from the medical staff
- Pharmacist
- A representative of the nursing staff
- An hospital administrator with his/her designated an ex-officio members
- CHAIRMAN: Medical super indent or senior doctor appointed by the hospital executive board.
- SECRETARY: Chief hospital pharmacist if not junior pharmacist or pharmacy technician.
- MEMBERS: All Medical staff including representation from each and every department.



OPERATIONS OF PTC:

- This committee should meet regularly at least six times in the year and also as and when necessary.
- The committee can invite its meetings personsν within or outside the hospital who can contribute specialized or unique knowledge, skills and judgements.
- The agenda and the supplementary materialsν should be prepared by the Secretary and furnished to the committee members well in advance so that the members can study them properly before the meeting.
- A typical agenda may consists of the following categories in general:
  1) Minutes of the previous meeting.
  2) Review of the contents of the Hospital Formulary for purpose of bringing it up to date, and deleting of products not considered necessary for use;
  3) Information regarding new drugs which may have become commercially available.
  4) Review of side effects, adverse drug reactions, toxic effects, drug interactions of drugs reported by various units of the hospital and brought to notice of the committee by DIC.
  6) Review of Drug Safety in the hospital.
  7) Reports of various sub-committees.
  8) Report of medical audit.
  9) Any other matter with the permission of chair.
  10) Vote of thanks.
  The minutes of all meeting hold should be prepared by the secretary and a permanent records of these minutes should maintained in the hospital.

FUNCTIONS OF PTC:

1. **Advisory committee to medical staff, administration and pharmacy**: The PTC is a valuable resource that can provide advice to medical staff, nurses, administration,υ pharmacy and other departments and groups within the hospital. The PTC can advise on all issues, policies and guidelines concerning the selection, distribution and use of medicines. Usually a DTC will provide advice and an executive body, usually the pharmacy or hospital management, will implement it.
2. **Development of drug policies:** The PTC is the most appropriate body to develop drug policies within a hospital or group of healthυ facilities, since the committee members will have the most experience and training in drug therapy and supply.
   - Drug policies may vary in different hospitals and countries, but all hospitals should have specific policies concerning.
   - Criteria for inclusion of medicines on the formulary list (essential medicines list (EML)
   - Standard treatment guidelines and treatment algorithms, which should be the basis of formularyυ selection Periodic use of medicines not on the formulary list, for example restricting their use to specifiedυ prescribers on a named patient basis only, or only allowing 10% of the hospital medicines budget to be spent on them.
   - Expensive or dangerous medicines, such as third-generation antibiotics or oenological drugs, whichυ are restricted to certain practitioners, departments or patients (structured order forms may be used to implement this policy).
   - Drugs that are under investigation for safety or efficacy.

- Generic substitution and therapeutic interchange.
- Drug representatives and promotional literature.

3. **Evaluating and selecting medicines for the formulary list:** Perhaps the most important function of a PTC is the evaluation and selection ofυ medicines for the essential medicines list or formulary list. Drugs should be selected on the basis of the standard treatment guidelines or protocols that have been developed or adapted for use in the hospital or health facilities. The evaluation of medicines requires significant expertise and time commitment and a rigorous, transparent approach.
4. **Assessing medicine use to identify problems**: Appropriate changes within the formulary list or other interventions may correct aυ number of problems in how medicines are used. It is important for the PTC to identify the priority problems and make appropriate recommendations.
5. Appropriate methods to identify drug use problems include:
   • Aggregate drug consumption data review including ABC and VEN analysis and use of defined daily dose (DDD) methodology.
   • Monitoring indicators of medicine use, including adherence to standard treatment guideline• drug use evaluation (DUE), also known as drug utilization review.
   • Monitoring adverse drug reactions and medication errors.
   • Antimicrobial resistance surveillance.
6. **Conducting effective interventions to improve medicine use**: There is no point in a PTC collecting information on drug use problems if nothingυ is done to correct the problems identified. The PTC is the main body within a hospital, or group of health facilities, responsible for ensuring that drug information is provided to health staff and also for conducting interventions to promote more rational drug use. Monitoring and supervision, audit and feedback, educational programmes, in-service training, use of standard treatment guidelines, provision of unbiased drug information, prescribing restrictions and automatic stop orders are some important interventions.
7. **Managing adverse drug reactions:** Adverse drug reactions (ADRs) are serious in terms of patient harm (morbidity and mortality) and avoidable economic costs. One large meta-analysis estimated that ADRs cause 3-4% of all hospital admissions in the USA and that in 1994 the incidence of ADRs was 6.7% (2.2 million events) with 106 000 fatalities (Lazarou et al. 1998). These estimates should be viewed with caution because of the heterogeneity among studies and small biases in the sample, but the data nevertheless suggest that ADRs are a large and serious problem.
8. **Managing medication errors**: Medication errors occur in all health-care settings, no matter how good the healthcare staff are at prescribing, dispensing and administering medicines. Even if thereυ is no error on the part of health-care staff, patients may take drugs incorrectly. Causes are numerous and include lack of knowledge, tiredness of staff, careless work attitudes, poor procedures, lack of policies, unfamiliar dosage forms and human error. PTCs can reduce such errors by monitoring, analyzing, reporting errors and implementing corrective action.
9. **Information dissemination and transparency:** The PTC must disseminate information about its activities, decisions andυ recommendations to the staff who must implement the PTC's decisions. This may seem obvious, but it is often forgotten. Inadequate dissemination of information leads to a loss of credibility. It is also very important that the PTC operates in such a way as to ensure transparency of all its decisions and to avoid conflict of interest. In particular, members should either have no relationship with pharmaceutical companies or declare it openly so that conflicts of interest can be avoided. The only acceptable contact with pharmaceutical companies is to ensure the flow of information about their drug products in a way that is as unbiased as possible.

10. **Policy Development:**The Pυ&T committee formulates policies regarding evaluation, selection, diagnostic and therapeutic use, and monitoring of medications and medication-associated products and devices. The P&T committee should establish and assist in programs and procedures that ensure safe and effective medication therapy (e.g., clinical care plans, treatment guidelines, critical pathways, disease management protocols). Members of the P&T committee, or their representatives from appropriate specialties (including pharmacists), should participate in or direct the development and review of such programs or procedures, which should be kept current.
11. **Communication and Education:** The Pυ&T committee ensures that mechanisms are in place to communicate with health care professionals, patients, and payers about all aspects of the formulary system, including changes made to the formulary or policies and how formulary system decisions are made. The P&T committee also recommends or assists in the formulation of educational programs designed to meet the needs of professional staff, patients, families, and caregivers on matters related to medications and medication use. The P&T committee should establish or plan suitable educational programs on matters related to medication use for staff involved in the care of patients and the use of medications.

ROLE OF PTC IN "EMERGENCY DRUG LISTS"

- The Time Factor is necessary for the Pharmacy and Therapeutics Committee of a hospital to get prepared boxes containing emergency drugs which should be always available readily for use at the bed-side.
- List of such drugs and other supplies should compiled by Committee, and it should find their place in "Emergency Kits".
- After the emergency boxes have been placed in the wards, it is very essential and compulsory that a system is developed whereby they are checked daily either by the hospital pharmacists or by nursing supervisor responsible for the ward.
- **A) Supplies to be maintained in Emergency Box:**
  i. Syringes of various range Two each of 1 ml. i.e tuberculin or insulin syringe, 2 ml. syringe and 5 ml. syringe; and one each of 10ml and 20ml syringe.
  ii. Needles, preferebly two each of 16', 18', 20', 21', 23', and 26',
  iii. Files for breaking the ampoule
  iv. Torniquets
  v. Airway equipment
  vi. Ryles tube
- **B) Drugs for Emergency Box:** These may selected in consultation with the physician but the following list is illustrative only
  i. Aminophylline 0.25 g/ml
  ii. Amylnitrite glass capsules for inhalation
  iii. Atropine sulphate 0.4mg/ml
  iv. Caffeine sodium benzoate 0.5g/2 ml.
  v. Calcium Gluconate 1 g/10 ml
  vi. Digoxin 0.25 mg/ml
  vii. Diphenylhydantoin sodium 50 mg/ml
  viii. Epinephrine Hcl/1 mg/ml
  ix. Heparin 10.000 units/ml
  x. Hydrocortisone 100mg

xi. Magnesium sulphate injection 10%, 50%v
xii. Isoproterenol 1:100
xiii. Mannitol injection 25%
xiv. Nalorphine Hcl-10 mg/2ml
xv. Neostigmine methyl sulphate 0.25mg/ml
xvi. Norepinephrine Injection 0.2%

- **C) Supplies for Cabinet Utility Room**
  i. Venuous cannulation set.
  ii. Each set 12&17 venous catheters
  iii. Pieces 6''shock blocks
  iv. Oxygen catheters
  v. Sterile suction catheters
  vi. Razor with blades
  vii. Package sterile gelatine sponge
  viii. Resuscitation tube.
- **D) Other emergency supplies**:
  i. Resuscitation carts
  ii. Phlebotomy sets
  iii. Oxygen equipments
  iv. Tracheotomy sets
  v. Dextran and tubing
  vi. Burn sheets

NB: Each hospital may modify this list by adding or deleting items as found necessary.

POLICES OF PTC IN DRUGS FORMULARY:

Formulary Principles :

The HealthPartners Pharmacy and Therapeutics Committee develops and maintains its formulary based on these guiding principles. These principles reflect the 6 AIMS (safe, timely, effective, equitable, efficient, and patient centered). These principles are prioritized in descending order (i.e. effectiveness isweighted most heavily, followed by safety issues, and then by cost).
Formulary decisions are made following a careful review of these often-competing principles.

1. Proven effectiveness documented in the medical literature. The primary consideration will be the degr ee to which a medication produces clinically desirable effects. Beneficial effects are assessed on the st rength of scientific evidence including peer-reviewed medical literature, pharmacoeconomic studies, and outcomes research, and standards of practice including treatment protocols and evidence-based pra ctice guidelines such as Institute for Clinical Systems Improvement (ICSI). Randomized controlled tr ials are weighted most heavily,followed by non-randomized trials, case reports, and medical pinion.
2. Maximizing safety and minimizing the potential for errors. The safety risk / benefit of a product will be compared with other treatments.We will minimize the potential for errors caused by product chara

cteristics such as name, dosage form, and packaging that pose threats to patient safety or increase the potential for errors in the health care system.

3. Optimizing pharmacoeconomics. The overall value of a drug or therapy will be compared with existig treatments to assess pharmacy costs in relation to medical outcomes. We will consider direct and indi rect pharmacy and medical costs.We will take into consideration and give preference to those agents that optimize the use of financial and service resources over the largest potential population.
4. Emphasis on products essential to health.
5. Significant improvements in patient convenience, adherence, and satisfaction.We will review more fa vorably products that have significant improvements in patient convenience, adherence, and satisfacti on. Examples include variables such as dosing convenience, variety of dosage forms, taste, ability to crush or divide doses, and storage requirements (refrigeration).
6. The formulary will support standard treatment algorithms.
7. Long term stability of formulary decisions. Changes to the formulary will be minimized for member care continuity.
8. The formulary will serve as a guideline for the vast majority of patients.
   a.Utilization management programs such as prior authorization, step-edits, MD-edits, quantity limits,and age limits will be applied to promote appropriate utilization.
   b.A “Formulary Exception” process will be readily available, easy to use, and timely.
   c. A “Transition of Care” policy will be available to assist members transitioning to HealthPartners.

AUTOMATIC STOP ORDERS FOR DANGEROUS DRUGS:

- All Drug Orders for narcotics, sedatives, hypnoticv anticoagulants, and antibiotics shall be automatically discontinued after 48 hours unless the order indicates an exact number of doses to be administered, or the attending physician, re-orders the medication.
- All orders for narcotics, sedative and hypnotics must bev rewritten every 24 hours.
- In India, at present, this kind of system of issuing “ASODD” is not practiced except for hospitals like Christian Medical Hospital Vellore or Jaslok Hospital, Mumbai Escort group, Mayo Hospital etc.

TOPIC-2

DRUG INFORMATION SERVICES

Introduction: It is the current, relevant, critically examined data} about drug and drug use for given patient or situation. Many institutes run DIC(Drug Information Center) for} the provision of drug information, to every group/kind of people from any place.

DIC: Drug information center is new concept in hospital pharmacy operation is usually located in separate section of pharmacy containing large number of reference texts, journals, reprints and brochures.Sometimes they are also equipped with electronic data processing equipments and have a full time director and adequate secretarial assistance.

HISTORY: First DIC was developed in University of Kentucky in 1960. In United states 80% of theHospitals having DIC.

Need of drug information:

- The no of drugs in the international market has increased very much.
- The newer drugs are generally more potent & selective, and formulations becoming increasingly complex.
- The literature on drugs has also expanded and covers a wide range of information.
- To introduce a new drug into the practice, the professionals need to evaluate the given information.
- A simple, quick reference to a pharmacopoeia or formulary is no longer sufficient.

Aims and objectives of drug information services:

- The provision of information to health professionals on specific problems related to the use of drugs in particular patients.
- The provision of information to officials in government agencies to optimize the decision making process.
- The preparation and development of guidelines and formularies.
- To improve patient compliance and to provide a guide to responsible self medication.
- To develop and participate in continuing education programs.
- To participate in undergraduate and graduate teaching programs.
- To develop educational activities regarding the appropriate use of drugs for patients in the community.
- To prepare and distribute material on drugs to health personnel in the form of a drug Information bulletin and/or other media.
- To develop and participate in research programs.

The Sources of information/Resources available

1. **Primary Source:** Information is presented by authors without any evaluation by a second party. Provides must current information about drugs. Examples; articles published in journals(eg British Medical Journal), thesis, magazines, bulletins etc. They contain scientific information, research and review articles where books contains a compilation of information so that there is big lag time between a discovery o an idea and its publication.

   Periodicals are further classified into:

   a) Primary periodicals: They contains reports of original research.
   b) Secondary periodicals: They contains that portion of original research which is according to their needs in the condensed form.

   On the basis of scope they are classified as under:

   a) Scientific Periodically: They contain original research articles which is reviewed by experts who are eminent scientific e.g. journal of pharmaceutical sciences.
   b) Professional Periodicals: They contains articles which have the practical aspects. They are less technically and scientifically oriented as compare to the articles presented in the scientific periodicals. E.g. Pharmacy times, American journal of pharmaceutical education.
   c) Commercials Periodicals: They contain information that is useful to the trade people i.e. information regarding the new products into the market, price change information, etc. e.g. drug index, drugs topics.

2. **Secondary source:** The original source has been evaluated by second party other than the publisher. Modified and rearranged form. Secondary sources consists of reviews of primary reports. These provide a personal perspective of the literature and can include comments on how the author might apply the information in practice.
   •Medline
   •International Pharamaceutical Abstracts
   •Chemical Abstracts
   •IOWA drug Information Service
   •DRUGDEX
   •Martindale
   •POISINDEX
3. **Tertiary source:** Information obtained from primary and secondary source and arranged in a} manner to represent a composite of the available information. Examples; Representative form Pharmacopeias - BP, USP, IP, BNF etc., Encyclopedia} Dictionaries Guides, text books. Tertiary resources are summaries of the primary and secondary published literature. Printed textbooks are the main example and these are characterized by a slow rate of revision compared to secondary sources
   • AHFS-Drug information Book; Australian Medicine Handbook
   • Avery's Drug Treatment
   •Basic skills in interpreting Lab data
   •Drug information handbook
   •Drug interactions Stockley/ Facts and comparison
   •Handbook of injectables

•Harrisons Principles of Internal Medicine
•Martindale, Pharmacopoeias, Physicians desk ref
•Merck index, Merck manual,
•BNF, USP, Australian formulary

Other Sources: The DIC also receives information from

- The public and hospitals about the Adverse effects of any drug
- Local drug lists
- National Formularies
- Hospital Formularies
- Internet
- Phone calls to Manufacturers
- Government and Non-government organizations and also to other DIC's

Drug information bulletin:

- It publishes the latest developments in medical sciences, the newly introduced drugs, new indication and other information regarding drugs.
- One of the PTCs duties is to assist the pharmacist in conducting a teaching program within the hospital through a pharmacy publication.
- The methods employed to disseminate interdepartmental information are usually bulletins, bulletin board notices and committee meetings.
- The bulletin normally publishes the latest development in the medical sciences, the newly introduced drugs, new indications for certain drugs, newer drug delivery systems, updates on drug interactions and ADRs.
- Pharmacist is normally held responsible for its publication however; contributions are obtained from pharmacists, physicians and nursing and other interested groups like therapeutic dietician for food drug interactions for publishing the bulletin.
- The contents should however be educative and informative.

POISON INFORMATION CENTER

PCC(Poison control center): For the provision of service regarding poison and} related danger, and to manage with the poisoning Cases Concept initiated in chicago in 1953.

PCC were established for two reasons:

- To provide rapid access to information valuable in assessing and treating poisonings.
- To assist with poisoning prevention.

FUNCTIONS:

- Assess and treatment recommendations during poisoning via 24-hour emergency telephone services.
- Provide public and professional educational programs.

- To collect data on poisonings.
- To perform research.
- Assist the public and health care providers during hazardous material spills.

COMPUTERIZED SERVICES

Computerized services: These information systems are organized to serve the needs of developed as well as developing countries on co-operative basis as these are established to store recorded information and retrieve it expeditiously and provide free exchange of information among scientists in various countries. The major International information systems & services are INIS, AGRIS, INSPEC, BIOSIS, MEDLARS, MEDLINE etc. Computer- based products & services

- AVLINE (Audio-Visual Online)
- CANCERLIT (Cancer Literature)
- CATLINE (Catalogue Online)
- CHEMLINE (Chemical Dictionary Online)
- TOXLINE (Toxicology information Online)
- SDILINE (Selective Dissemination of Information Online)
- SERLINE (Serials Online)
- POPLINE (Population Information Online)

MEDLINE is a literature database of life sciences and biomedical information introduced in 1971. It includes medicine, nursing, pharmacy, dentistry, veterinary medicine & health care. It can be searchable via PubMed & NLM‟s National Center for Biotechnology Information‟s Entrez system. MEDLINE uses Medical Subject Headings (MeSH) for information retrieval. Engines designed to search MEDLINE (such as PubMed &Entrez) generally use a Boolean expression combining MeSH terms, words in abstract and title of the article, author names, date of publication, etc. More than 6,000 of the world's leading biomedical journals are indexed in MEDLINE. Selection is based on the recommendations of a panel, the Literature Selection Technical Review Committee (LSTRC), based on scientific policy and scientific quality. PubMed is a free database comprises more than 22 million citations for biomedical literature from MEDLINE, life science journals, & other online books. Citations may include links to full- text content from PubMed Central & publisher websites. Available via the NCBI Entrez retrieval system.MedlinePlus is a free web service produced & maintained by NLM. Provides consumer health information for patients, families, & health care providers. Brings together information from the US. NLM, the National Institutes of Health (NIH), other US.govt.agencies& health related organizations.

DIFEERENT COMPUTERIZED SERVICES IN DIC:

- **Maintenance of records:** Various records like patient medication history, current treatment, financial records etc. are maintained in computer by feeing accurate data. Computer work as a data base manager. MEDLINE is a data base package used for this purpose. In which wholedata about patient is recorded.
- **Inventory control:** it is very important because it maintain balance between stock in hand and capital investment. Computers are used to detect the items which has attained by minimum order level. It then prepares a list and purchase order for supplies. There are 2 system of inventory:

1) **Periodic inventory control system:** In this system stock level are checked manually and the amount of inventory in hand is compared with minimum and maximum stock maintained in the computers. Computers helps in placement of orders to different suppliers after checking their terms and condition.
2) **Perpetual system:** In this system computer tells us about the present position of the drugs because they are received, they are entered in the initial stock to get the current stocks. As the drugs are delivered to the various department the quantities are subtracted accordingly.

- **Medication monitoring:** To meet the goal of optimum drug therapy, medication monitoring is essential. The prescription of a particular patient is receive over a period of time is entered and serves as chronological patient drug profile. It helps in suggesting drugs along with their dosage schedule for medication monitoring. Computers provided two types of information:
  1) **Pharmacokinetic information:** "NONLINE" is a computer program which can predict pharmacokinetic parameters easily. These parameters include volume of distribution, bioavailability, rate of clearance etc.
  2) **Non pharmacokinetic information:** It includes various allergic reactions, drug interactions, adverse drug reactions etc. for this 2 computers programme is used MEDIPHOR, PAD
- **Drug information services:** Computers have become an important tool for clinical pharmacist in drug information services. Computer aided drug design helps in new design of drug formulae possessing desired pharmacological action.CD-ROM technology has helped a lot in the evolution of compact electronics libraries.
- **Data storage and retrieval:** National library medicine created a computerized medical information retrieval system. It is a data base containing around 300 bio medical journals since 1966. "BIOSIS" is produced by bioscience information services containing various biological abstract.
- **Marketing and distribution:** It involves processing of orders, invoicing, maintenance of records, billing etc.
- **Pharmaceutical industry:** Complete computerized programme are available for drug manufacture and for quality control management. Information for the beginning of process for finished product is available.
- **Hospital pharmacy and retail pharmacy:** computers have a hospital pharmacist in keeping overall patient care like maintenance of a patient record, entry of prescription etc. all data stored in computer.

RETRIEVAL OF INFORMATION:

This can be illustrated by an example of registration in hospitals. A person who wishes to see a senior doctor has to fill a request slip. This slip contains a relevant data i.e. name, age, sex etc. The operator then feeds data from request slip to computers. The process in this case include examining the availability of senior doctor and determining whether data suits to patient or not. As a result of this process some information is output. The output may be in the printed Performa, if the senior doctor is available or otherwise a message may be issued by computer turning down the request.

In hospital, management of data is essential for effective retrieval of information. Data management involves creating, modifying, deleted and adding data in patient files and using this to generate reports and these reports are shared by many doctors for further investigation as they are connected through various personal computers. Some popular data base management system(DBMS) package for personalcomputers are:

dBASE III+

FOX

BASE+

Various steps involved in creating data base are

(i) Specifying the data base file structure
  (a) File name
  (b) Field name
  (c) Field width
  (d) Field type
(ii) Saving data base structure.
(iii) Entering data into the files as records.

TOPIC-3
PATIENT COUNSELLING

Patient counseling refers to the process of providing information, advice and assistance to help patients use their medications appropriately. The information and advice is given by the pharmacist directly to the patient or to the patient's representative, and many also include information about the patient's illness or recommended lifestyle changes.

Patient counseling is defined as providing medication information orally or in written form to the patients or their representatives on directions of use, advice on side effects, precautions, storage, diet and life stylemodifications.

During counseling, the pharmacist should assess the patient's understanding about his or her illness and the treatment, and provide individualized advice and information which will assist their medications in the patient to take their medications in the most safe and effective manner. Good communication skills are required to gain the patient's confidence and to motivate the patient to adhere to the recommended regimen.

OBJECTIVES OF PATIENT COUNSELLING:

1. Patient should recognize the importance of medication for his well being.
2. A working relationship and a foundation for continuous interaction and consultation should be established.
3. Patient's understanding of strategies to deal with medication side effects and drug interactions should be improved.
4. Should ensure better patient compliance.
5. Patient becomes an informed, efficient and active participant in disease treatment and self care management.
6. The pharmacist should be perceived as a professional who offers pharmaceutical care.
7. Drug interactions and adverse drug reactions should be prevented.

Patient counseling consists of three stages :

1. Introduction

2. Process Content and Issues regarding manner

3. Conclusion

1. Introduction:

- Review the patient's record.
- Introduce yourself.
- Explain purpose of counseling.
- Obtain drug related information such as allergies, use of herbals etc.
- Assess the patients understanding of the reasons for therapy.
- Assess any actual and / or potential concerns or problems of importance to the patient.

2. Process Content and Issues regarding manner:

- Use language that the patient understands
- Use appropriate counseling aids
- Present facts and concepts in simple words and in logical order
- Use open ended questions.

3. Conclusion:

- Verify the patient's understanding by means of feedback.
- Summarize by emphasizing key points.
- Give an opportunity to the patient to put forward any concerns.
- Help the patient to plain follow-up.

WHO AND WHEN COUNSEL:

The amount and type of information provided to the patient will vary based on the patient's needs, and practice setting. Ideally, the pharmacist counsels patients on all new and refill prescriptions. If the pharmacist cannot counsel to this extent, it should be defined which patient types, or which medications pharmacists will routinely counsel patients. This will vary depending on the pharmacy clientele and may include

- Patients receiving more than a specified number of medications.
- Patients known to have visual, hearing or literacy problems.
- Paediatric patients.
- Patients on anticoagulants.
- Appendix B provides additional types and groups of patients to counsel. Pharmacists should counsel on all new prescriptions, including transferred prescriptions.

FUNCTION OF PATIENT COUNSELLING:

Effective patients counseling aims to produce the following results:

- Better patients understanding of their illness and the role of medication in its treatment.
- Improved medication adherence.
- More effective drug treatment.
- Reduced incidence of adverse effects and unnecessary healthcare costs.
- Improved quality of life for the patient.
- Better coping strategies to deal with medication related adverse effects.
- Improved professional rapport between the patient and pharmacist.

STEPS OF PATIENT COUNSELLING: Steps of patient counseling: Counseling is a two-way communication process and interaction between the patient and the pharmacist is essential for counseling to be effective.

1. **Preparing for the session.**
2. **Opening the session**

3. **Counseling content**
4. **Closing the session**

1. **PREPARING FOR THE SESSION:** The success of counseling depends on the knowledge and skill of the counselor. The pharmacists should know as much as possible about the patient and his/her treatment details. If the patient is receiving a medication which is unfamiliar to the pharmacist, then a drug information reference should be consulted before counseling commences.
2. **OPENING THE SESSION:** The first phase of counseling is used for information gathering. The pharmacist should introduce him or herself to the patient and greet them by name. It is the beat to use titles such as Ms, Mrs. and Mr. and then switch over to the first name. The pharmacist should identify the purpose the session very clearly. For example, "Hello Mr. sreenivas! I am vinod, your pharmacist. I would like to tell you about your medication. Do you have a few minutes to spend with me?" Patient may be disturbed and distressed due to their illness, a few kind words to demonstrate empathy and understand in will assist the counseling process. During counseling, the pharmacist should avoid asking question in a direct or embarrassing way, show excessive curiosity, discuss the patient's personal problems, pass moral judgments, interrupt when the patient is speaking, make premature interpretations or argue with the patient.
3. **COUNSILING CONTENT:** The counseling content is considered to be the heart of the counseling session. During this stage the pharmacist explains to the patient about his or her medications and the treatment regimen. Topics commonly covered include:
   - Name and strength of the medication.
   - The reason why it have been prescribed (if known), or how it works.
   - How to take the medication.
   - Expected duration of the treatment.
   - Expected benefits of the treatment.
   - Possible adverse effects.
   - Possible medications or dietary interactions.
   - Advice on correct stage.
   - Minimum duration required to Show therapeutic benefit.
   - What to do if a dose is missed.
   - Special monitoring requirements, for example, blood tests.

   Information which is given should be tolerated to the individual patient. In some situations it is important not to jump to conclusions about why a particular medication has been prescribed. For example, tri cyclic anti depressants are often used for conditions other than depression, such as neuropathic pain, in continence. Asking questions such as what has the doctor told you about his medications? Can help avoid misunderstandings in this type of situation.

4. **CLOSING THE SESSION:** Before closing the session, it is essential to check the patient's understating. This can be assessed by feedback questions, such as "Can you remember what this medication is for?" or "for how long should you take this medication?" during the discussion some of the patient's information needs may have been cleared, but the patient may have new questions or doubts. Before final closure and if time permits, summarize the main pints in a logical order. If appropriate, the pharmacist can supply their telephone number to encourage the patient to make contact if they need advice or information.

SPECIAL CASES THAT REQUIRE THE PHARMACIST:

Patient who should always be confused:

- Confused patients, and their caregivers.
- Patients who are sight or hearing impaired.
- Patients with poor literacy.
- Patients whose profile shows a change in medications or dosing.
- New patients, or those receiving a medication for the first time (transfer prescription).
- Children, and parents receiving medication.
- Patients receiving medication with special storage requirements, complicated directions.

Patient who should be counseled at certain intervals:

- Asthmatic patients
- Diabetic patients
- Patients taking 4 or more prescribed medications
- Patients who are mentally ill
- Patients using appliances
- Epileptic patients
- Patients with skin complaints
- Patients misusing drugs
- Patients who are terminally ill

Counseling Content: The counselling content is considered to be the heart of the counselling session. During this step the pharmacist explains to the patient about his or her medications and treatment regimen. Lifestyle changes such as diet or exercise may also be discussed. Topics commonly covered include:

- Name and strength of the medication.
- Reason why it has been prescribed or how it works.
- How to take the medication.
- Expected duration of treatment.
- Expected benefits of treatment.
- Possible adverse effects.
- Possible medication or dietary interaction.
- Advice on correct storage.
- Minimum time duration required to show therapeutic benefit.

TOPIC – 4

EDUCATION AND TRAINING PROGRAM IN THE HOSPITAL

1. ROLE OF PHARMACIST IN EDUCATION AND TRAINING PROGRAM

Role of pharmacist in the education and training program, internal and external training program, Servicesto the nursing/clinics, Code of ethic for community pharmacy, and role of pharmacy in the interdepartmental communication and community health education.

Education/Training/ Research:

1. Offering continuous education CE programs to pharmacist, physicians, nurses.

2. Training pharmacy students (internship).

3. Providing residency programs.

4. Hospital pharmacists may participate in research conducted in the hospital.

5. Publishing newsletters accessible to staff & public.

Content of pharmaceutical education:

• Pharmacy profession must serve needs of society and individual patient through the world.

• Pharmacy profession plays main role in discovery, development production and distribution of drug products and in the creation dissemination of related knowledge.

• In addition pharmacist are involved in direct patient care and are taking responsibility for the resolution of drug therapy problems of individuals.

Education and training division:

1. Coordinate programs of undergraduate and graduate pharmacy student.

2. Participate in hospitals- wide educational programs involving nurses, doctors, etc.

3. Train newly employed pharmacy department personnel.

Types of staff development:-

- Induction training
- Job orientation
- In-service education
- Continuing education
- Training for special function

Steps of staff development program

Assess the educational needs of all staff members

↓

Set priority

↓

Develop general objectives for the staff development program

↓

Determine the resources needed to reach the desired objectives

↓

Develop a master calendar for an entire year

↓

Develop and maintain staff development record system

↓

Establish files on major educational topics

↓

Regularly evaluate the staff development program

Continuing professional development (CPD):

• Continuing professional deveopment (CPD), in comparison to CME, is a broader concept, refers to the continuing development of the multi-faceted comptencies inherent in medical practice, covering wider domains of professionalism needed for high quality professional performance.

• Peck wt al (2000) indicated that there is no sharp division between CME and CPD.

2. INTERNAL AND EXTERNAL TRAINING PROGRAM

INTERNAL TEACHING PROGRAM: Internal teaching program are considered to be those which involve the training of students, nurses, the conducting of seminars in therapeutics, of graduate nurses,house staff members and senior medical staff.

Assisting in the education of undergraduate pharmacy students, refresher courses for graduate pharmacystudents and residents in the hospital administration.

INTERNAL TEACHING PROGRAM:

- **Training of student nurses.**
- **Seminars for graduate nurses, house staff or medical staff**
- **Training of undergraduate students**
- **Patient teaching program**
- **Training of clinical pharmacist**
- **Training residents in hospital administration**

1. **Training of student nurses:**
   - The student pharmacist should teach students nurses the entire course in pharmaceutical education and pharmacology.
   - If the individual is capable and has to impressed the nurse with education by his daily action and deeds, he should be invited.
   - The prepared lecture up to date each year to include the latest development in pharmacology. All the reference to weights and measure should accordance with hospital drug formulary.
2. **Seminars for graduate nurses, house staff or medical staff:**
   - Although most pharmacist disseminate information to the members of the medical and nursing staff through pharmacy publications, there is still need for direct or personal presentation which is afforded by conducting seminars on the latest available therapeutic agents to the medical staff.
   - Ideally talk should be short, not more then 20-25 minutes. The subject should be covered in such a way that all the facts and therapy obtain an appreciation of many facts of drug therapy.
   - Minimum standards of American society of the hospital pharmacists developed an outline of 4 lectures which may presented by hospital pharmacist to staff.
   - **Lecture 1 include: a)** location of pharmacy b) a description of physical plant c) personal d) hours of operation e) services provided by the department f) hospital polices governing.
   - **Lecture 2 include**: This is devoted to the philosophy and goals of formulary system. In the course of lecture the hospital pharmacist should emphasize the composition and scope of PTC.

- **Lecture 3 include**: This lecture is suggested to take form of prescription clinic. In the course of lecture pharmacist should stress in central or state law concerning hospital regulation governing the prescription.
- **Lecture 4 include**: It is reserved for the discussion of any topic of current interest of the staff like cost of medications, drug interactions, NDA etc.

3. **Training of undergraduate students:**
   - Only few colleges of pharmacy have developed working arrangements with the hospitals for teaching purpose.
   - Even colleges of pharmacy run in universities which also have a large teaching hospitals but in which the college have no connection with the pharmaceutical services.
4. **Patient teaching program:**
   - In one study the patient knowledge of their prescribed drug regimen was assessed in 78 patient, randomly chosen and interviewed home within 6 to 9 days after hospital discharge. The study include the
     a) Name and purpose of medications.
     b) Precaution to be considered while taking medications.
     c) Foods or beverages that should avoided during medications.
   - The study included the lack of knowledge about prescription medication.
   - The programme include: patient counseling, brochures, group conference etc.
5. **Training clinical Pharmacist:** In clinical pharmacy training specializations within board area of clinical pharmacy pediatrics, clinical pharmacology, toxicology, drug information analysis and interpretations, infectious disease should be included

- The training of clinical pharmacist need not to be limited to the hospitals but may include the satellite health care centers pursing homes, extended care facilities.

6. **Training residents in hospital administration:** Candidate for master of hospital administration residency is an approved institution under the guidance of a competent instructor. While serving the residency the newly selected administrator is exposed to the function and operation of every department in the hospitals.

EXTERNAL TEACHING PROGRAM: These program considered to be those in which the hospital pharmacist is the guest lecturer or speaker or possibility the sole instructor in-charge of a specific coursein school and college.

Example of external type program are course of pharmacy, seminars, institute of conventions which are sponsored by professional associations.

- An external teaching programme as stated earlier, consist of any teaching program activity by pharmacist outside the hospitals.
- The hospital pharmacist may and usually does teach courses other then he hospital pharmacy. these include the product development, preparation of Parenterals products etc.
- Participation in seminars, institute, refresher course.
- Participate in the activities of nursing, dietary, oxygen therapy and medical technologist associations does much to improve the professional status of hospital pharmacist.
- Pharmacist should involve in different hospital research technology.

3. SERIVCES TO THE NURSING HOMES AND CLINICS

Home Health Nursing:

• Home health nursing services enable individuals of all ages to remain in the comfort and security of their homes while receiving health care.

• Family support, familiar surroundings, and participation in the care process contribute to feelings of worth and dignity.

• Services may include skilled nursing, physical therapy, speech language therapy, occupation therapy, social services, intravenous therapy, nutritional support, home health aide, respiratory therapy, acquisition of medical supplies and equipment, and homemaker and companion care.

Home Health Care Defined

• Four Different Perspectives

– Official : Services are provided to individuals and their families in their place of residence for the purpose of promoting, maintaining, or restoring health or of minimizing the effects of illness and disability.

– Patient : Skilled and compassionate care is provided on a one-toone basis in the comforting and familiar surroundings of the home.

– Family : It is a means to keep the family together as a functioning, integrated unit.

– Provider: All disciplines involved are challenged to provide excellent care in often less-than-excellent conditions and surroundings.

Historical Overview:

- Home care was formerly defined as simply providing physical care to the sick in their homes, but the scope and complexity of the concept and practice have grown.
- Roots of the concept can be traced to the New Testament of the Bible, which describes visiting the sick as a form of charity.
- The first home health care program in the United States was organized in 1796 as the Boston Dispensary.
- The first visiting nurse service in the United States was formed in Philadelphia in 1886.
- Lillian Wald and Mary Brewster developed a visiting nurse service for the poor in New York City in 1893 at the Nurses' Settlement House on Henry Street.
- In the 1800s and early 1900s, visiting nurse associations were formalized, and public health departments became widespread.
- The Social Security Act of 1935 first provided government rather than local charitable funding for selected services such as maternal health, communicable disease, and the training of public health professionals.
- Diagnosis-Related Groups (DRGs) – Congress enacted this prospective payment system in 1983 as a part of the Tax Equity and Fiscal Responsibility Act for hospitals receiving Medicare reimbursement. Based on major diagnostic categories, a set rate is paid for the hospitalized patient's care rather than the "cost" or charges traditionally billed by institutions. The net effect of the change was a major shift of patients out of the hospital into their homes, extended-care facilities, or skilled nursing facilities. – This created a challenge in terms of volumes of patients seen, necessity of more skilled nursing care over intensive times, and the evolution of highly technical procedures in the home.

Types of Home Care Agencies Agencies may have to comply with federal, state, and local laws and regulations via the following:

- Licensure by the state
- Certification by the state certifying body designated by the federal government
- Certificate of need granted by some state according to rules and formulas devised by state regulators
- Accreditation by an outside agency that evaluates how well the agency meets certain standards set by the accrediting organization

Types of Home Care Agencies : Agencies Classified According to

– Tax status: For profit or not for profit

– Location: Freestanding or institution-based

– Governance: Private or public

-Voluntary

– Official

– Combination

– Hospital

– Proprietary

– Private not-for-profit

– Other

Changes in Home Health Care:

- The Joint Commission (TJC) is looking for agencies to establish ethics committees to handle issues that arise in the home.
- Psychiatric nurse clinicians are being reimbursed by Medicare for home visits.
- Social workers are taking a more active role in home health care.
- More home health agencies are employing nurse pain specialists to assess and manage pain control in the home.
- Most agencies are obtaining a separate Medicare certification to provide hospice care.
- Pet care programs are emerging to reduce stress for the home health patient who is too ill to care for his or her pet.
- Electronic home visits may be evolving.
- One of the most rapidly growing segments in home health is home infusion therapy.

Service Components:

- Skilled Nursing – This is provided and directed by currently licensed registered nurses.
- Basic nursing services may be provided by the LPN/LVN under the supervision of the RN.

- **Service goals :** Restorative, improvement, maintenance, promotion
- Nurses practicing in the home setting must be technically proficient, self-motivated, innovative, and independent decision makers.
- **Role of the LPN/LVN :** Skilled service has become a growing field of practice for the LPN/LVN as agencies cope with increased staffing needs, nursing shortages, and recognition of the contributions the LPN/LVN can make to home care. Independent practice is not allowed, but self-direction, motivation, creativity, clinical proficiency, flexibility, compassion, empathy, and patience are all essential attributes.
- **Physical Therapy:** Services must be provided by a qualified and licensed physical therapist. A physical therapist's assistant may deliver limited services under the supervision of the licensed therapist. The goals of treatment must be restorative for Medicare reimbursement but may be maintenance or preventive for other payer sources.
- **Speech-Language Therapy** – Speech services must be provided by a master's prepared clinician who has been certified by the American Speech and Hearing Association. Therapy goals include minimizing communication disorders and their physical, emotional, and social impact. Independent functioning and maximum rehabilitation of speech and language abilities are primary treatment goals.
- **Occupational Therapy**: Services deal with life's practical tasks. The therapist will choose and teach therapeutic activities designed to restore functional levels.
  Services include:
  • Techniques to increase independence
  • Design, fabrication, and fitting of orthotic or self-help devices
  • Assessment for vocational training
- **Medical Social Services:** Services are provided by social workers prepared at the master's level. Focus is on the emotional and social aspects of illness. The care plan includes education, counseling, payment source identification, and referrals.
- **Homemaker Home Health Aide:** The aide provides the basic support services that can enable an elderly individual, disabled adult, or dependent child to remain at home. Most aid services fall into one of three categories • Personal care • Physical assistance • Household chores.

The Typical Home Health Process:

- **Referral**: Entry point into the home health care system. Can come from the patient, family, social service agency, hospital, physician, or another agency.
- **Admission:** The initial evaluation and admission visits are made by an RN within 24 to 48 hours of the referral. The evaluation and admission process generally includes at least the following:
  • Complete patient evaluation
  • Environmental assessment
  • Identification of primary functional impairments
  • Assessment of the family or significant other support system
  • Determination of knowledge and adherence to treatments and medications.
  • Determination of desire for care and services
  • Involvement of the patient and family in the development of the plan of care and goals
  • Notification to the patient of rights as a patient, along with costs, payment sources, and billing practices

• Explanation of the patient's right to self-determination
• Provision of initial nursing interventions

- **Care Plan:** The physician must be contacted for specific orders before delivery of care. A treatment plan is drafted cooperatively with the physician. The plan describes the current physical status of patient, medications, treatments, the disciplines needed to provide care, the frequency and duration of services, the goals/outcomes, and the time frame for implementation. It must be signed by the physician and serves as the traditional physical orders.
- **Visits**: Visits for interventions by ordered disciplines are made to meet the patient-centered goals and progress toward identified outcomes. Patients may be visited as infrequently as once a month to several times a day; several visits per week is typical.
- **Documentation:** Concise and complete documentation is essential. It may be hand-written, dictated, or entered into a computer. Many agencies are beginning to use various problem classification schemes linked with nursing diagnoses, specific interventions, and defined patient outcomes. It provides an accurate picture of the type and quality of care and reflects the effectiveness of the plan of care and progress toward goals and outcomes or the reason for lack of progress.
- **Discharge Planning:** Planning begins with admission. When patient goals or other specific criteria are met, the discharge occurs. The purpose of discharge planning is to promote continuity of care in the patient's home.

Reimbursement Sources

- **Medicare:** This federal program requires agencies to be certified as meeting the federal conditions of participation, which set forth specific requirements for organization, staffing, training, types of services covered, and agency evaluation. Beneficiaries of services must be 65 or older, disabled, or have end-stage renal disease. Must be under the care of a licensed physician, homebound, and in need of skilled nursing therapy services.
- **Medicaid:** This pays for home care services to indigent and low-income people of all ages. It is administered by the state but is both state and federally subsidized. Services vary from state to state, but most include the basic services covered by Medicare plus expansion of aide and personal care services.
- **Third Party:** Limited home care services are paid for: Coverage, requirements, and payment rates vary. – Reimbursement is often tied to post hospitalization recoveries. A case manager will determine and arrange for a mix of home care, therapy services, counseling, supplies, and equipment for a patient.
- **Private Pay :** Individuals may also pay directly for home health services. Charges may be the standard full charge or may be scaled down based on ability of the patient to pay.
- **Other Sources:** Health maintenance organizations (HMOs) and preferred provider organizations (PPOs) have negotiated contracts with home health agencies to provide services to their patients. – Both are prepaid health plans operated independently or through employer groups.

4. CODE OF ETHIICS FOR COMMUNITY PHARMACY

INTRODUCTION:

- A profession is identified by the willingness of the individual practitioners to comply with ethical and professional standards, which exceed minimum legal requirements
- The pharmacist continues to be the health professional. Who is the expert on medicines.
- Pharmacist are also given the responsibility to help people to maintain good health ,to avoid ill health where medication is appropriate, to promote rational use of medicine and to assist patients to acquire and gain maximum therapeutic benefit from their benefits.
- The code deals with the ethics rather than the laws governing pharmacy practice.
- The code defines and seeks to clarify the obligations of pharmacist to use their own knowledge and skills for the benefit of others, to minimize harm, to respect patient autonomy and to provide fair and just pharmacy care for their patients.
- For those entering the profession, the code identifies the basic moral commitments of pharmacy care and serves as a source for education and reflection.
- For those within the profession, the code serves as a basis for self evaluation and peer review.
- For those outside the profession, the code provides public identification of the professional ethical expectation of its members.
- Professional ethics are defined as rules of "conduct or standards by which a professional community regulates its actions and sets standards for its members".

Elements of The Code:

- The code contains different elements designed to help the pharmacist in its interpretation.
- They establish correct directions for pharmacy practice.
- In the absence of a conflict of ethics, the fact that a particular action promotes a value of pharmacy practice may be decisive in some specific instances.
- Obligations provide more specific direction for conduct than do values; obligations spell out what a value requires under particular circumstances.
- It is also important to emphasize that even when a value or obligation must be limited, it nonetheless carries moral weight.
- For e.g.: a pharmacist who is compelled to testify in a court of law on confidential matters is still subject to the values and obligations of confidentiality.
- The pharmacist must only reveal that confidential information that is pertinent to the case at hand and such revelation must take place within the appropriate context.

Code Of Ethics:

Structure of code :

- Statements which capture the philosophical concepts which form the foundation of the code of conduct.
- They are statements which are expected to be resilient over time.

Obligations:

• More detailed statements to inform pharmacists of standards of professional behavior that they just meet.

• Although not underpinned by legislation, a breach of the obligations and ,by inferences, could be expected to be the basis for displinary action.

CODE OF ETHICS PRINCIPLE:

Principles 1 –Pharmacists respect the professional relationship with the patient and acts with honesty, integrity and compassion.

1. The patient-pharmacists relationship is a covenant, meaning that a pharmacists has moral obligations in response to the trust received from society.

2. A pharmacist has a duty to tell the truth, to act with conviction of conscience , and to avoid discriminatory practices and behavior.

Principle 2. Pharmacists honor the individual needs, values and dignity of the patient

OBLIGATIONS 1. A Pharmacist assists patients to make informed choices about their own best interests.

2. A Pharmacist aids patients in their expression of needs and values, and recognizes their right to live at risk.

3. A pharmacist conduct all times knowledge the patient as a person discussion of care in the presence of the patient should, whenever possible, actively include the patient.

Principle 3- Pharmacists support the right of the patient to make personal choices about pharmacy care •

1. The pharmacist has the primary responsibility to inform the patient about available pharmacy care.
2. A Pharmacist owes a duty to disclose material risks associated with medication therapy.
3. A pharmacist should aid patient in becoming an active participant in their care to maximum extend that circumstances per minute.

Principle 4- Pharmacist provide a complete care to the patients and actively supports the patients right to receive competent and ethical care.

1. A pharmacists commit to lifelong learning design to maintain relevant knowledge and skill.
2. A pharmacists places concern for the wellbeing for the patient at the center of professional practice, provide best care that circumstances, experience and education permit.
3. A pharmacist to provide information to the patient in understandable and sensitive way.

Principle 5- Pharmacists protects the patients right of confidentiality

1. A pharmacists provide pharmacy care with consideration for the personal privacy of patients.
2. An affirmative duty exist to institute and maintain practices that protect patient confidentiality.

Principle 6- Pharmacists respect the values and abilities of the colleagues and other health professionals.

1. Pharmacists accept responsibilities to work with colleagues and other health care professionals and with public interest pharmacy organization and patient advocacy groups to promote safe and effective pharmacy care.
2. A pharmacist when appropriate ask for consultation of colleagues or other health professionals or refers the patient.

Principle 7- Pharmacists Endeavour to ensure that the practice environment contributes to safe and effective pharmacy care.

1. A pharmacists manager has a responsibilities to foster an optimal practice environment and to ensure the provision of required resources.
2. If there is a conflict between professional activities and management policies professional responsibilities will take precedence.

Principle 8- Pharmacists ensure continuity of care in the event of job action, pharmacy closure or conflict with moral benefits.

• A pharmacists has a duty through coordination and communication to ensure the provision of essential pharmacy care throughout the duration of any job action or pharmacy closure. Patient who require ongoing or emergency pharmacy care are entitled to have those needs satisfied.

Ethical Problems:

There are 3 categories

1. **Ethical violations:** The neglect of moral obligations.
2. **Ethical dilemmas**: Where ethical reasons both for and against a particular course of action are present and one option must be selected.
3. **Ethical distress:** When pharmacists experience the imposition of practices that provoke feelings of guilt, concern or distaste.

Advantages of code of ethics :

- The code provide clear direction for avoiding ethical violations.
- The code cannot serve the same function for all ethical dilemmas or for ethical distress.
- The code cannot relieve ethical distress.
- The code tries to provide guidance for those pharmacists who face ethical problems

5 ROLE OF PHARMACIST IN THE INTERDEPARTMENTAL COMMUNICATION AND COMMUNITY HEALTH EDUCATION

Communication: The act of imparting news or information or means of connecting places. It is a scienceand practice of transmitting information.

Communication skill: The ability to communicate clearly and effectively with patients, family members, physicians, nurses, pharmacists and other health care professionals.

Poor communication: Poor communication skill between pharmacist and patient leads to:

-Inaccurate patient medication history.

-Inappropriate therapeutic decisions.

-Leads to patient confusion, patient disinterest and patient non-compliance.

TYPES OF COMMUNICATION: There are two types of communication skill:

1. NON-VERBAL COMMUNICATION
2. VERBAL COMMUNICATION

1. NON VERBAL COMMUNICATION:

I. EYE CONTACT: It indicates confidence, attention and honesty.

II. FACE EXPRESSION: An important indicator of emotional state.

III. BODY POSTURE: Message can be conveyed through body posture. E.g.: Closed body posture: person sitting with his legs and arms crossed in front of their body. This prevents or hinders the free flow of information.

IV. TONE OF VOICE: Soften voice etc can also influence the communication.

V. PROXIMITY/CLOSENESS OF POSITION: The pharmacist and patient must maintain a minimum distance of 45cm.

VI. ANOTHER FORM OF NON-VERBAL MESSAGE: To convey information through the use of diagrams.

2 **VERBAL COMMUNICATION SKILL:**

- Essential verbal communication skills include the:
- Ability to listen, understand and respond to what people say (active listening)
- Ability to interpret the non-verbal communication and respond in a way that encourages continued interaction (evaluation).

I. ACTIVE LISTENING: Good listening skill important to promote a good interactive communication and obtain information. Focus on patient, family member or healthcare professional. Make the person feel like CENTRE OF ATTENTION. Have an open, relaxed and unhurried attitude. Set aside all professional interruptions. Keeping eye contact, nodding, asking questions etc indicate: ATTENTION. Tone and modulation of voice, number and placement of pauses: RELIABILTY OF PATIENT PROVIDED INFORMATION. Llow level of energy, flat effect, monotone voice: DEPRESSED.

II. OBSERVATION AND ASSESSMENT: Effective two way communication requires:

- continual observation

- assessment of how the person is communicating

- Body language and gestures provide important clues for pharmacist, patient and health care professional.

-SIT OR STAND AT EYE LEVEL: maintain eye contact

-use focused body posture to convey interest and attentiveness.

- OPEN COMMUNICATION: -sitting or standing at eye level or lower projects a non-threatening, equalizing body posture.

- Physically be close to patient, family member or healthcare professional.

III. LANGUAGE: - For reliable communication; use a language in which both parties are fluent and comfortable.

- Abbreviations and terms used for prescribing medicines represent a specialized type of communication.
- Do not produce fear, anxiety in patients by saying medical terms.

APPLICATIONS:

1. **COMMUNICATING WITH THE HEALTH PROFESSIONALS:** Effective communication between pharmacist and physicians, nurses and other pharmacists is essential. Pharmacist- Physician Communication: Be prepared with specific questions or facts and recommendations when initiating a patient correlated conversation with physicians.
2. **COMMUNICATION WITH PATIENTS:**

   I. **MEDICATION HISTORY INTERVIEW:** are required for making decisions. The following information is recorded:

   1) Currently or recently prescribed medicines.
   2) OTC medicines purchased.
   3) Vaccinations
   4) Alternative or traditional remedies
   5) Description of reactions and allergies to medicines.
   6) Medicines found to be ineffective.

   II. **PATIENT INFORMATION LEAFLET (PILs):** Used to outline key information to assist patients and caregivers in the effective and safe use of medicines. The following information is included:

   1. Trade and generic name
   2. Indication for which the medicines is being taken.
   3. Administrative advice.
   4. Information on the action required if dose missed.
   5. Common or serious side effects.
   6. Storage information.
   7. Action to be taken if a side effect is experience.
   8. Name and contact details of the institution provided.
   9. Author and date of publication the information.

   III. **MEDICATION COUNSELLING FOR PATIENTS**:

-Effective patient counselling can assist patients in using their medicines safely and reliably.
-Before giving information, check the patient's level of understanding.
- Advice to patient to adapt the medication regimen to their life style.

3. TEACHING:

-A teacher must be organized and knowledgeable about the subject being taught and must be an excellent communicator.

-Communication is enhanced by good organizational skills.

-Direct questioning and assessment of responses are easy ways to determine the responses of students.

4. PLATFORM AND POSTER PRESENTATION:

PLATFORM PRESENTATION: -Pharmacists make platform presentations at local, state and national professional meetings.

POSTER PRESENTATION: -Unique form of communication in which the information is displayed than oral.

-Posters that attract the most attention have clear, descriptive titles and a colorful, neat professional appearance.

-Visual aids like graphs, charts and photographs communicate information effectively.

5. **MEDIA INTERVIEWS:** -Media is an effective form of communication between pharmacist and the public. Pharmacists are called by the media to provide background information regarding therapeutic issues such as the marketing of an important new drug, drug related problems or the withdrawal of the drug from market.

6. **MANUSCRIPTS:** Original research reports, case studies, review articles, editorials and letters to the editor are important communication tools among health professionals. Well written manuscripts that meet the needs of the journal's audience will be published.

ROLE OF COMMUNITY PHARMACIST

Role of community pharmacist Introduction Community pharmacists are the health professionals most accessible to the public. They supply medicines in accordance with a prescription or, when legally permitted, sell them without a prescription.

In addition to ensuring an accurate supply of appropriate products, their professional activities also cover counselling of patients at the time of dispensing of prescription and nonprescription drugs, drug information to health professionals, patients and the general public, and participation in health-promotion programs.

They maintain links with other health professionals in primary health care. Today, an increasingly wide range of new and analogous products are used in medicine, including high-technology biological productsand radio-pharmaceuticals.

The main activities of community pharmacists are described below:

1. Processing of prescriptions: The pharmacist verifies the legality, safety and appropriateness of the prescription order, checks the patient medication record before dispensing the prescription (when such records are kept in the pharmacy), ensures that the quantities of medication are dispensed accurately, and decides whether the medication should be handed to the patient, with appropriate counselling, by a pharmacist. In many countries, the community pharmacist is in a unique position to be fully aware of the patient's past and current drug history and, consequently, can provide essential advice to the prescriber.

2. Care of patients or clinical pharmacy: The pharmacist seeks to collect and integrate information about the patient's drug history, clarify the patient's understanding of the intended dosage regimen and method of administration, and advises the patient of drug-related precautions, and in some countries, monitors and evaluates the therapeutic response.

3. Monitoring of drug utilization: The pharmacist can participate in arrangements for monitoring the utilization of drugs, such as practice research projects, and schemes to analyze prescriptions for the monitoring of adverse drug reactions.

4. Extemporaneous preparation and small-scale manufacture of medicines: Pharmacists everywhere continue to prepare medicines in the pharmacy. This enables them to adapt the formulation of a medicine to the needs of an individual patient. New developments in drugs and delivery systems may well extend the need for individually adapted medicines and thus increase the pharmacist's need to continue with pharmacy formulation. In some countries, developed and developing, pharmacists engage in the small-scale manufacture of medicines, which must accord with good manufacturing and distribution practice guidelines.

5. Traditional and alternative medicines: In some countries, pharmacists supply traditional medicines and dispense homoeopathic prescriptions.

6. Responding to symptoms of minor ailments: The pharmacist receives requests from members of the public for advice on a variety of symptoms and, when indicated, refers the inquiries to a medical practitioner. If the symptoms relate to a self limiting minor ailment, the pharmacist can supply a non-prescription medicine, with advice to consult a medical practitioner if the symptoms persist for more than a few days. Alternatively, the pharmacist may give advice without supplying medicine.

7. Informing health care professionals and the public: The pharmacist can compile and maintain information on all medicines, and particularly on newly introduced medicines, provide this information as necessary to other health care professionals and to patients, and use it in promoting the rational use of drugs, by providing advice and explanations to physicians and to members of the public.

8. Health promotion: The pharmacist can take part in health promotion campaigns, locally and nationally, on a wide range of health-related topics, and particularly on drug-related topics (e.g., rational

use of drugs, alcohol abuse, tobacco use, discouragement of drug use during pregnancy, organic solvent abuse, poison prevention) or topics concerned with other health problems (diarrhoeal diseases, tuberculosis, leprosy, HIV-infection/AIDS) and family planning. They may also take part in the education of local community groups in health promotion, and in campaigns on disease prevention, such as the Expanded Programme on Immunization, and malaria and blindness programmes.

9. Domiciliary services: In a number of countries, the pharmacist provides an advisory as well as a supply service to residential homes for the elderly, and other long-term patients. In some countries, policies are being developed under which pharmacists will visit certain categories of house-bound patients to provide the counselling service that the patients would have received had they been able to visit the pharmacy.

10. Agricultural and veterinary practice: Pharmacists supply animal medicines and medicated animal feeds.

11. Nutrition Counseling: Community pharmacist can make, significant contributions in assuring adequate nutrition by advising his patients about basic food needs, keeping to correct improper food habits in children, advising on special requirements, suggesting special diet instructions for diabetic patients and people with food allergy and participating in school lunch programs and schemes like mid-day meals etc. in rural areas There are certain facts such as women who often eat fish or omega-3-fatty acids are less likely to suffer stroke, symptoms of hyper vitamin sis result in irregular menstrual cycle and excessive intake during pregnancy may cause birth defects. The pharmacist can tell these facts to people to ensure better health. Now a days designer foods i.e. nutraceuticals/ dietary supplements have not only gained considerable acceptance but also have newfound use and applications. They are considered to provide medical or health benefits. The community pharmacist could explain these new innovative products and their standardization.

12. Women Welfare-Pregnancy and Infant Care : A famous Sanskrit Shloka from Manusmriti scriptures goes as "Yatra Nariyastu Poojayanta, Ramante Tatra Deva" which means, "where women are worshipped Gods preside there". Women are the corner stone for effective public health and investing in women translate into investing in family, community and the Nation. Against the backdrop of a hectic and demanding schedule, women's health receives the least priority when it should be the first. A woman goes through different stages throughout her life, each of which has specific need and the presence of a counselor is needed in each one of them. The pharmacist who understands the normal course of pregnancy and infancy is at a distinct advantage as he or she can guide the mother in simple matters of hygiene and management. The community pharmacist can encourage breastfeeding and can play a major role by guiding the mother for the protection of the child by following proper immunization schedule. Efforts are definitely underway in this area. The US FDA's office of women's health has created "women's health: take time to care", a national public awareness campaign, where apart from giving information about safe medicine use, they also hold local interactive sessions led by pharmacists and other health care professionals.

13. Rational Use of Drugs: A community pharmacist can also advise on the administration of the medication, provide information on the storage of the medication and wherever necessary he can counsel the patient. Education regarding the disadvantage of polypharmacy can also be given to the patient. Drug information system should be set up and access to adverse drug reaction system should be made. A

community pharmacist should do therapeutic drug monitoring and he should have a sound knowledge of genotype reporting i.e. predictive pharmacology. Drug information awareness programmes should be conducted to make people aware of side effects of certain OTC drugs e.g. Aspirin - a wonder drug also has many side effects like gastric ulceration; asthma and large doses may cause tinnitus. Regular use of paracetamol can cause harm to the liver. How many amongst the common people know that drugs such as Action 500, Coldarin can increase blood pressure in patients having hypertension. Even pain shows difference between men and women. Where women respond better to the opiods such as morphine, pentazocine and pethidine men respond better to the non-steroidal anti-inflammatory drug, ibuprofen. Considering the above examples, in the best interest of public health a community pharmacist can provide counseling to common people unaware of these side effects. Moreover the definition of an OTC product should be that "which does not require the prescription of a registered medical practitioner but which can be sold only under the supervision of a pharmacist". In a nut shell there should be rational use of drug i.e. right drug in right patient in right dose at right time.

14. Alcohols, Drug Abuse and Smoking Cessation: The diseases of alcoholism and drug abuse also come under the preview of the community pharmacist. The pharmacist has a key role to help individuals who become dependent upon alcohol. Drug abuse is similar to alcoholism yet different because it has been gaining more acceptances among young people. Annual mortality from tobacco use exceeds that from all other causes combined. Smoking is the greatest single preventable cause of morbidity and mortality. It is the responsibility of a community pharmacist to take an active role in helping the smokers to stop smoking. Following a number of smoking policies through out the pharmacy, by written information and posters, can do this. The pharmacist can advise on the products available to assist the patient in giving up smoking. Counselling sessions can be made by the community pharmacist to stop smoking.

15. Family Planning: One of the greatest needs of the hour is to control the tremendously increasing population in Bangladesh. A community pharmacist is the one who can control this rising population by counseling with people and doing programmers which exhibit the problems related with large families. He can tell the various families planning measures that are available in the market at affordable prices. He can educate the people and convince them about the advantages of having small families. So, like all other aspects community pharmacist plays a very important role in this case also.

Individualization of Drug: Therapy Today the latest concept in medicine is towards individualization of drug therapy. Where judicious patient care is needed individualization of drug therapy becomes a need, and a pharmacist can play a vital role in this. A physician who is preoccupied with patient diagnosis and treatment may not spare time for patient counseling regarding pharmaco- economics, drug information, alternative therapy, moral supporting etc. A pharmacist can set up a separate consultation room and provide counseling to the patient. He can store the details of patient history, allergies and other details necessary for therapy so that the concept of individualization of drug therapy could be implemented.

TOPIC-5

PRESCRIBED MEDICATION ORDER AND COMMUNICATION SKILLS

Interpretation Of the Prescription or Medication order: Abbreviations commonly used in prescriptions and Medication orders.

Abbreviation	Meaning
a.c	before meals
ad	up to
a.d.	Right ear
ad lib.	at pleasure, freely
a.m.	morning amp.
Ampul	aq. Water
a.s.	left ear
a.u	each ear
b.i.d	twice a day
BSA	body surface area
c.	with
cap.	Capsule
cc. or cc	cubic centimeter
dil.	Dilute
disc. or D.C	discontinue
Dis	Dispense
Div	divide
d.t.d	Give of such dose

DW	Distilled water
D_5W	Dextrose 5% in water
Elix.	Elixer
e.m.p	As directed
et	and
p.o	By mouth
p.r.n	When requried

INTERPRETATION OF THE PRESCRIPTIN OR MEDICATION ORDER

Practice Exercises

1. Interpret each of the following Subscriptions (direction to the pharmacist) taken from prescriptions:

a) Disp. sup. Rect. no. xii

b) M.ft. isoton. sol.disp. 10ml

c) M. et div. in pulv. no.

IMPORTANT QUESTIONS

2 MARKS QUESTIONS

1. **Define PTC.**
2. **What are the objectives of PTC?**
3. **Write the operation of PTC.**
4. **What are the role of PTC in emergency drug list preparations?**
5. **Define DIS.**
6. **Define DIC.**
7. **What is need of DIS?**
8. **Write the aims of DIS.**
9. **Drug bulletin.**
10. **What are the function of poison information center.**
11. **Define patient counseling.**
12. **Explain briefly need of patient counseling.**
13. **Write the function of patient counseling.**
14. **Write the stages involve in patient counseling.**
15. **Define CPD.**
16. **Differentiate between internal teaching program or external teaching program.**
17. **Define code of ethics.**
18. **What are the elements of code of ethics.**
19. **Define communications skills.**
20. **Define communications.**
21. **Define community health education.**
22. **Write the meaning of these abbreviations: a) a.m. b) ampul c) a.s. d) a.u.**

5 MARKS QUESTIONS

1. **Write in detail organization and operation of PTC.**
2. **Explain polices of PTC for drugs in formulary.**
3. **Explain briefly role of PTC in emergency drug list.**
4. **Explain the different sources if Drug information centers.**
5. **What are the roles of computer services in drug in formation centers.**
6. **Explain the special cases that require the patient counseling.**
7. **Explain the role of pharmacist in education and training programs.**
8. **What is role of pharmacist in communications skills.**

10 MARKS QUESTIONS

1. **What are functions of pharmacy and therapeutic committee?**
2. **Write a note on storage and retrieval of information in DIC centers.**
3. **Explain in detail different steps involved in DIS.**
4. **Explain internal and external teaching programs.**
5. **Explain in detail code of ethics for community pharmacy.**
6. **Give detail note on role of pharmacist in community health educations.**