

**SHAMBHUNATH INSTITUTE OF PHARMACY,
JHALWA, ALLAHABAD**



**LECTURE NOTES
OF
UNIT-I
ORGANIZATION AND STRUCTURE
HOSPITAL AND COMMUNITY PHARMACY
(BOP-233)
B. PHARM. 2nd Year 3rd Sem
BY
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Unit I

ORGANIZATION AND STRUCTURE:

Hospital pharmacy deals with:-

- 1-Supply of drug
- 2-Filling of special prescriptions
- 3-Manufacturing of the drugs
- 4-Storage and dispensing of narcotic and biological products
- 5-Supply and storage of ancillary products

Pharmaceutical services- In a hospital comprises of the services rendered to the patient through a number of activities like

Dispensing of drug

Management of the stores which include: Every hospital, large or small, has an organizational structure that allows for the efficient management of departments. The student will identify the levels of management and describe the activities and concerns of specific departments within each level.

C LASSIFICATION OF HOSPITALS: The most commonly accepted criteria for classification of the modern hospital are according to:

- 1) Length of stay of patient
- 2) Clinical basis,
- 3) Ownership / CONTROL BASIS,
- 4) Objective
- 5) Size
- 6) Management
- 7) System of medicine

Hospitals have been classified, on the basis of different criteria, which include size or bed capacity, ownership or control, objectives of the hospitals.

1. Size or Bed Capacity: The size of a hospital is determined by the number of beds it has.

Based on the bed capacity, hospitals can be categorized as follows:

1. Small hospital - Bed capacity of 100 or less.
2. Medium size hospital - Bed capacity of 101 to 300 beds
3. Large hospital - Bed capacity of 301 to 1000 beds. The bed strength of different types of hospitals is as follows:
 1. Teaching and Referral Hospital - 200 to 300
 2. District Hospital - 50 to 200
 3. *Taluka* Hospital - 50 to 200
 4. Community Health Centre - 30 to 50
 5. Primary Health Centre - 6 to 10

2. Ownership or Control: On the basis of ownership or control, hospitals are classified into the following:

1. **Government or Public Hospital:** These are run by Central or State Governments or local bodies on non-commercial lines. These are funded by the government. They can be general or specialized hospitals.

2. **Non-Government Hospitals:** They are supported by client's fees, donations, or endowments (relating to funds or property donated to institutions or individuals). Non-government hospitals are further classified as either proprietary or non-profit organization. Proprietary hospitals are owned by individuals, partnerships or corporation whose dividend is shared by the partners. They can be categorized as follows:

a) **Voluntary hospitals:** These are established and incorporated under the Societies Registration Act 1860 or Public Trust Act 1882 or any other Central or State Governments. They are run by public or private funds on a non-commercial basis.

b) **Private Nursing homes / hospitals:** They are generally owned by an individual doctor or group of doctors and they are run on a commercial basis.

c) **Corporate hospitals:** They are public limited companies formed under the Companies Act and are run on commercial lines. They can be either general or specialized or both.

3. Objectives of the Hospital: Based on the objectives, hospitals can be classified into the following:

1. **Teaching-cum-Research Hospital:** The primary objective is training of doctors and research. Healthcare is secondary. For example, Medical Colleges.

2. **General Hospitals:** These hospitals offer treatment for common diseases. The main objective is to provide medical care, whereas teaching is secondary.

3. **Specialized Hospitals:** These hospitals concentrate on giving medical and nursing care in a specific area, e.g. ophthalmic hospital, heart hospital, etc.

4. **Isolation Hospital:** This is a hospital in which client requiring isolation or clients suffering from communicable diseases are taken care of.

5. **Rural Hospitals** are those located in rural areas permanently staffed by at least one or more physicians, which offer inpatient accommodation and provide medical and nursing care for more than one category of medical discipline.

4. **Systems:** According to the system of medicine, hospitals are classified into the following:

- **Long – term care hospitals or chronic care hospital:** in this client stays in the hospital for a long time and the disease may be of chronic nature (Chronic Disease is a long-lasting condition that can be controlled but not cured), e.g. leprosy (Leprosy is an infectious disease that causes severe, disfiguring skin sores and nerve damage in the arms and legs), cancer, etc.

b) **Short – term care hospital or acute care hospital:** In this the client stay in the hospital for a short period only and the disease is usually of acute nature, e.g. pneumonia gastroenteritis.

5. Management: According to the management, hospitals are classified as follows:

1. **Hospitals run by Union Government / Government of India:** These hospitals are funded by Government of India. For example, hospitals run by railways and army.

2. **Hospitals run by State Government:** These are hospitals which are funded and administered by State Government.

3. **Hospitals run by local bodies** e.g. hospitals run by municipality, *Zila parishad*, Panchayat, etc.
4. **Autonomous bodies:** These hospitals have the operational responsibility to the hospital governing board, usually granted by the government. The management authority with respect to personnel administration and budget administration rests with the governing board for more efficient performance and more discretion by management to achieve it.
5. **Private hospital:** A private hospital is owned by a profit company or a non-profit organisation and privately funded through payment for medical services by patients themselves.
6. **Voluntary hospital:** It is a hospital supported in part by voluntary contributions and under the control of a local, usually self-appointed board of governors.

Levels of Medical Care

It is customary to describe healthcare service at 4 levels, viz., primary, secondary, tertiary and quaternary care levels. These levels represent different types of care involving varying degree of complexity.

1. Primary care level: Primary care providers may be doctors, nurses or physician assistants. Primary healthcare is the first level of contact with individuals, the family and community, where “primary health care” (essential healthcare) is provided. As a level of care, it is close to the people, where most of their health problems can be dealt with and resolved. It is at this level that healthcare will be most effective within the context of the area’s needs and limitations. In the Indian context, primary health care is provided by the Primary Health Centres (PHCs) and their sub-centres through multipurpose health workers, village health guides and trained Dais. Besides providing primary healthcare, the village “healthcare centres” bridge the cultural and communication gap between the rural people and organized health sector.

2. Secondary care level: The next higher level of care is the secondary (intermediate) healthcare level. At this level more complex problems are dealt with. In India, this kind of care is generally provided in district hospitals and community healthcare centres which also serve as the first referral level. Secondary care simply means you will be taken care of by someone who has more specific expertise. Specialists focus either on a specific body system or on a specific disease or condition. For example, if there is a problem with the heart and its pumping system, then the client needs to consult a Cardiologist. If someone is suffering from problems related to hormone systems and some specialized diseases like diabetes or thyroid disease, then he/she needs to consult an Endocrinologist.

3. Tertiary care level: The tertiary level is a more specialized level than secondary care level and requires specific facilities and attention of highly specialized health workers. This care is provided by the regional or central level institutions. For example, highly specialized equipment and expertise is required for coronary artery bypass surgery.

4. Quaternary Care: Quaternary care is an extension of tertiary care and is more specialized and highly unusual; therefore every hospital or medical center cannot offer quaternary care. It includes experimental medicine and procedures.

Importance of Understanding Organizational Structure of Hospital

- A. facilitates the understanding of the hospital's chain of command
- B. shows which individual or department is accountable for each area of the hospital
- II. Complexity of Organizational Structure Depends on Size of Healthcare Facility; large acute care hospitals have complicated structures, whereas, the smaller institutions have a much simpler organizational structure
- III. Grouping of Hospital Departments Within the Organizational Structure
 - A. Although each hospital department performs specific functions, departments are generally grouped according to similarity of duties.
 - B. Departments are also grouped together in order to promote efficiency of the healthcare facility.
 - C. Common organizational categories might include:
 - 1. Administration Services (often referred to simply as "administration")
 - 2. Informational Services
 - 3. Therapeutic Services
 - 4. Diagnostic Services
 - 5. Support Services (sometimes referred to as "Environmental Services")
- IV. **Administration Services**—business people who "run" the hospital
 - A. Hospital Administrators
 - 1. Manage and oversee the operation of departments
 - a. oversee budgeting and finance
 - b. establish hospital policies and procedures
 - c. perform public relation duties
 - 2. Generally include: Hospital President, Vice Presidents, Executive Assistants, Department Heads
- V. **Informational Services**—documents and process information
 - A. Admissions-often the public's first contact with hospital personnel
 - 1. Checks patients into hospital
 - a. responsibilities include: obtaining vital information (patient's full name, address, phone number, admitting doctor, admitting diagnosis, social security number, date of birth, all insurance information)
 - b. frequently, admissions will assign in-house patients their hospital room
 - B. Billing and Collection Departments - responsible for billing patients for services rendered
 - C. Medical Records - responsible for maintaining copies of all patient records
 - D. Information Systems - responsible for computers and hospital network
 - E. Health Education - responsible for staff and patient health-related education
 - F. Human Resources - responsible for recruiting/ hiring employees and employee benefits
- VI. **Therapeutic Services** – provides treatment to patients
 - A. includes the following departments:
 - 1. Physical Therapy (PT)
 - a. provide treatment to improve large-muscle mobility and prevent or limit permanent disability

- b. treatments may include: exercise, massage, hydrotherapy, ultrasound, electrical stimulation, heat application
- 2. Occupational Therapy (OT)
 - a. goal of treatment is to help patient regain fine motor skills so that they can function independently at home and work
 - b. treatments might include: arts and crafts that help with hand-eye coordination, games and recreation to help patients develop balance and coordination, social activities to assist patient's with emotional health
- 3. Speech/Language Pathology
 - a. identify, evaluate, and treat patients with speech and language disorders
 - b. also help patients cope with problems created by speech impairments
- 4. Respiratory Therapy (RT)
 - a. treat patient's with heart and lung diseases
 - b. treatment might include: oxygen, medications, breathing exercises
- 5. Medical Psychology
 - a. concerned with mental well-being of patients
 - b. treatments might include: talk therapy, behavior modification, muscle relaxation, medications, group therapy, recreational therapies (art, music, dance)
- 6. Social Services
 - a. aid patients by referring them to community resources for living assistance (housing, medical, mental, financial)
 - b. social worker specialties include: child welfare, geriatrics, family, correctional (jail)
- 7. Pharmacy
 - a. dispense medications per written orders of physician, dentists, etc.
 - b. provide information on drugs and correct ways to use them
 - c. ensure drug compatibility
- 8. Dietary - responsible for helping patients maintain nutritionally sound diets
- 9. Sports Medicine
 - a. provide rehabilitative services to athletes
 - b. teaches proper nutrition
 - c. prescribe exercises to increase strength and flexibility or correct weaknesses
 - d. apply tape or padding to protect body parts
 - e. administer first aid for sports injuries
- 10. Nursing (RN, LVN, LPN)
 - a. provide care for patients as directed by physician

VII. Diagnostic Services – determines cause(s) of illness or injury

A. includes the following departments:

- 1. Medical Laboratory (MT) - studies body tissues to determine abnormalities
- 2. Imaging
 - a. image body parts to determine lesions and abnormalities
 - b. includes the following: Diagnostic Radiology, MRI, CT, Ultra Sound

3. Emergency Medicine - provides emergency diagnoses and treatment

VIII. Support Services—provides support to entire hospital

A. includes the following departments:

1. Central Supply

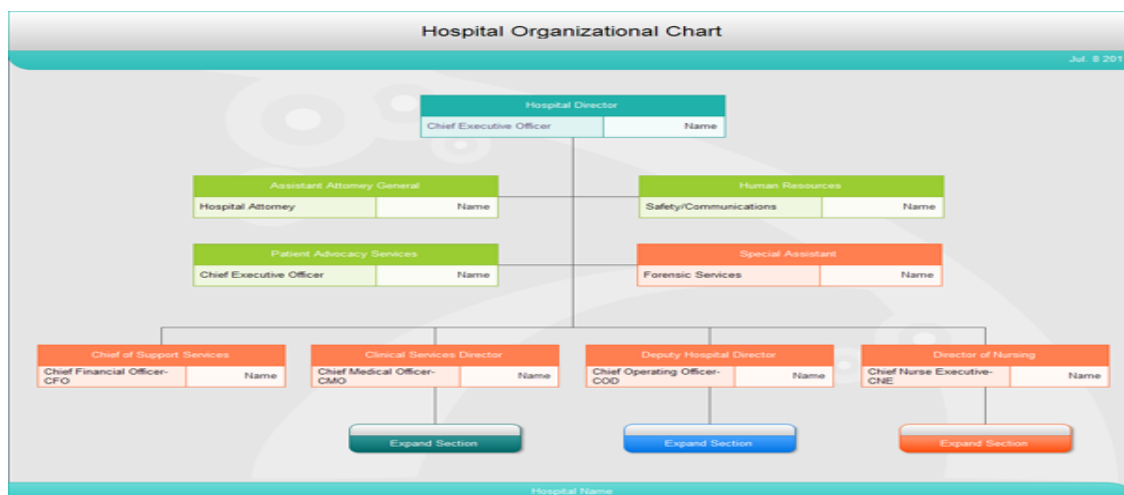
- a. in charge of ordering, receiving, stocking and distributing all equipment and supplies used by healthcare facility
- b. sterilize instruments or supplies
- c. clean and maintain hospital linen and patient gowns

2. Biomedical Technology

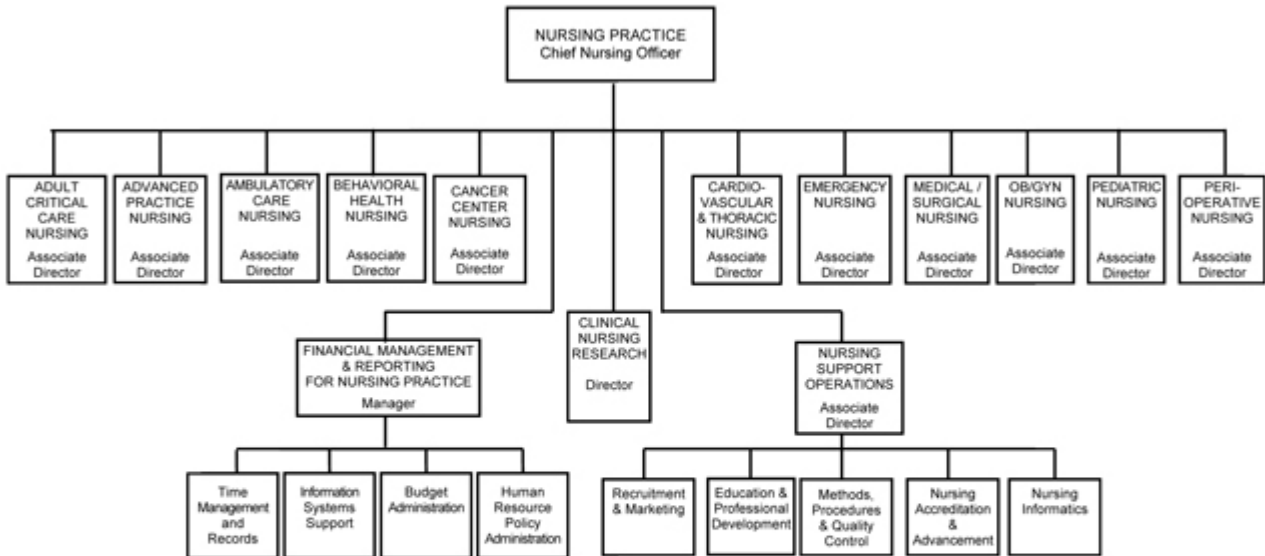
- a. design and build biomedical equipment (engineers)
- b. diagnose and repair defective equipment (biomedical technicians)
- c. provide preventative maintenance to all hospital equipment (biomedical technicians)
- d. pilot use of medical equipment to other hospital employees (biomedical technicians)

3. Housekeeping and Maintenance

- a. maintain safe clean environment
- b. cleaners, electricians, carpenters, gardeners

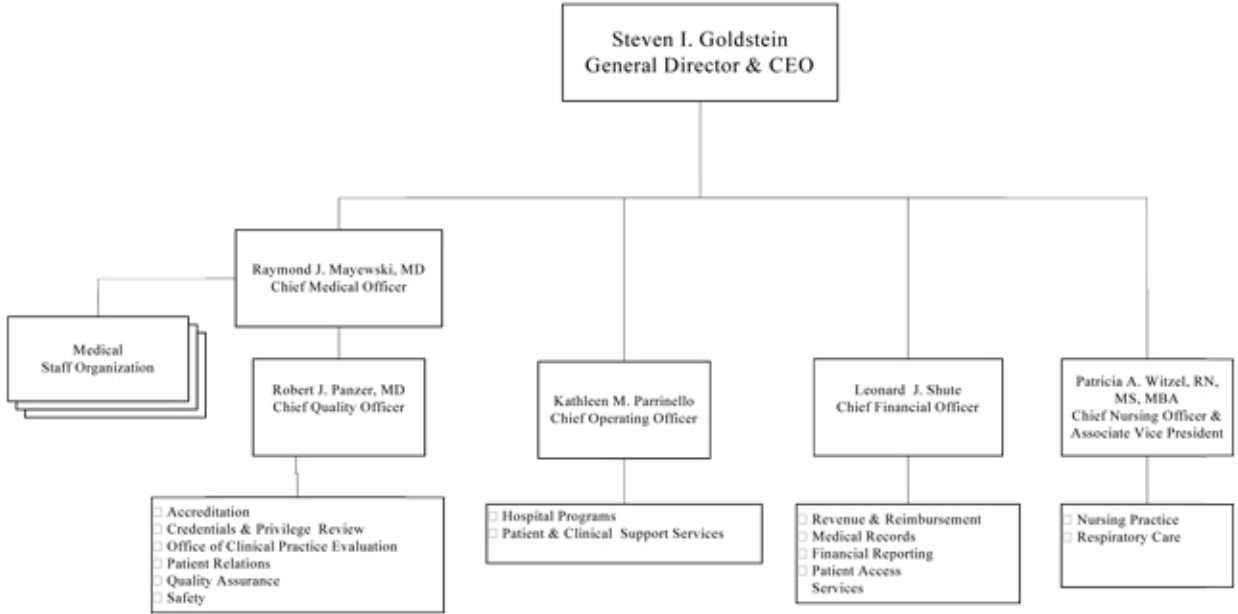


Strong Memorial Hospital Nursing Practice Organizational Chart



Rev: 2007

**Strong Memorial Hospital
Organizational Chart**



The role of a hospital pharmacist

Hospital pharmacist jobs can differ from other locum pharmacist work, such as those in the HM Prison Service, community pharmacy roles or primary care pharmacists.

A hospital pharmacist is required to be a great source of advice for patients and work closely with medical and nursing staff on wards to ensure that the most appropriate treatment is being delivered.

They can inform patients on all aspects of their medicines, including recommending types, as well as administration routes and dosages, which are all very dependent on the individual's needs.

Hospital pharmacists can suggest whether tablet, injections, ointment or inhaler may be the best form of medication and frequently liaise with medical staff concerning their patients.

Seen as a great source of advice to other healthcare professionals, they are often called upon to recommend safe combinations of medicines or solutions to specific patient problems.

Hospital pharmacists can offer information on potential side effects and check that medicines are compatible with existing medication. They will often also monitor the effects of treatments to ensure that they are proving effective, safe and appropriate to the user.

Many, but not all, are also qualified to prescribe medication too.

In a hospital setting, whether that is in the NHS or in a private setting, pharmacists may take on other roles which they may not have elsewhere.

The hospital pharmacists are responsible for monitoring the supply of all medicines used in the hospital and are in charge of purchasing, manufacturing, dispensing and quality testing their medication stock along with help from pharmacy assistants and pharmacy technicians.

Expert advice

After qualifying as a hospital pharmacist you will be required to aid other members of healthcare staff, as well as patients, within specialist areas. These may include pregnant or breastfeeding women, or those with chronic conditions affecting their heart, liver or kidney.

For these more complex cases, hospital pharmacists are required to use their adept communication skills to find out more information on the patient and eventually come to a qualified decision over the best course of action.

Factors such as medical history, lifestyle, existing medication, beliefs and wishes of the patient, and their ability to understand and follow an individual treatment plan are all important to investigate ahead of dispensing or prescribing medication.

As with any healthcare job it is important to stay up to date with all aspects of medicines, their usage and new developments. In order to do this, and remain a good source of pharmaceutical advice it is essential that you use electronic databases and read research papers.

These provide invaluable sources of information and allow you to learn more about new drugs before recommending that they are purchased by your hospital.

Other

As well as their daily roles dispensing medication and offering expert advice, hospital pharmacists can also be involved in manufacturing medicines when ready-made preparations are not available.

Other positions include being involved in procurement, radiotherapy, quality assurance, education and clinical trials. Managerial and consultant pharmaceutical roles can also be available to those with extensive experience or advanced skills.

Pharmacy and Therapeutics

Pharmacy and Therapeutics is a committee at a [hospital](#) or an insurance plan that meets to decide which drugs will appear on that entity's drug formulary. The committee usually consists of both physicians and pharmacists. They must weigh the costs and benefits of each drug and decide which ones provide the most efficacy per dollar.^{[1][2]} This is one aspect of [pharmaceutical policy](#).

Most generic drugs are available on formularies, except in cases where that class of drugs are no longer considered safe and efficacious. For instance most formularies will not cover [barbiturates](#) since their [therapeutic index](#) is low compared to [benzodiazepines](#). Barbiturates have a danger of [overdosing](#) that occurs at a smaller milligram range than the benzodiazepines.

The Pharmacy and Therapeutics (P & T) Committee is an important medical staff advisory group. As the primary, formal communication link between the pharmacy and medical staff, the P & T Committee is of particular importance to the department of pharmacy services. All matters pertaining to the use of medications within the institution, including pharmacy programs, must be reviewed and approved through the committee. In addition, medication formulary data is reviewed through the committee and recommendations are offered to the medical staff. Such a wide diversification of involvement and activity necessitates the effective communication between all committee members. An active involvement in the committee by the department of pharmacy services is vital in order to develop a contemporary and progressive institutional pharmacy program. This series of four articles will address several important aspects of the committee's operation, including committee formation, mechanics, operation, and problem solving.

OBJECTIVE OF PHARMACY AND THERAPEUTICS COMMITTEE

-ADVISORY

-EDUCATIONAL

-DRUG SAFETY AND ADVERSE DRUG MONITORING

-COMPOSITION OF PHARMACY AND THERAPEUTICS COMMITTEE

Composition of pharmacy and therapeutics committee (PTC) might vary from hospital to hospital. The following scheme is suggested for general adoption:

The PTC may be composed of:

At least three physicians from the medical staff

-A pharmacist

-A representative of the nursing staff

-An hospital administrator with his/her designated an ex-officio member of the committee one of the physicians may be app

OPERATION OF PHARMACY AND THERAPEUTICS COMMITTEE

This committee should meet regularly at least six times in an year and also when necessary.

The agenda and the supplementary materials should be prepared by the secretary and furnished to the committee members well in advance so that the members can study them properly before meeting. A typical Agenda may consist of the following.

- Minutes of the previous meeting
- Review of the contents of the Hospital Formulary for the purpose of bringing it up to date, and deleting of products not considered for use
- Information regarding new drugs which may have become commercially available.
- Review and/or adoption of investigational drugs currently under processing in the hospital.
- Review of side effects, adverse drug reactions, toxic effects, drug interactions of drugs reported by various units of hospital.

ROLE OF PHARMACY AND THERAPEUTICS COMMITTEE (PTC) IN DRUG SAFETY

- Drug safety is the moral, legal and professional obligation of pharmacist in western countries.
- It includes responsibility from dispensing of drugs to drug administration.
- Following guidelines may subservethe committee in ascertaining the adequate safety factor of hospital pharmacy:
 - The hospital must employ a qualified, atleast, a registered pharmacist with atleast B.Pharm degree as 'Chief Pharmacist' and the rest are may be atleast Diploma holders in pharmacist
 - Should not permit non-pharmacist personnel to dispense drugs and allied materials.
 - Must employ a sufficient members of qualified considering the work load of a pharmacist and allow for adequate coverage(7days/week).
 - Must provide adequate safe, work space, and storage facilities.
 - Should have equipment necessary to safely and adequately carry out the modern practice of pharmacy.
 - Must have an automatic stop order regulation for dangerous drugs. e.g: narcotics, anticoagulants etc.
 - Should have a drug formulary which periodically revised and kept upto date.
 - The poisonous materials are separated from non-poisonous materials in the pharmacy.
 - The external used preparations should be separated from internal used medications.
 - Must have adequate quality control measures and follow good manufacturing practices.
 - Should provide a teaching programme to teach students, nurses the basic course of pharmaceutical mathematics and pharmacology

Preparing a budget for the Small Hospital

Introduction

The ability of small hospitals to survive largely depends on external factors such as state and federal healthcare legislation, and internal factors, such as the preparation of a successful financial budget. The focus of this report is the preparation of the small hospital financial budget. Developing a financial budget is a process that should use team work to plan and implement if it is to be effective. The budget sets perimeters for management to follow throughout the year, allowing the managers to report variances while

providing guidance so variances are maintained at a

minimum and adjusted when possible. By using all department managers in the planning process of the budget, the administrator is able to develop effective strategies. Managers in the planning process of the budget, because all departments are invested in the goals, this eliminates many problems associated with the budget and identifies areas that need improvement. As a result of competition, declining margins, and

other economic pressures, administrators are taking several steps to control costs and increase revenues.

The budget process is one of the best tools known today. The objectives of a budget are: to provide written terms of the hospital goals* to provide a basis for the evaluation of financial performance according to the plans* to provide a tool to control costs

***To create cost awareness hospital wide**

Statistical Budget

The first step in preparing an operating budget is to prepare the statistical budget. The objective is to provide a measure of activity in each department for the upcoming budget period.

Diagnostic departments measure

how many procedures will be provided for the upcoming year, while nursing estimates the number of patient days anticipated. Knowledge of the past performance of a facility is useful in the forecasting. The last five years is an appropriate amount of history to keep on file. This enables management to plan for future operations. Comparisons of past performance with current operations may indicate favorable and unfavorable trends. For example, it is very helpful to review the past history of full-time equivalents (FTEs) for each department in a hospital. This enables management

to set goals to lower overtime, sick time, etc. It enables management to maintain FTEs to within the budget. Departments should be requested to estimate the volume of their activity, but the financial managers should have the final control. This is important because department managers may tend to overstate volume and this could be devastating when the budget is not met.

However, the departments should be involved because top management tends to be too conservative.

Each department has their own set of variables to examine prior to forecasting. Key variables to examine are patient days and outpatient visits. Managers should look at the census per month over the past few years to project the number of patient days expected in the future. Equal visits over twelve months cannot be assumed. Seasonal, weekly, and daily patterns should be reviewed. For example, Christmas is usually a slow time of the year, so you would probably budget fewer patient days in December than in maybe June.

Other areas of concern may involve a physician planning to retire, which would affect admissions and patient volume.

Expense Budget

This is the second step in preparing an operating budget. After the statistical budget is prepared, each department can then prepare their expense budget. The expense budget is the amount of money each department expects to payout. These expenses include salaries, supplies, and other various expenses. These are the dollars the departments must stay within.

***Salaries**

It is a good idea to give each department manager a worksheet with each of their employees listed with their anniversary date, present hourly pay, and number of hours scheduled to work. The department manager can then make corrections as necessary. They can also look at a pay scale and decide what increases the employee will get at their anniversary date. This is also a good time to budget for vacancies and make all corrections.

***Supplies**

Input from the department heads are necessary if there will be price increases from the vendors and what percentage the prices will increase. If expenses go up, the revenue budget should increase proportionately.

Operating Budget

The operating budget is composed of the expense budget and revenue budget. It lists, for the upcoming fiscal year, anticipated income by source, and anticipated expenses by functional classification ... such as salaries, supplies, and utilities. Administration should always pursue a larger revenue budget than expense budget, therefore projecting a profit on the bottom line. The profit is used to finance the capital budget.

Hospital shows operating losses, working capital increases,

and increases in capital expenditures. The funds will probably have been generated by long-term or short-term borrowing. The cash flow statement helps determine how debt is being used by the hospital. Financial managers should make sure they do not spend too much time on deciding how to get cash rather than how to invest and manage what they have. Higher interest rates will also generate extra funds.

Hospital Formulary

The hospital formulary system is a method whereby the medical staff of a hospital with the help of pharmacy and therapeutic committee, selects and evaluates medicinal agents and their dosage forms which are considered to be most useful in the patient care. It provides information. Procuring, Prescribing, Dispensing and administration of drugs under brand names where the drug have both names.

At its most basic level, a formulary is a list of medicines.^[1] Traditionally, a formulary contained a collection of formulas for the compounding and testing of medication (a resource closer to what would be referred to as a pharmacopoeia today). Today, the main function of a prescription formulary is to specify particular medications that are approved to be prescribed under a particular insurance policy. The development of prescription formularies is based on evaluations of efficacy, safety, and cost-effectiveness of drugs.

Depending on the individual formulary, it may also contain additional clinical information, such as side effects, contraindications, and doses.

By the turn of the millennium, 156 countries had *national* or *provincial* essential medicines lists and 135 countries had national treatment guidelines and/or formulary manuals.