# SRINIVASAN COLLEGE OF ARTS & SCIENCE

*(Affiliated to Bharathidasan University, Trichy)*

**PERAMBALUR – 621 212.**

## DEPARTMENT OF MICROBIOLOGY

**Course : B.Sc** Year: **II** Semester: **IV**

**Course Material on:**

# HOSPITAL MANAGEMENTS

Sub. Code : 16SNMEBC2

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# SRINIVASAN COLLEGE OF ARTS & SCIENCE

# PERAMBALUR.

## NON MAJOR ELECTIVE COURSE

# HOSPITAL MANAGEMENT

## SUBJECT CODE –16NMEBC2


***Mr. C.RAVICHANDRAN***

**ASSISTANT PROFESSOR**

**DEPARTMENT OF MICROBIOLOGY**


## HOSPITAL MANAGEMENT Subject Code: NMEBC2

**Objective:**

To study the basic principles of hospital management.

**Unit – I**

**Introduction to Hospital management:** Eligibility and personal skills required for Hospital management. Job opportunities in Hospital management. Important hospital management Institutes in India and around the World.

**Unit – II**

**Hospital management system:** Benefits and Modules of Hospital management systems. Interfacing of analyzer. Pathology lab management. Radiology, Blood Bank, Pharmacology, management soft ware's.

**Unit – III**

**Health Care Services:** Health and Hospitals Services, Classification and Characteristics of Service Organizations, , Healthcare Revolution, Dimensions of Health, Indicators of Health- Composition of Health Sector, Types of Care, Pyramidal Structure of Health Services, Hospitals, Types of Hospitals and Role of Hospital in Healthcare.

**Unit – IV**

**Health care Facilities:** Functioning of modern hospitals & changing need of patients Hospitality in Hospital Care, Invasive and non-invasive diagnostic facilities in modern hospital Care offered in Specialty and Super specialty Hospitals.

**Unit – V**

**Health and Management:** Current Issues in Healthcare Accreditation-Tele medicine-Health Tourism-Health Insurance and Managed Care-Disaster Management-Hospital Wastes Management.

**Reference Books:**


1. Grant's Method of Anatomy: A Clinical Problem-solving Approach (BI Waverly Pvt. Ltd., New Delhi) John V. Basmajian and Charles E. Slonecker, ISBN 81- 7431-033-9, 1989.
2. Anatomy and Physiology for Nurses by, Watson, Roger, ISBN 9780702043581, 2013.
3. Textbook of Preventive and Social Medicine (M/S Banarsidas Bhanot Elaine La Monica, J.E. Park and K. Park, Management in Health Care (Macmillan Press Ltd, London) 2011.
4. Principles of Hospital Administration and Planning (Jaypee Brothers Medical Publishers Pvt. Ltd., New Delhi), B.M. Sakharkar, 2009.
5. Hospital Administration (Jaypee Brothers Medical Publishers Pvt. Ltd., New Delhi), C.M. Francis and et al., 2004.
6. Management Process in Health Care (Voluntary Health Association of India, S. Srinivasan (ed.), New Delhi), 1992.

## Unit – I

**Introduction to Hospital management:** Eligibility and personal skills required for Hospital management. Job opportunities in Hospital management. Important hospital management Institutes in India and around the World.

### 7 Must-Have Skills for Hospital Administrators:

- ✓ The primary role of hospitals is to administer quality care, but, behind the scenes, hospitals are large institutions that run like any big business. That's why successful hospital administrators must combine a passion for the well-being of patients with managerial know-how.
- ✓ The former may be why you entered the health care field in the first place, but developing business skills could help you take your career to the next level.
- ✓ Not sure how to build those skills? Enrolling in an advanced educational program, such as The University of Scranton's online Master of Health Administration program, will help you improve in the areas where you may need some help.
- ✓ The top skills you'll need to be a successful hospital administrator include:

### 1. Industry Knowledge:

- The health care industry can be extremely competitive and receiving a master's degree can take your career even further.
- The most respected master's in health administration programs in the country are backed by The Commission on Accreditation of Healthcare Management Education (CAHME), the only organization that can officially recognize programs offering a master's in healthcare management.
- Employers know that job applicants with a CAHME-accredited MHA have received a quality education, honed the necessary skills and built a network of industry contacts, all of which helps them excel as hospital administrators.
- As one of the only CAHME-accredited online MHA programs, The University of Scranton's online Master of Health Administration degree gives graduates a leg up on the competition when applying for jobs.

### 2. Leadership:

- Hospital administrators are the executives of the hospital. On a big-picture level, they are expected to inspire the organization to deliver the best care possible.
- Day-to-day responsibilities include overseeing staff and ushering in new policies. Leadership skills, as well as an ability to command respect, are necessary to excel in the role.

**3. Critical Thinking:**

- CAHME-accredited MHA programs arm future healthcare leaders with the analytical skills they need to determine the best course of action for their hospital.
- The job calls for solutions-oriented professionals who can make informed decisions by looking closely at data and predetermined goals.

**4. Relationship Building:**

- Within the course of a day, a hospital administrator might interact with doctors, the hospital's governing board and members of its finance team.
- Building strong relationships every step of the way and communicating effectively can rally staff behind a common cause and help keep the organization running smoothly.
- Establishing trust is key, as is making decisions that align with the long-term goals of the organization.

**5. Ethical Judgment:**

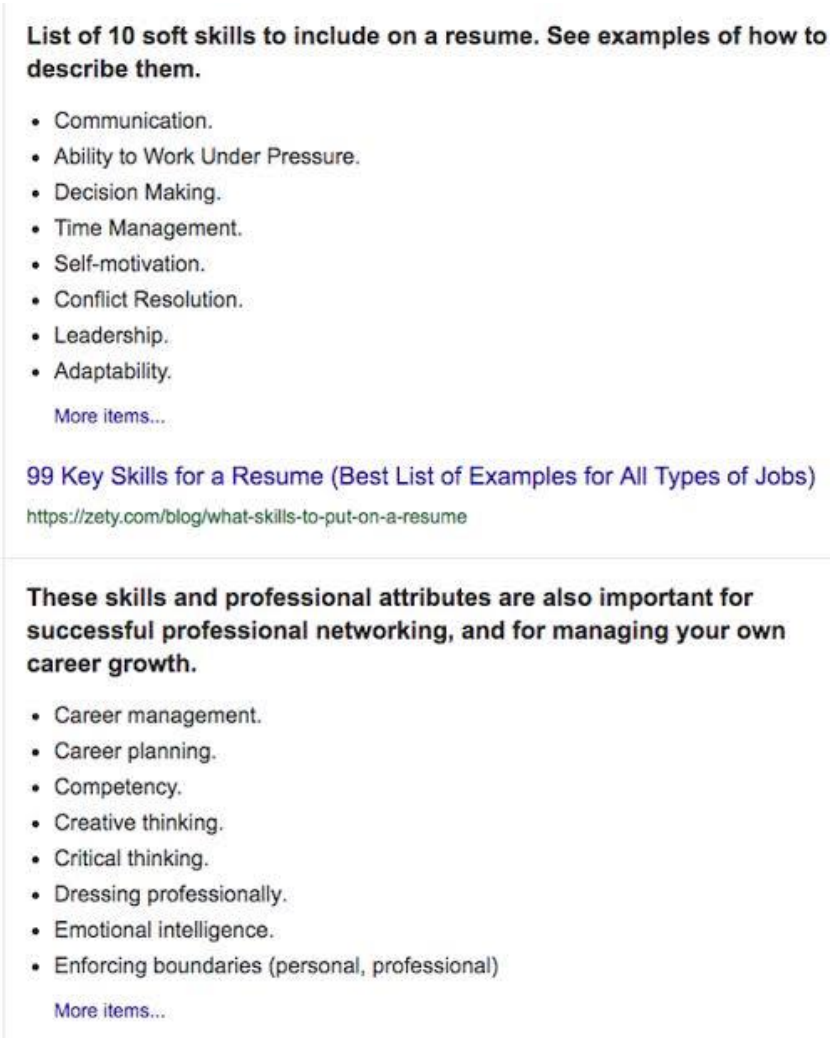
- Healthcare administrators must have high ethical standards.
- Many of the hospital's decisions fall on the administrator and possessing a steadfast moral compass ensures the right ones will be made.
- The University of Scranton's Master of Health Administration builds Jesuit values into the program to ensure graduates are ready to make ethical decisions in the field.

**6. Adaptability:**

- This is an exciting, yet challenging, time to be in the healthcare industry: Baby boomers are expected to live longer than previous generations, which will place more demand on hospitals, and the Affordable Care Act has changed the way care is provided and how it's paid for.
- Adaptability is a key skill if hospital administrators want to keep up with the ever-shifting healthcare landscape—and they will need to.
- Administrators must be willing to challenge the status quo and usher in appropriate changes.

**7. Quick Thinking:**

- Doctors and staff turn to hospital administrators for both big decisions and small ones.
- Administrators should be comfortable making decisions on the fly, but they also need to readily take responsibility for the success and failure of these decisions.




- **Career in Hospital Administration**

**What is Hospital Administration all about?**

Career in Hospital administration is a wise decision at present owing to the growth of healthcare sector. Indian economy is earning both revenue & employment in leaps and bounds from this sector. Expansion of healthcare can also be attributed to the merger & acquisitions taking place between domestic & foreign companies. Various brands are venturing into this sector as gradually is becoming privatized. Thus, more requirement of skilled manpower is in demand to effectively administer the hospital operations. Career in this booming sector will prove to be flourishing for your career.

**Eligibility Criteria for Admission in Hospital Administration:**

Here are the details of the eligibility criteria and entrance exams related to hospital administration courses:

**Diploma:**

Aspirant seeking admission to diploma courses are required to successfully complete education in 10+2 level or possess any other equivalent qualification with minimum 50% marks.

**Undergraduate:**

In order to avail admission in undergraduate courses, you must score minimum 50% marks in 10+2 grade or any other equivalent qualification. Students with science background can apply for this course.

**Postgraduate:**

For pursuing MBA/M.Sc. you must possess either MBBS or B.Sc in hospital administration.

**Hospital Administration Entrance Exam:**

Entry to all the professional courses is based on the merit in entrance exams. To appear in these exams, you must be aware of the exams for which you must begin the preparations earnestly to grab a seat in one of the best institutes of India.

**Diploma:**

Every state university conducts their separate entrance examination for admission to the diploma courses.

**Undergraduate:**

There is no common entrance test for the undergraduate hospital administration course. However, you can apply to state universities for admission to this course.

**Postgraduate:**

You can appear for national level management entrance exams such as CAT, MAT, SNAP, and others to apply for the postgraduate hospital administration course.

**Courses in Hospital Administration:**

Hospital Administration courses are conducted by various institutes in India. Just pick and choose the level from where you wish to enter this domain. You can start from a very early stage wherein you will earn Diploma after which you can apply for the entry-level jobs in healthcare industry.

**Diploma:**

If you wish to pursue Diploma, you can apply for the course after completing 10+2 level. Generally, the duration of diploma course is 1 year.

**Undergraduate:**

The undergraduate degree in hospital administration is known as B.Sc. in Hospital Administration. The duration of B.Sc. course conducted by recognised universities is 3 years.

**Postgraduate:**

The postgraduate degree in this domain is titled as M.B.A/M.Sc. in hospital administration. Aspirants will have to invest 2 crucial years of their life to earn this academic qualification.

**Hospital Administration Subjects and Syllabus:**

There are several sub-specialisations that are taught to the hospital administration professionals, but some of the most commonly taught subjects are as under:

**Health Care Law Course:**

This specialisation focuses on imparting knowledge pertaining to the legal responsibilities of the hospital and the rights of patients. Topics such as malpractice and confidentiality are touched upon in this subject.

**Finance for Health Administration Course:**

Finance is an integral part of healthcare course. People specializing in this subject learn to evaluate financial performance, budget capital. They are also taught about fair and just practices that are applied to the healthcare environment.

**Human Resources in Health Care Course:**

To run the operations of the hospital, human resource department plays an integral role. Thus, HR is a vital organ of hospital administration and skills associated with recruiting, training and retaining quality employees are taught on this subject.

**Operations Management:**

Healthcare professionals who specialize in this domain become expert in dealing with Process Analysis and Hospital Operations Planning. The subject also deals with the issue of staff capacity planning and scheduling to run the day-to-day operations smoothly.

**Medical-Legal Issues:**

Issues such as medical negligence, consumer protection and constitutional mandate are taken care of in this specialization. You will read about laws related to euthanasia, organ donation, new developments in biotechnology, surrogate motherhood, sex determination of foetus and many more topics that are protected under the legal framework defined by the constitution of India.

**Top Hospital Administration Colleges in India:**

Hospital Administration can be pursued from the colleges/institutes mentioned in the list provided below:

| S.No. | College/Institute | Location |
|---|---|---|
| 1 | All India Institute of Medical Sciences [AIIMS] | New Delhi |
| 2 | Armed Forces Medical College [AMFC] | Pune |
| 3 | Indian Institute of Management | Ahmedabad |
| 4 | Indian Institute of Management | Bangalore |
| 5 | Indian Institute of Management | Calcutta |
| 6 | The Tamil Nadu DR. M.G.R Medical University | Chennai |

| | | |
|---|---|---|
| 7 | Indian Institute of Health Management Research | Jaipur |
| 8 | Apollo Institute of Hospital Administration | Hyderabad |
| 9 | Tata Institute of Social Services | Mumbai |
| 10 | Symbiosis Centre of Health Care | Pune |

**Career in Hospital Administration**

Considering the bright prospects of growth in healthcare sector, hospital administration is the right course that you must aim for in order to achieve stable growth in career.

**Job Opportunities for Hospital Administration**

Let us take a look at various job profiles and salary prospects that a Hospital Administration professional can have access to. These are the core profiles that you will be offered once you complete the course successfully.

- Hospital Business Manager
- Food & Beverage Manager
- Guest Relation Manager
- Hospital Administrator
- Floor Manager
- Centre Manager
- Patient Relation Executive
- Front Office Administrator
- Assistant Manager/Manager
- Operation Executive

**Top Recruiters for Hospital Administration**

Getting a job in the top brands is a dream of every aspirant. Here are top 10 brands that are prominent in the healthcare sector. Take a look at all the reputed brands and find a place for yourself among them:

- Reliance Life Sciences (RLS)
- SRL Diagnostics (SRL)
- Fortis Healthcare Ltd
- Max Healthcare
- Apollo Hospitals
- CARE Hospitals Group
- Philips Healthcare
- Dr Lal PathLabs

**Salary after Hospital Administration**

In healthcare sector, salary prospects are bright for the aspirants

| Years of Experience | Salary (INR in Lakhs) |
|---|---|
| Entry Level | 2-8 |
| Mid Career | 5-14 |
| Late Career | <14 |

Candidates of any field medical or a non-medical background, they can pursue a career in Hospital Administration/Management. You can pursue Bachelor, Master & a Doctoral Degree in Hospital Management. Various Institutions in India also offer short-term, diploma, certificate and correspondence courses in Hospital management.

**Bachelor Courses:** The duration of this course is three years.

- Bachelor of Hospital Management/Administration

**Master Courses:** It is two-year duration's programme.

- Master of Hospital Administration
- MBA in Hospital Management/ Administration
- PG Diploma in Hospital Management/Administration
- PG Diploma in Hospital and Health Management
- M.Sc in Hospital Administration

**Doctoral Degree:**

- MD/M.Phill in Hospital Management

Skills required for the study of Hospital Management:

- Good knowledge of finance and information systems
- Excellent leadership skills
- Good Communication & Organizing Skill
- Friendly personality
- Ability to handle people and pressure
- Ability to handle deadlines
- Quick decision-making capability
- Patience
- Excellent verbal & written communication skill

## Unit – II

**Hospital management system:** Benefits and Modules of Hospital management systems. Interfacing of analyzer. Pathology lab management. Radiology, Blood Bank, Pharmacology, management soft wares.

**Pharmacology:**

- ✓ It is the branch of pharmaceutical sciences which is concerned with the study drug or medication action, where a drug can be broadly or narrowly defined as any man-made, natural, or endogenous (from within the body) molecule which exerts a biochemical or physiological effect on the cell, tissue, organ, or organism (sometimes the word pharmacon is used as a term to these endogenous and exogenous bioactive species).
- ✓ More specifically, it is the study of the interactions that occur between a living organism and chemicals that affect normal or abnormal biochemical function. If substances have medicinal properties, they are considered pharmaceuticals.
- ✓ The field encompasses drug composition and properties, synthesis and drug design, molecular and cellular mechanisms, organ/systems mechanisms, signal transduction/cellular communication, molecular diagnostics, interactions, chemical biology, therapy, and medical applications and antipathogenic capabilities.
- ✓ The two main areas of pharmacology are pharmacodynamics and pharmacokinetics. Pharmacodynamics studies the effects of a drug on biological systems, and pharmacokinetics studies the effects of biological systems on a drug.
- ✓ In broad terms, pharmacodynamics discusses the chemicals with biological receptors, and pharmacokinetics discusses the absorption, distribution, metabolism, and excretion (ADME) of chemicals from the biological systems.
- ✓ Pharmacology is not synonymous with pharmacy and the two terms are frequently confused.
- ✓ Pharmacology, a biomedical science, deals with the research, discovery, and characterization of chemicals which show biological effects and the elucidation of cellular and organismal function in relation to these chemicals.
- ✓ In contrast, pharmacy, a health services profession, is concerned with the application of the principles learned from pharmacology in its clinical settings; whether it is in a dispensing or clinical care role.
- ✓ In either field, the primary contrast between the two is their distinctions between direct-patient care, pharmacy practice, and the science-oriented research field, driven by pharmacology.

**Etymology:**

The word "pharmacology" is derived from Greek φάρμακον, *pharmakon*, "drug, poison, spell" and -λογία, -*logia* "study of", "knowledge of" (cf. the etymology of *pharmacy*). Pharmakon is related to pharmakos, the ritualistic sacrifice or exile of a human scapegoat or victim in Ancient Greek religion.

**Systems of the body**:

- A variety of topics involved with pharmacology, including neuropharmacology, renal pharmacology, human metabolism, intracellular metabolism, and intracellular regulation
- Pharmacology can also focus on specific systems comprising the body.
- Divisions related to bodily systems study the effects of drugs in different systems of the body.
- These include neuropharmacology, in the central and peripheral nervous systems; immunopharmacology in the immune system.
- Other divisions include cardiovascular, renal and endocrine pharmacology.
- Psychopharmacology, is the study of the effects of drugs on the psyche, mind and behavior, such as the behavioral effects of psychoactive drugs.
- It incorporates approaches and techniques from neuropharmacology, animal behavior and behavioral neuroscience, and is interested in the behavioral and neurobiological mechanisms of action of psychoactive drugs.
- The related field of neuropsychopharmacology focuses on the effects of drugs at the overlap between the nervous system and the psyche.
- Pharmacometabolomics, also known as pharmacometabonomics, is a field which stems from metabolomics, the quantification and analysis of metabolites produced by the body.
- It refers to the direct measurement of metabolites in an individual's bodily fluids, in order to predict or evaluate the metabolism of pharmaceutical compounds, and to better understand the pharmacokinetic profile of a drug.
- Pharmacometabolomics can be applied to measure metabolite levels following the administration of a drug, in order to monitor the effects of the drug on metabolic pathways.
- Pharmacomicrobiomics studies the effect of microbiome variations on drug disposition, action, and toxicity.

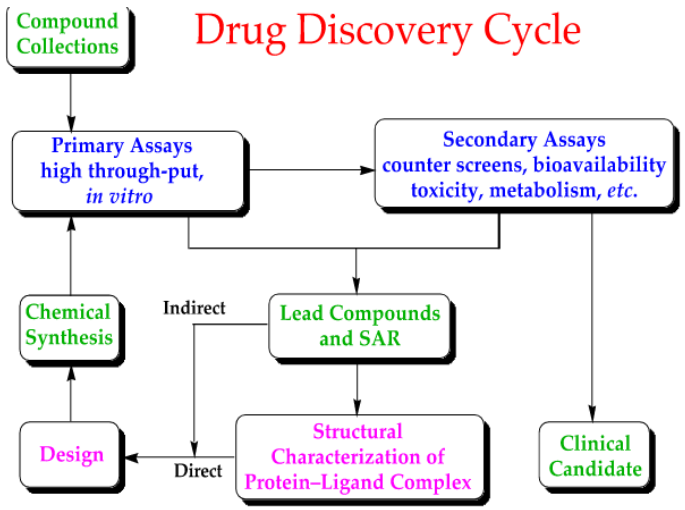
**Clinical practice and drug discovery**

- Pharmacology can be applied within clinical sciences. Clinical pharmacology is the basic science of pharmacology focusing on the application of pharmacological principles and methods in the medical clinic and towards patient care and outcomes.

- An example of this is posology, which is the study of how medicines are dosed.

***Drug discovery***

- Drug discovery is the field of study concerned with creating new drugs. It encompasses the subfields of drug design and development.
- Drug discovery starts with drug design, which is the inventive process of finding new drugs.
- In the most basic sense, this involves the design of molecules that are complementary in shape and charge to a given biomolecular target.
- After a lead compound has been identified through drug discovery, drug development involves bringing the drug to the market.
- Drug discovery is related to pharmacoeconomics, which is the sub-discipline of health economics that considers the value of drugs Pharmacoeconomics evaluates the cost and benefits of drugs in order to guide optimal healthcare resource allocation.
- The techniques used for the discovery, formulation, manufacturing and quality control of drugs discovery is studied by pharmaceutical engineering, a branch of engineering.
- Safety pharmacology specialises in detecting and investigating potential undesirable effects of drugs.




**Education**:

- ❖ The study of pharmacology overlaps with biomedical sciences and is study of the effects of drugs on living organisms.
- ❖ Pharmacological research can lead to new drug discoveries, and promote a better understanding of human physiology.
- ❖ Students of pharmacology must have detailed working knowledge of aspects in physiology, pathology and chemistry.

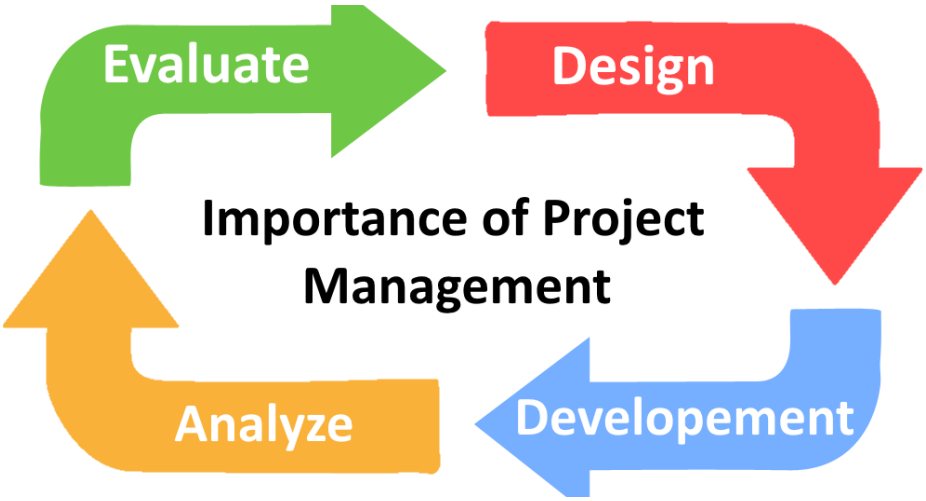
- Modern pharmacology is interdisciplinary and relates to biophysical and computational sciences, and analytical chemistry.
- Whereas a pharmacy student will eventually work in a pharmacy dispensing medications, a pharmacologist will typically work within a laboratory setting.
- Pharmacological research is important in academic research (medical and non-medical), private industrial positions, science writing, scientific patents and law, consultation, biotech and pharmaceutical employment, the alcohol industry, food industry, forensics/law enforcement, public health, and environmental/ecological sciences.
- Pharmacology is often taught to pharmacy and medicine students as part of a Medical School curriculum.

## Learning Objectives

- Understand receptors and their function in mechanisms of drug actions.
- Appreciate the general principles of pharmacokinetics and the importance of those principles in developing and testing drugs.
- Understand that drug effects can have beneficial and harmful effects.
- Be familiar with the common terms used to describe drug interactions.

## Role & Importance of clinical Pharmacology

- Explores the **safety parameters** of the existing medications
- **Monitors side effects**: A single drug may have more than one effects.
- **Adverse effects:** detection, identification, monitoring, management and reporting
- **Vigil for drug toxicity:** Toxicity is exaggeration of pharmacologic response and is dose related
- **Monitoring inter actions:** drug-drug and drug-food interactions
- **Monitor contraindications :** imposes precautions and cautions
- **Provides tailor made therapeutic regimen:** adjustment and titration of doses for a particular individual
- **Optimization of therapeutic benefits:** with existing drugs by assessing risk versus benefit



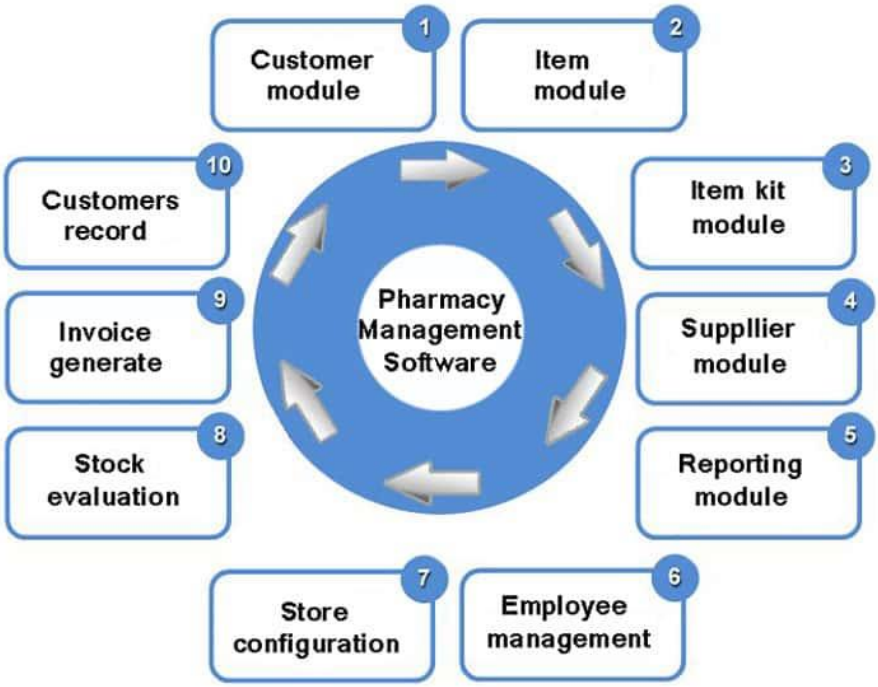

- Flexibility
- Support
- Speed
- Integration Updates.

## Goal :-

- Enable a group of engineers to work efficiently towards successful completion of a software project.

## Importance of Software Project Management:-

- Software project management comprises of product development techniques and management skills.



**Importance of Hospital Management:**

- Hospital Managers and Administrators are the key drivers for the success of any healthcare institution.
- Few years ago, business oriented hospital managers would focus mainly on acquiring state of the art technology and engaging skilled medical consultants with limited concentration on service delivery model of patient care and designing unique care processes.
- The patient care and quality was entirely dependent on the medical consultants as the hospital managers did not have sound knowledge about the healthcare system.
- With rapid transformation in the healthcare system and a growing need for quality healthcare, the hospital managers are now combining business expertise with an understanding of the healthcare system to increase efficiency and effectiveness of healthcare delivery and patient satisfaction.
- Thus, hospital management has evolved over the years.
- Most hospitals with state of the art technology face financial challenges owing to ever burgeoning cost of healthcare delivery.
- There is a continuous increase in the expenses of a hospital with respect to cost of new medical equipment, materials, maintenance, procurement cost, salary towards staff, etc.
- With a rise in the number of healthcare providers, growing competition and focus on patient-centricity, hospitals are adopting new patient care service models.
- It is rightly said that “Some of the most important innovations are not technologic — they are in the way we organize care delivery.”
- Hospital managers play a crucial role in streamlining various processes and making it a financially viable healthcare facility.

**Role of hospital management:**

- ✓ Establishing and framing policies, communicating them to their staff and helping them in implementing these in the hospital.
- ✓ Improving day to day operations such as managing human resources, allocating budgets and other financial resources, materials management, and actively participating in vendor selection and implementing IT system.
- ✓ Co-ordinating well with all the internal stakeholders (doctors, nurses, paramedics, administrators, technicians, pharmacists, IT staff, housekeeping staff and other professionals) and addressing their specific needs with an overall focus on patient care. Employees are the biggest assets in any institution and hence motivating and incentivizing them helps in improving their efficiency.
- ✓ Designing appropriate tariff structure and packages for various services in consensus with the respective staff and undertaking revision of tariff as and when required.
- ✓ Understanding and identifying areas of improvement in patient flow, quality of care and various processes, all inclined towards a patient- centric model.
- ✓ Meeting hospital norms and quality standards required for NABH and JCI accreditation.
- ✓ Marketing hospital services in order to remain competitive and ensuring that the institution develops a greater reach in the society and amongst healthcare seekers and the professionals providing healthcare services.
- ✓ Planning for the hospital's other projects (e.g. an extension/ expansion or a completely new hospital or procuring advanced technology) and devising the funding route/mechanism.

## Unit – III

**Health Care Services:** Health and Hospitals Services, Classification and Characteristics of Service Organizations, Healthcare Revolution, Dimensions of Health, Indicators of Health- Composition of Health Sector, Types of Care, Pyramidal Structure of Health Services, Hospitals, Types of Hospitals and Role of Hospital in Healthcare.

**Health services:**

- ✓ Health services consist of medical professionals, organizations, and ancillary health care workers who provide medical care to those in need.
- ✓ Health services serve patients, families, communities, and populations.

- ✓ They cover emergency, preventative, rehabilitative, long-term, hospital, diagnostic, primary, palliative, and home care.
- ✓ These services are centered around making health care accessible, high quality, and patient-centered. Many different types of care and providers are necessary in order to offer successful health services.
- ✓ "Health care services" means the furnishing of medicine, medical or surgical treatment, nursing, hospital service, dental service, optometrical service, complementary health services or any or all of the enumerated services or any other necessary services of like character, whether or not contingent upon sickness.

**Types of Services**

Health services cover many different types of medical issues. Many people think of primary care, outpatient care, and emergency care when they need an illness managed or are generally not feeling well. However, there are more health services that are dedicated to certain illnesses or issues. These health services include:

- Mental health care
- Dental care
- Laboratory and diagnostic care
- Substance abuse treatment
- Preventative care
- Physical and occupational therapy
- Nutritional support
- Pharmaceutical care
- Transportation
- Prenatal care

**Types of Providers:**

There are many different types of health services providers, such as primary care providers, nurses, specialists, and pharmacists.

**Primary care providers include:**

- Generalists, such as medical doctors (MD) and doctors of osteopathic medicine (DO), who focus on family practice, internal medicine, or pediatrics
- Obstetricians/gynecologists (OB/GYN), who focus on pregnancy, women's health, and prenatal care
- Physician assistants (PA), who work in a partnership with an MD or DO
- Nurse practitioners (NP), who work as primary care providers and can prescribe medication. They focus on women's health, family medicine (FNP), adult care (ANP), pediatrics (PNP), or geriatrics (GNP).

**Let's look at several medical-based scenarios.**

***Scenarios:***

1. A child has a fever and has red, itchy bumps on the skin and lacks an appetite.
2. A child has been playing in the grass and is sneezing.

3. A 75 year old male slipped in the kitchen and hit his head on the edge of the counter. He has a gash in his head and is bleeding a lot.
4. A 20 year old female has stopped eating and has been stealing things to get money to purchase illegal drugs.
5. A 40 year old male is 50 pounds overweight and wishes to lose weight.
6. A pregnant woman is about 6 weeks away from the baby's due date. She is experiencing contractions and pain in her legs.

- Health care, health-care, or healthcare is the maintenance or improvement of health via the prevention, diagnosis, treatment, recovery, or cure of disease, illness, injury, and other physical and mental impairments in people.
- Health care is delivered by health professionals in allied health fields. Physicians and physician associates are a part of these health professionals.
- Dentistry, pharmacy, midwifery, nursing, medicine, optometry, audiology, psychology, occupational therapy, physical therapy, athletic training and other health professions are all part of health care.
- It includes work done in providing **primary care, secondary care, and tertiary care**, as well as in public health.

**Primary care**:

- It refers to the work of health professionals who act as a first point of consultation for all patients within the health care system.
- Such a professional would usually be a primary care physician, such as a general practitioner or family physician.
- Another professional would be a licensed independent practitioner such as a physiotherapist, or a non-physician primary care provider such as a physician assistant or nurse practitioner.
- Depending on the locality, health system organization the patient may see another health care professional first, such as a pharmacist or nurse.
- Depending on the nature of the health condition, patients may be referred for secondary or tertiary care.
- Primary care is often used as the term for the health care services that play a role in the local community. It can be provided in different settings, such as Urgent care centers which provide same day appointments or services on a walk-in basis.
- Primary care involves the widest scope of health care, including all ages of patients, patients of all socioeconomic and geographic origins, patients seeking to maintain optimal health, and patients with all types of acute and chronic physical, mental and social health issues, including multiple chronic diseases.

- Consequently, a primary care practitioner must possess a wide breadth of knowledge in many areas.
- Continuity is a key characteristic of primary care, as patients usually prefer to consult the same practitioner for routine check-ups and preventive care, health education, and every time they require an initial consultation about a new health problem.
- The International Classification of Primary Care (ICPC) is a standardized tool for understanding and analyzing information on interventions in primary care based on the reason for the patient's visit.
- Common chronic illnesses usually treated in primary care may include, for example: hypertension, diabetes, asthma, COPD, depression and anxiety, back pain, arthritis or thyroid dysfunction.
- Primary care also includes many basic maternal and child health care services, such as family planning services and vaccinations.
- In the United States, the 2013 National Health Interview Survey found that skin disorders (42.7%), osteoarthritis and joint disorders (33.6%), back problems (23.9%), disorders of lipid metabolism (22.4%), and upper respiratory tract disease (22.1%, excluding asthma) were the most common reasons for accessing a physician.
- In the United States, primary care physicians have begun to deliver primary care outside of the managed care (insurance-billing) system through direct primary care which is a subset of the more familiar concierge medicine.
- Physicians in this model bill patients directly for services, either on a pre-paid monthly, quarterly, or annual basis, or bill for each service in the office.
- Examples of direct primary care practices include Foundation Health in Colorado and Qliance in Washington.
- In context of global population aging, with increasing numbers of older adults at greater risk of chronic non-communicable diseases, rapidly increasing demand for primary care services is expected in both developed and developing countries.
- The World Health Organization attributes the provision of essential primary care as an integral component of an inclusive primary health care strategy.

**Secondary care:**

- Secondary care includes acute care: necessary treatment for a short period of time for a brief but serious illness, injury, or other health condition.
- This care is often found in a hospital emergency department. Secondary care also includes skilled attendance during childbirth, intensive care, and medical imaging services.
- The term "secondary care" is sometimes used synonymously with "hospital care".

- However, many secondary care providers, such as psychiatrists, clinical psychologists, occupational therapists, most dental specialties or physiotherapists, do not necessarily work in hospitals.
- Some primary care services are delivered within hospitals.
- Depending on the organization and policies of the national health system, patients may be required to see a primary care provider for a referral before they can access secondary care.
- In countries which operate under a mixed market health care system, some physicians limit their practice to secondary care by requiring patients to see a primary care provider first.
- This restriction may be imposed under the terms of the payment agreements in private or group health insurance plans.
- In other cases, medical specialists may see patients without a referral, and patients may decide whether self-referral is preferred.
- In other countries patient self-referral to a medical specialist for secondary care is rare as prior referral from another physician (either a primary care physician or another specialist) is considered necessary, regardless of whether the funding is from private insurance schemes or national health insurance.
- Allied health professionals, such as physical therapists, respiratory therapists, occupational therapists, speech therapists, and dietitians, also generally work in secondary care, accessed through either patient self-referral or through physician referral.

**Tertiary care:**

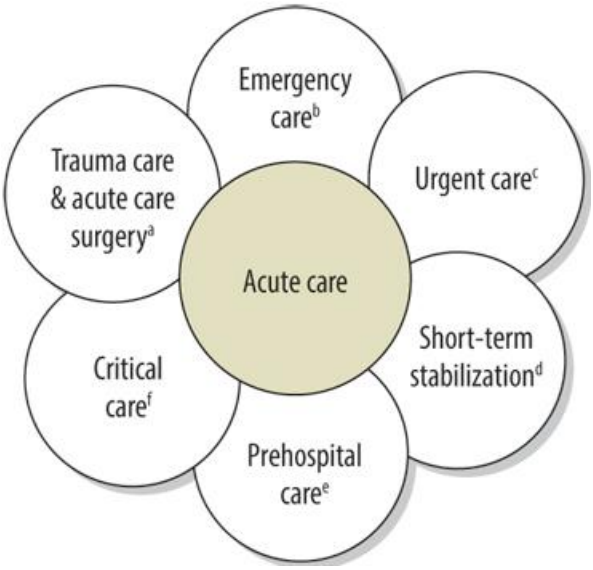
- Tertiary care is specialized consultative health care, usually for inpatients and on referral from a primary or secondary health professional, in a facility that has personnel and facilities for advanced medical investigation and treatment, such as a tertiary referral hospital.
- Examples of tertiary care services are cancer management, neurosurgery, cardiac surgery, plastic surgery, treatment for severe burns, advanced neonatology services, palliative, and other complex medical and surgical interventions.

**Quaternary care:**

- The term quaternary care is sometimes used as an extension of tertiary care in reference to advanced levels of medicine which are highly specialized and not widely accessed.
- Experimental medicine and some types of uncommon diagnostic or surgical procedures are considered quaternary care.
- These services are usually only offered in a limited number of regional or national health care centers. Quaternary care is more prevalent in the United Kingdom.

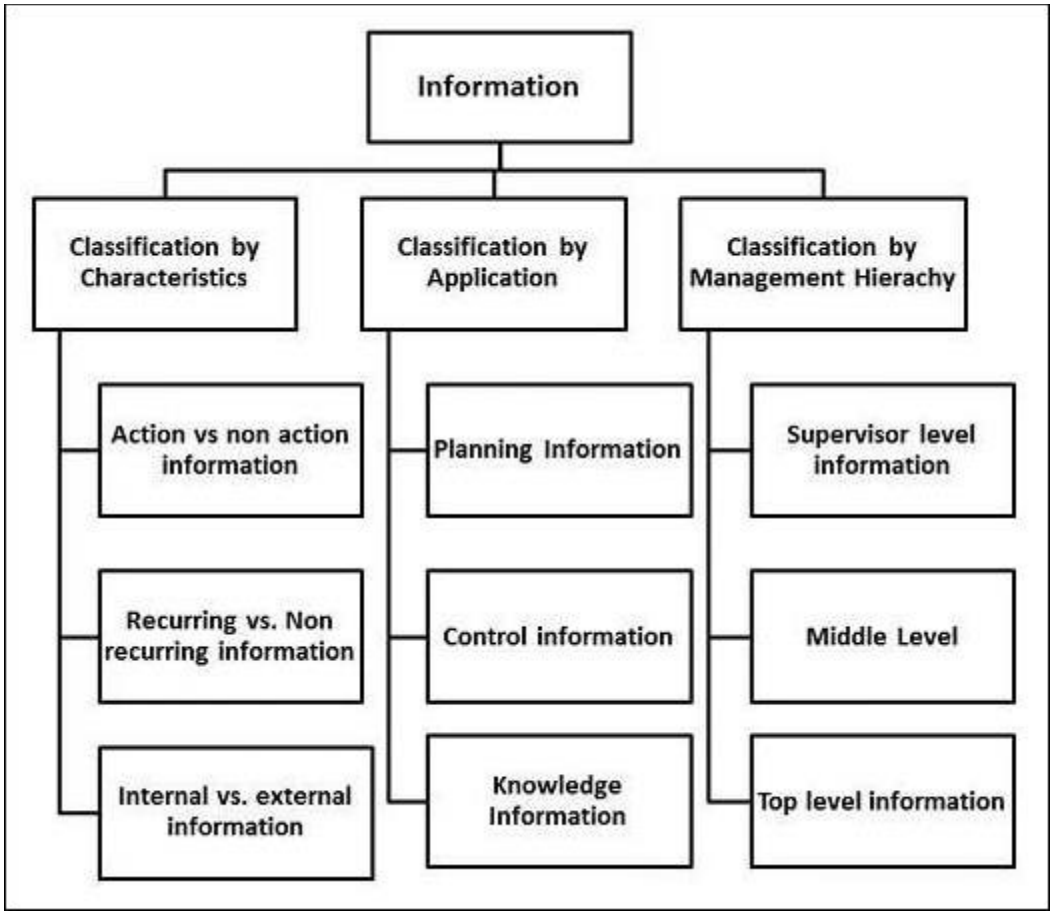
**Home and community care:**

- Many types of health care interventions are delivered outside of health facilities.
- They include many interventions of public health interest, such as food safety surveillance, distribution of condoms and needle-exchange programs for the prevention of transmissible diseases.
- They also include the services of professionals in residential and community settings in support of self care, home care, long-term care, assisted living, treatment for substance use disorders among other types of health and social care services.
- Community rehabilitation services can assist with mobility and independence after loss of limbs or loss of function. This can include prosthesis, orthotics or wheelchairs.
- Many countries, especially in the west, are dealing with aging populations, so one of the priorities of the health care system is to help seniors live full, independent lives in the comfort of their own homes.
- There is an entire section of health care geared to providing seniors with help in day-to-day activities at home such as transportation to and from doctor's appointments along with many other activities that are essential for their health and well-being.
- Although they provide home care for older adults in cooperation, family members and care workers may harbor diverging attitudes and values towards their joint efforts.
- This state of affairs presents a challenge for the design of ICT (information and communication technology) for home care.
- Because statistics show that over 80 million Americans have taken time off of their primary employment to care for a loved one, many countries have begun offering programs such as Consumer Directed Personal Assistant Program to allow family members to take care of their loved ones without giving up their entire income.
- With obesity in children rapidly becoming a major concern, health services often set up programs in schools aimed at educating children about nutritional eating habits, making physical education a requirement and teaching young adolescents to have positive self-image.




**Classification and of Service Organizations:**

Information can be classified in a number of ways and in this chapter; you will learn two of the most important ways to classify information.




**Classification by Characteristic**

Based on Anthony's classification of Management, information used in business for decision-making is generally categorized into three types −

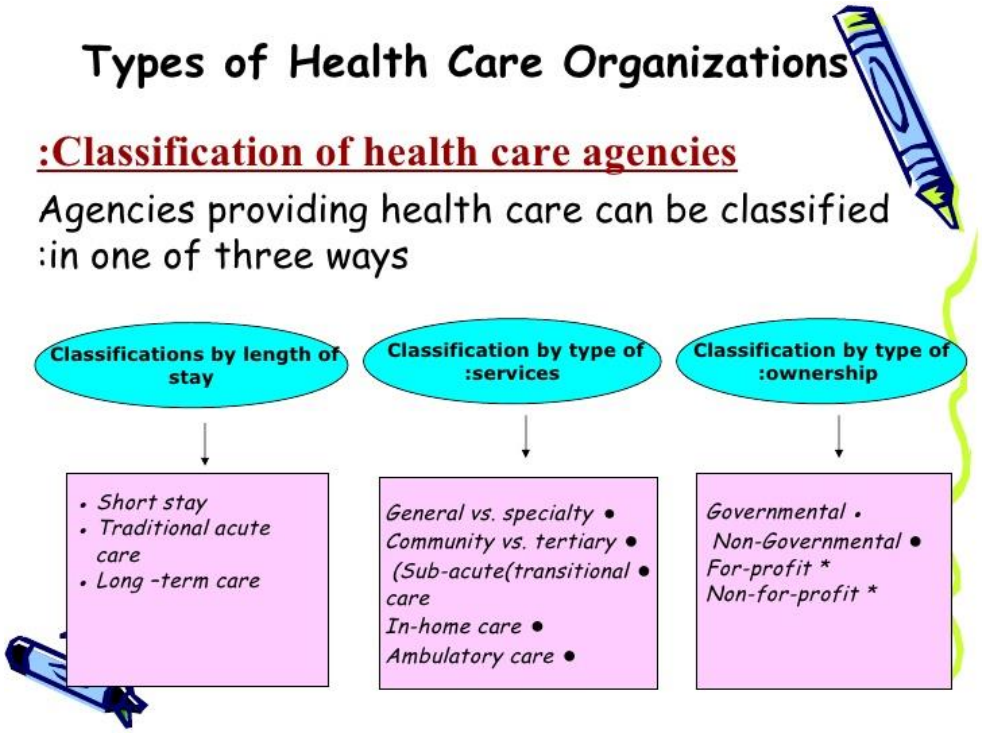
- Strategic Information − Strategic information is concerned with long term policy decisions that defines the objectives of a business and checks how well these objectives are met. For example, acquiring a new plant, a new product, diversification of business etc, comes under strategic information.
- Tactical Information − Tactical information is concerned with the information needed for exercising control over business resources, like budgeting, quality control, service level, inventory level, productivity level etc.
- Operational Information − Operational information is concerned with plant/business level information and is used to ensure proper conduction of specific operational tasks as planned/intended. Various operator specific, machine specific and shift specific jobs for quality control checks comes under this category.

**Classification by Application**

In terms of applications, information can be categorized as −

- Planning Information − these are the information needed for establishing standard norms and specifications in an organization.
- This information is used in strategic, tactical, and operation planning of any activity. Examples of such information are time standards, design standards.
- Control Information − this information is needed for establishing control over all business activities through feedback mechanism.
- This information is used for controlling attainment, nature and utilization of important processes in a system. When such information reflects a deviation from the established standards, the system should induce a decision or an action leading to control.
- Knowledge Information − Knowledge is defined as "information about information". Knowledge information is acquired through experience and learning, and collected from archival data and research studies.
- Organizational Information − Organizational information deals with an organization's environment, culture in the light of its objectives.
- Karl Weick's Organizational Information Theory emphasizes that an organization reduces its equivocality or uncertainty by collecting, managing and using these information prudently.
- This information is used by everybody in the organization; examples of such information are employee and payroll information.

- Functional/Operational Information − This is operation specific information. For example, daily schedules in a manufacturing plant that refers to the detailed assignment of jobs to machines or machines to operators.
- In a service oriented business, it would be the duty roster of various personnel. This information is mostly internal to the organization.
- Database Information − Database information construes large quantities of information that has multiple usage and application.
- Such information is stored, retrieved and managed to create databases. For example, material specification or supplier information is stored for multiple users.




**7 Important Characteristics of Services**

***1. Perishability:***

Service is highly perishable and time element has great significance in service marketing. Service if not used in time is lost forever. Service cannot store.

***2. Fluctuating Demand:***

Service demand has high degree of fluctuations. The changes in demand can be seasonal or by weeks, days or even hours. Most of the services have peak demand in peak hours, normal demand and low demand on off-period time.

***3. Intangibility:***

Unlike product, service cannot be touched or sensed, tested or felt before they are availed. A service is an abstract phenomenon.

***4. Inseparability:***

Personal service cannot be separated from the individual and some personalised services are created and consumed simultaneously.
For example hair cut is not possible without the presence of an individual. A doctor can only treat when his patient is present.

***5. Heterogeneity:***

The features of service by a provider cannot be uniform or standardised. A Doctor can charge much higher fee to a rich client and take much low from a poor patient.

***6. Pricing of Services:***

Pricing decision about services is influenced by perishability, fluctuation in demand and inseparability. Quality of a service cannot be carefully standardised. Pricing of services is dependent on demand and competition where variable pricing may be used.

***7. Service quality is not statistically measurable:***

It is defined in form of reliability, responsiveness, empathy and assurance all of which are in control of employee's direction interacting with customers. For service, customers' satisfaction and delight are very important. Employees directly interacting with customers are to be very special and important. People include internal marketing, external marketing and interactive marketing.

**Dimensions of health:**

There are five (5) dimensions of health: **physical, mental, emotional, spiritual, and social.** These five (5) dimensions of health provide a full picture of health as a change in any dimension affects the others. This interrelationship between the dimensions of health is one of the key aspects that you need to understand for Preliminary PDHPE.

**Physical**

- ✓ The physical dimension of health refers to the bodily aspect of health.
- ✓ It refers to the more traditional definitions of health as the absence of disease and injury.
- ✓ Physical health ranges in quality along a continuum where a combination of diseases such as cancer, diabetes, cardiovascular disease or hypertension is at one end and a person who is at optimum physical condition (think health not fitness) is at the other.
- ✓ Physical health can affect the other dimensions of health as a decline in physical health can result in a decline in other forms of health.
- ✓ E.g. a person who suddenly gets the flu is often isolated socially as to not infect others, struggles to focus in order to study or learn anything new, and may feel sad as a result of their isolation.

**Mental**

- ✓ Mental health refers to the cognitive aspect of health. Often mental health is linked to or includes emotional health; I want to distinguish the two.
- ✓ Mental health is more the functioning of the brain, while emotional health refers to the person's mood often connected to their hormones.
- ✓ Mental health then includes many mental health issues such as Alzheimers and dementia. It refers to the person's ability to use their brain and think.
- ✓ This may be to solve problems or to recall information, but the focus is on the cognitive aspect of the person.
- ✓ Mental healthcare affect the other dimensions of health.
- ✓ An increase in mental health can come as a result of increased physical activity, and good mental health can then lead to an increase in self esteem as mental performance improves.
- ✓ Greater self esteem then leads to more confidence in social situations and can lead one to ask the larger questions about life leading to increased spiritual health.
- ✓ **Emotional**
- ✓ Emotional health is about the person's mood or general emotional state.
- ✓ It is our ability to recognise and express feelings adequately.

- ✓ It relates to you self esteem as well as your ability control your emotions to maintain a realistic perspective on situations.
- ✓ The relationship between emotional and mental health is clear and as such some illnesses relate to both, such as: depression and anxiety.
- ✓ Emotional health affects the other dimensions of health as a person with a good self esteem is more confident in social settings, makes friends quickly and often performs better in physical activity.

**Spiritual**

- ✓ Spiritual health relates to our sense of overall purpose in life.
- ✓ People often find this purpose from a belief or faith system, while others create their own purpose.
- ✓ A person who has purpose to life is said to be healthier than those who don't see a purpose to life.
- ✓ Spiritual health will very easily affect emotional and mental health as having a purpose in life can help you to apply yourself to achieving goals.
- ✓ Having a purpose to life can also help people to maintain a proper perspective on life and overcome adversity.
- ✓ Often people who are spiritual meet together regularly around their spiritual purpose, which helps to improve their social health.

**Social**

- ✓ The social dimension of health refers to our ability to make and maintain meaningful relationships with others.
- ✓ Good social health includes not only having relationships but behaving appropriately within them and maintaining socially acceptable standards.
- ✓ The basic social unit of relationship is the family, and these relationships impact a person's life the most.
- ✓ Other key relationships are close friends, social networks, teachers, and youth leaders.
- ✓ Social health affects the other dimensions of health in many ways.
- ✓ A bad social life can lead a person to question their purpose in life or feel isolated and unwanted. Such feelings can demotivate people from physical activity and lead them towards depression.

**Health indicator:**

- ✓ Health indicators are quantifiable characteristics of a population which researchers use as supporting evidence for describing the health of a population.

- ✓ Typically, researchers will use a survey methodology to gather information about certain people, use statistics in an attempt to generalize the information collected to the entire population, and then use the statistical analysis to make a statement about the health of the population.

**Health indicators are often used by governments to guide health care policy.**

**Example:**

A common example of a health indicator is life expectancy. A government might have a system for collecting information on each citizen's age at the time of death. This data about age at death can be used to support statements about the national life expectancy, in which case life expectancy would be a "health indicator". Life expectancy may be one of many "health indicators" which collectively researchers would use to describe the health of the population of the country.

## Applications

Health indicators are commonly used to guide public health policy.

## Characteristics

A health indicator which will be used internationally to describe global health should have the following characteristics:

1. It should be defined in such a way that it can be measured uniformly internationally.
2. It must have statistical validity.
3. The indicator must be data which can feasibly be collected.
4. The analysis of the data must result in a recommendation on which people can make changes to improve health

**Health Indicators:**

- Crude death rate
- Life expectancy
- Infant mortality rate
- Maternal mortality rate
- Proportional mortality rate

**Morbidity indicators:**

- Prevalence
- Incidence
- Others

**Health status:**

Incidence counts of any of the following in a population may be health indicators:[3]

- Low birth weight
- Obesity
- Arthritis
- Diabetes
- Asthma
- High blood pressure
- or foodborne illness
- Cancer incidence
- Chronic pain
- Oral health
- Depression
- hospital visits due to injury
- reports of waterborne diseases

**Disability indicators:**

- Disability adjusted life years (DALY)
- Others: Activities of daily living (ADL), Musculoskeletal disability (MSD) score etc.

**Nutritional indicators:**

- Proportion of low birth weight
- Prevalence of anaemia
- Proportion of overweight individuals
- Prevalence of underweight among under-fives
- Prevalence of stunting among under-fives
- Prevalence of acute malnutrition among under-fives

**Social and mental health indicators**

- Alcohol related indicators
- Injury rates

**Health system indicators**

- Healthcare delivery related
- Health policy indicators

**Health Determinant**

- Smoking habits
- alcohol consumption habits
- Physical exercise habits
- Breastfeeding

**Organizations**

Various organizations exist to identify, collect, measure, share, analyze, and publish on the topic of health indicators. Here are some example organizations doing this:

- Health Metrics Network
- Institute for Health Metrics and Evaluation

**Health System:**

- ✓ A health system, also sometimes referred to as health care system or as healthcare system, is the organization of people, institutions, and resources that deliver health care services to meet the health needs of target populations.
- ✓ There is a wide variety of health systems around the world, with as many histories and organizational structures as there are nations.
- ✓ Implicitly, nations must design and develop health systems in accordance with their needs and resources, although common elements in virtually all health systems are primary healthcare and public health measures.
- ✓ In some countries, health system planning is distributed among market participants.
- ✓ In others, there is a concerted effort among governments, trade unions, charities, religious organizations, or other co-ordinate bodies to deliver planned health care services targeted to the populations they serve.
- ✓ However, health care planning has been described as often evolutionary rather than revolutionary.
- ✓ As with other social institutional structures, health systems are likely to reflect the history, culture and economics of the states in which they evolve.
- ✓ These peculiarities bedevil and complicate international comparisons and preclude any universal standard of performance.

**Goals:**

- ✓ The World Health Organization (WHO), the directing and coordinating authority for health within the United Nations system, is promoting a goal of universal health care: to ensure that all people obtain the health services they need without suffering financial hardship when paying for them.
- ✓ According to WHO, healthcare systems' goals are good health for the citizens, responsiveness to the expectations of the population, and fair means of funding operations.
- ✓ Progress towards them depends on how systems carry out four vital functions: provision of health care services, resource generation, financing, and stewardship.
- ✓ Other dimensions for the evaluation of health systems include quality, efficiency, acceptability, and equity.

- ✓ They have also been described in the United States as "the five C's": Cost, Coverage, Consistency, Complexity, and Chronic Illness. Also, continuity of health care is a major goal.

**Definitions**

Often health system has been defined with a reductionist perspective, for example reducing it to healthcare system. In many publications, for example, both expressions are used interchangeably. Some authors have developed arguments to expand the concept of health systems, indicating additional dimensions that should be considered:

- Health systems should not be expressed in terms of their components only, but also of their interrelationships;
- Health systems should include not only the institutional or supply side of the health system, but also the population;
- Health systems must be seen in terms of their goals, which include not only health improvement, but also equity, responsiveness to legitimate expectations, respect of dignity, and fair financing, among others;
- Health systems must also be defined in terms of their functions, including the direct provision of services, whether they are medical or public health services, but also "other enabling functions, such as stewardship, financing, and resource generation, including what is probably the most complex of all challenges, the health workforce."

**World Health Organization definition**

The World Health Organization defines health systems as follows:
A health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health. This includes efforts to influence determinants of health as well as more direct health-improving activities. A health system is therefore more than the pyramid of publicly owned facilities that deliver personal health services. It includes, for example, a mother caring for a sick child at home; private providers; behaviour change programmes; vector-control campaigns; health insurance organizations; occupational health and safety legislation. It includes inter-sectoral action by health staff, for example, encouraging the ministry of education to promote female education, a well known determinant of better health.

| Country | Life expectancy[44] | Infant mortality rate[45] | Preventable deaths per 100,000 people in 2007[46] | Physicians per 1000 people | Nurses per 1000 people | Per capita expenditure on health (USD PPP) | Healthcare costs as a percent of GDP | % of government revenue spent on health | % of health costs paid by government |
|---|---|---|---|---|---|---|---|---|---|
| Australia | 83.0 | 4.49 | 57 | 2.8 | 10.1 | 3,353 | 8.5 | 17.7 | 67.5 |
| Canada | 82.0 | 4.78 | 77 | 2.2 | 9.0 | 3,844 | 10.0 | 16.7 | 70.2 |
| France | 82.0 | 3.34 | 55 | 3.3 | 7.7 | 3,679 | 11.6 | 14.2 | 78.3 |
| Germany | 81.0 | 3.48 | 76 | 3.5 | 10.5 | 3,724 | 10.4 | 17.6 | 76.4 |
| Italy | 83.0 | 3.33 | 60 | 4.2 | 6.1 | 2,771 | 8.7 | 14.1 | 76.6 |
| Japan | 84.0 | 2.17 | 61 | 2.1 | 9.4 | 2,750 | 8.2 | 16.8 | 80.4 |
| Norway | 83.0 | 3.47 | 64 | 3.8 | 16.2 | 4,885 | 8.9 | 17.9 | 84.1 |
| Spain | 83.0 | 3.30 | 74 | 3.8 | 5.3 | 3,248 | 8.9 | 15.1 | 73.6 |
| Sweden | 82.0 | 2.73 | 61 | 3.6 | 10.8 | 3,432 | 8.9 | 13.6 | 81.4 |
| UK | 81.6 | 4.5 | 83 | 2.5 | 9.5 | 3,051 | 8.4 | 15.8 | 81.3 |
| US | 78.74 | 5.9 | 96 | 2.4 | 10.6 | 7,437 | 16.0 | 18.5 | 45.1 |

Physicians and hospital beds per 1000 inhabitants' vs Health Care Spending in 2008 for OECD Countries. The data source is http://www.oecd.org.

**Module 1: Healthcare Systems**

**Types of Patient Care**

There are several different types of care for patients, depending on their need. Types of patient care are listed below. Click on the type of care to see a description.

- **Primary Care:**

Primary care should be the first place patients go for medical care. Patients may get primary care in a doctor's office or in a community health center. One focus of primary care is to prevent disease through regular physical exams and health screening. Another focus is to care for a patient's general health by diagnosing and treating a wide variety of conditions. If a patient has a health problem that requires special knowledge or skill, a primary care doctor will refer the patient to a specialist. Primary care doctors follow a patient's care while they see a specialist.

Primary care team members include:

- Primary care doctors, also called general practice, general internists or family doctors
- Pediatricians (doctors for babies and children)
- Nurses
- Physician assistants
- Nurse practitioners

- **Specialty Care:**

Specialty care is care for a patient who has a health problem or illness that requires special knowledge in one medical area. Specialty care can be ongoing or preventative care around a specific system of the body. Specialists have knowledge or skill related to a specific disease or organ system of the body. Specialists must complete special training, be certified or licensed in their area of specialty. They can be doctors, nurses or other healthcare team members. Examples of specialists include: cardiologists, gynecologists, physical therapists or social workers.

- **Emergency Care:**

Emergency care involves diagnosing and treating life-threatening illnesses or injuries that need immediate attention. Emergency care may take place in ambulances or other transportation vehicles, hospital emergency rooms or intensive care units. Examples of emergencies are chest pain, difficulty breathing, heart attack, serious injury, bleeding that will not stop or mental crisis.

- **Urgent Care:**

Urgent care is not life threatening, but is care for an illness or injury that needs immediate attention. Examples of urgent care are minor cuts or burns, stomachaches, sprains and ear or throat infections.

- **Long-term Care:**

When someone is not able to perform daily living activities due to an injury, disability, chronic condition or dementia. Long-term care is a combination of medical, nursing and social care. It can be provided in a person's home, long-term care facility or assisted living facility.

- **Hospice Care:**

Hospice care focuses on "palliative" care to ease symptoms rather than cure a disease toward the end of life. The philosophy of hospice care is give physical, emotional, spiritual or social to support a patient and their family. Hospice care may be provided in a person's home or in a hospice care facility.

- **Mental Healthcare:**

Mental Healthcare can help when patients need help with a mental illness or emotional crisis. Mental health treatment may include medication, psychotherapy ("talk therapy") or both. Mental health professionals include psychiatrists, counselors or psychologists.

**Module 1: Healthcare Systems**


In this part of the tutorial we will look at several aspects of the healthcare system including:

- Hospital systems
- Types of patient care
- Public health programs

**Hospital Systems:**

A hospital system is a group of hospitals or facilities that work together to deliver services to their communities. Different types of hospital systems have different types of ownership and financial goals.

**Types of hospital systems include:**

- **Public Hospitals**

  Public hospitals are funded and owned by local, state or federal governments and receives money from the government. Some public hospitals are associated with medical schools.

- **Non-profit Hospitals**

  Non-profit hospitals are often community hospitals and may be linked with a religious denomination. The main goal of a non-profit hospital is to provide service to the community.
- **Private Hospitals**

  Private hospitals are owned by investors. Their goal is to earn a profit. Private hospitals tend to offer more profitable services such as rehabilitation, elective or plastic surgery or cardiology. They try to avoid unprofitable services such as emergency medicine, which can lose money due to uninsured patients.

**Unit – IV**

**Health care Facilities:** Functioning of modern hospitals & changing need of patients Hospitality in Hospital Care, Invasive and non-invasive diagnostic facilities in modern hospital Care offered in Specialty and Super specialty Hospitals.

# Definition of Hospital

WHO Expert Committee, 1963:

'A hospital is a residential establishment which provides short-term and long-term medical care consisting of observational, diagnostic, therapeutic and rehabilitative services for persons suffering or suspected to be suffering from a disease or injury and for parturients. It may or may not also provide services for ambulatory patients on an out-patient basis'.

# Classification of Hospital

1. Basing on Objective
   a. General hospitals
   b. Special hospitals
   c. Teaching cum Research Hospital
2. Basing on Administration, ownership, control or financial income
   a. Governmental or public
   b. Non-governmental or private
   c. Semi Govt Hospital
   d. Voluntary Agency Hospitals
3. Basing on Length of Stay
   a. Short-term or short-stay hospitals (Stay less than 30 days)
   b. Long-term or long-stay hospitals: (Stay more than 30 days)
4. Depending on Type of Medical Staff
   a. Closed-staff hospital:
   b. Open-staff hospital:

5. Basing on bed capacity (Size)
    a. Small hospital (Upto 100 beds)
    b. Medium hospital (More than 100 to less than 300 beds)
    c. Large hospital (More than 300 beds)
6. Basing on type of care:
    a. Primary Care
    b. Secondary Care
    c. Tertiary Care
7. By teaching affiliation:
    a. Teaching hospital
    b. Non-teaching hospital
8. Basing on system of medicine
    a. Allopathic hospital
    b. Ayurvedic hospital
    c. Homeopathic hospital
    d. Unani hospital
    e. Hospitals of other system of medicine

9. Basing on regionality
    a. Regional
    b. District
    c. Upazila Health Complex
    d. Union Health and Family Welfare Centres
    e. Community Clinics
10. As per WHO Classification:
    a. Regional Hospital
    b. Intermediate/ District Hospital
    c. Rural Hospital

**General hospitals:**

General Hospitals are meant to provide wide-range of various types of healthcare, but with limited capacity. They care for patients with various-disease conditions for both sexes to all ages, medical, surgical, paediatrics, obstetrics, eye and ear etc. Usually, General hospitals are devoid of super-specialist medical care.

**Special hospitals:**

They limit their service to a particular condition, orthopedics, maternity, paediatrics, geriatrics, oncology etc.

**Teaching cum Research Hospital:**

College is attached for medical/ nursing/ dental/ pharmacy education.

Main objective is to provide medical care, teaching and research is secondary

**Governmental or public hospital**: They are owned, administered and controlled by the government. They provide free care for patients. The governmental hospitals are owned by:

- The Ministry of Health.
- The University
- Others.

A **public hospital** or **government hospital** is a hospital which is owned by a government and receives government funding. In some countries, this type of hospital provides medical care free of charge, the cost of which is covered by government reimbursement.

In Australia, public hospitals are operated and funded by each individual state's health department. The federal government also contributes funding.

**Private Hospital:**

Privately owned or controlled by an individual or group of physicians or citizens or by private organization. eg, Square Hospital.

Purpose is to provide services for profit making.

**Semi Govt Hospital:**

Hospitals run both by the govt and private entity. eg Cantt Board Hospital.

Corporate Hospital

Hospitals which are public limited companies formed under the companies act. Run on commercial lines. eg, Apollo

Voluntary Agency Hospital: Not for profit hospitals by the Voluntary Organizations. eg, **HOPE Foundation Fistula Hospital**

**Short-term or short-stay hospitals:**
These are hospitals where over 90% of all patients admitted stay less than 30 days.
**Long-term or long-stay hospitals:**
These are hospitals where over 90% of all patients admitted stay 30 days or more, i.e. mental hospital.

**Closed-staff hospital:**
Physicians are held responsible for all medical activities in the hospital including the diagnosis and treatment of patient fee paying and emergency.
**Open-staff hospital:**
This type of hospital permits other physicians in the community to admit and treat patients to the hospital' and treat them.

Open Staff Hospital: **Open medical staff**, which **means** any physician can request to practice at the facility, regardless of their hospital affiliation.

Close Staff Hospital: A **closed** hospital system is one in which all doctors are on **staff**, and also doctors that aren't on **staff** may not have access or privileges at said hospital.

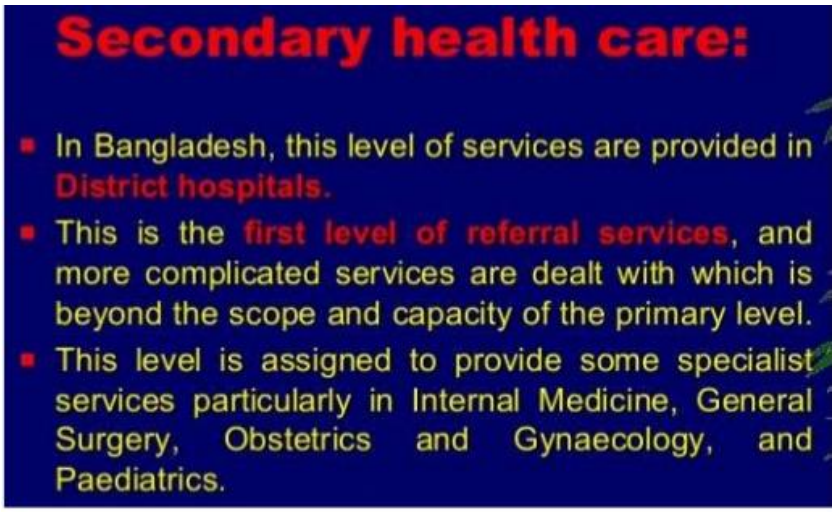
# According to Level of Care:

Primary Care Hospital

**Primary care** is the day-to-day **healthcare** given by a health **care** provider. Typically this provider acts as the first contact and principal point of continuing **care** for patients within a **healthcare** system, and coordinates other specialist **care** that the patient may need.

Provides mostly basic health care. It is generally regarded as the 'gateway' to receiving more specialist care.

eg, Upazila Health Complex




These are usually 50-200 bedded hospitals.


This also includes Divisional and National Level Hospitals

# WHO Classification (Expert Committee 1957)

**Regional Hospital:**

Provides complex range of treatment and highly specialized services.

Serves a larger area than a local hospital. Example- Govt Medical College Hospital

**Intermediate/ District Hospital:**

A district hospital typically is the major health care facility in its locality (For Bangladesh in a district level). Specialty services in major disciplines (eg, Medicne, Surgery, Gynae etc)

**Rural Hospital:**

Remote hospitals with small number of beds and limited service capacity. It should have 20-100 beds. Upazila Health Complex in Bangladesh


# Hospital Function

1. Intramural: Services within the wall of hospital
2. Extramural: Services outside the wall of hospital. eg, OPD, Outreach services, Medical Camps, Immunization Program

# FUNCTIONS OF A HOSPITAL

**1. INTRA-MURAL FUNCTIONS**

**i. Therapeutic**

- Diagnostic
- Curative
- Rehabilitative
- Care of emergencies

**ii. Preventive**

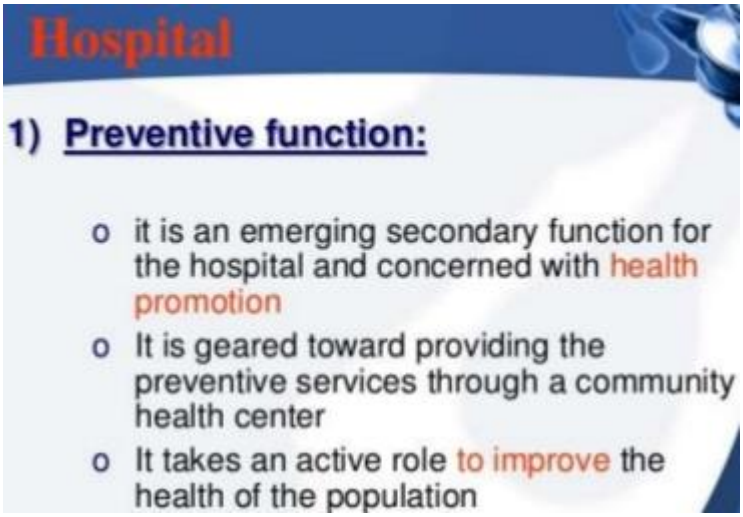
- Antenatal and postnatal services.
- Well baby clinics and immunisation schedule.
- Family welfare services.
- Control of communicable diseases.
- Health education

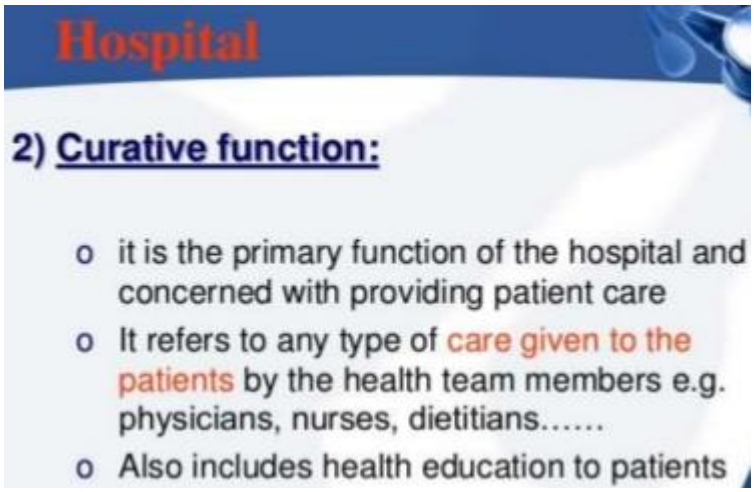
**iii. Education**

- Medical : Undergraduate, post-graduate and post-doctoral.
- Nursing education :Undergraduate, post-graduate and doctoral.
- Speciality
- Paramedical
- Community health

**iv. Research**

- Clinical medicine
- Hospital administration







**Unit – V**

**Health and Management:** Current Issues in Healthcare Accreditation-Tele medicine-Health Tourism-Health Insurance and Managed Care-Disaster Management-Hospital Wastes Management.

Hospital accreditation

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**Hospital accreditation:**

- It has been defined as "A self-assessment and external peer assessment process used by health care organizations to accurately assess their level of performance in relation to established standards and to implement ways to continuously improve".
- Critically, accreditation is not just about standard-setting: there are analytical, counseling and self-improvement dimensions to the process.
- There are parallel issues in evidence-based medicine, quality assurance and medical ethics and the reduction of medical error is a key role of the accreditation process. Hospital accreditation is therefore one component in the maintenance of patient safety.
- However, there is limited and contested evidence supporting the effectiveness of accreditation programs.

Broadly speaking, there exist two types of hospital accreditation:

1. Hospital and healthcare accreditation which takes place within national borders
2. International healthcare accreditation.

**National schemes:**

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Accreditation schemes recognised as providers of national healthcare accreditation services include:

- Accreditation Association for Ambulatory Health Care (AAAHC) - based in the United States
- Accreditation Association for Hospitals/Health Systems (AAHHS) - based in the United States
- American Accreditation Commission International (AACI) - based in the United States

**International schemes:**

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- ✓ Some accreditation schemes also undertake international healthcare accreditation work outside of their base country.
- ✓ One of the large numbers of accreditation schemes in the United States, the Joint Commission (TJC) currently being the best known, has created Joint Commission International, or JCI. In recent years, DNV have been challenging TJC in the USA.
- ✓ Accreditation Canada accredited its first organization internationally in 1967 in Bermuda. In 2010, Accreditation Canada International (ACI ) is created to provide accreditation to hospitals, clinics, primary care centers and health systems.
- ✓ Acreditas Global (formerly AAAHC International) is present in Peru since 2012 and Costa Rica.
- ✓ The former Trent Accreditation Scheme (TAS) from the UK was the first to accredit a hospital in Asia, in Hong Kong in 2000, and QHA Trent Accreditation from the UK have continue to work in the same field. Since TAS started the process, others, such as JCI and ACI, have entered the market.
- ✓ DNV Healthcare is a Norwegian-US health care accrediting organisation providing a quality management system constructed in accordance with ISO 9001 and approved by the U.S. Centers for Medicare and Medicaid Services (CMS).
- ✓ CHKS Ltd is a specialist international provider of healthcare accreditation programmes based in the UK and accredited to ISQua and ISO 17021:2011 standards www.chks.co.uk
- ✓ AACI is an international accreditation provider based in Hendersonville,NC,USA and accredited to ISQua, as well as ISO 17021:2015 standards www.aacihealthcare.com
- ✓ The Council for Health Service Accreditation of Southern Africa (COHSASA) is the only internationally accredited quality improvement and accreditation body for healthcare facilities in Africa.

In the past 23 years over 600 facilities throughout the continent have entered the COHSASA program to improve the quality and safety of healthcare provided to patients.

- ✓ COHSASA holds a fourth consecutive accreditation by the International Society for Quality in Health Care (ISQua), the global authority responsible for ensuring health accreditors themselves meet standards.

**Patient safety:**

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- **Patient safety** is a discipline that emphasizes safety in health care through the prevention, reduction, reporting, and analysis of medical error that often leads to adverse effects.
- The frequency and magnitude of avoidable adverse events experienced by patients was not well known until the 1990s, when multiple countries reported staggering numbers of patients harmed and killed by medical errors.
- Recognizing that healthcare errors impact 1 in every 10 patients around the world, the World Health Organization calls patient safety an endemic concern.
- Indeed, patient safety has emerged as a distinct healthcare discipline supported by an immature yet developing scientific framework.
- There is a significant transdisciplinary body of theoretical and research literature that informs the science of patient safety.

**Prevalence of adverse events:**

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- Millennia ago, Hippocrates recognized the potential for injuries that arise from the well-intentioned actions of healers.
- Greek healers in the 4th century BC drafted the Hippocratic Oath and pledged to "prescribe regimens for the good of my patients according to my ability and my judgment and never do harm to anyone."
- Since then, the directive *primum non nocere* ("first do no harm") has become a central tenet for contemporary medicine.
- However, despite an increasing emphasis on the scientific basis of medical practice in Europe and the United States in the late 19th century, data on adverse outcomes were hard to come by and the various studies commissioned collected mostly anecdotal events.
- In the United States, the public and the medical specialty of anesthesia were shocked in April 1982 by the ABC television program 20/20 entitled *The Deep Sleep*.
- Presenting accounts of anesthetic accidents, the producers stated that, every year, 6,000 Americans die or suffer brain damage related to these mishaps.

- In 1983, the British Royal Society of Medicine and the Harvard Medical School jointly sponsored a symposium on anesthesia deaths and injuries, resulting in an agreement to share statistics and to conduct studies.
- By 1984 the American Society of Anesthesiologists (ASA) had established the Anesthesia Patient Safety Foundation (APSF). The APSF marked the first use of the term "patient safety" in the name of professional reviewing organization.
- Although anesthesiologists comprise only about 5% of physicians in the United States, anesthesiology became the leading medical specialty addressing issues of patient safety.
- Likewise in Australia, the Australian Patient Safety Foundation was founded in 1989 for anesthesia error monitoring. Both organizations were soon expanded as the magnitude of the medical error crisis became known.

***To Err is Human***:

- ✓ In the United States, the full magnitude and impact of errors in health care was not appreciated until the 1990s, when several reports brought attention to this issue.
- ✓ In 1999, the Institute of Medicine (IOM) of the National Academy of Sciences released a report, *To Err is Human: Building a Safer Health System*.
- ✓ The IOM called for a broad national effort to include establishment of a Center for Patient Safety, expanded reporting of adverse events, development of safety programs in health care organizations, and attention by regulators, health care purchasers, and professional societies.
- ✓ The majority of media attention, however, focused on the staggering statistics: from 44,000 to 98,000 preventable deaths annually due to medical error in hospitals, 7,000 preventable deaths related to medication errors alone.
- ✓ Within 2 weeks of the report's release, Congress began hearings and President Clinton ordered a government-wide study of the feasibility of implementing the report's recommendations.
- ✓ Initial criticisms of the methodology in the IOM estimates focused on the statistical methods of amplifying low numbers of incidents in the pilot studies to the general population.
- ✓ However, subsequent reports emphasized the striking prevalence and consequences of medical error.

The experience has been similar in other countries.

- Ten years after a groundbreaking Australian study revealed 18,000 annual deaths from medical errors, Professor Bill Runciman, one of the study's authors and president of the Australian Patient Safety Foundation since its inception in 1989, reported himself a victim of a medical dosing error.
- The Department of Health Expert Group in June 2000 estimated that over 850,000 incidents harm National Health Service hospital patients in the United Kingdom each year. On average forty incidents a year contribute to patient deaths in each NHS institution.

- In 2004, the Canadian Adverse Events Study found that adverse events occurred in more than 7% of hospital admissions, and estimated that 9,000 to 24,000 Canadians die annually after an avoidable medical error.
- These and other reports from New Zealand, Denmark and developing countries have led the World Health Organization to estimate that one in ten persons receiving health care will suffer preventable harm.

**Communication:**

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- Effective communication is essential for ensuring patient safety. Communicating starts with the provisioning of available information on any operational site especially in mobile professional services.
- Communicating continues with the reduction of administrative burden, releasing the operating staff and easing the operational demand by model driven orders, thus enabling adherence to a well executable procedure finalised with a qualified minimum of required feedback.

**Effective and ineffective communication:**

- The use of effective communication among patients and healthcare professionals is critical for achieving a patient's optimal health outcome.
- However, according to the Canadian Patient Safety Institute, ineffective communication has the opposite effect as it can lead to patient harm.
- Communication with regards to patient safety can be classified into two categories: prevention of adverse events and responding to adverse events.
- Use of effective communication can aid in the prevention of adverse events, whereas ineffective communication can contribute to these incidences.
- If ineffective communication contributes to an adverse event, then better and more effective communication skills must be applied in response to achieve optimal outcomes for the patient's safety.
- There are different modes in which healthcare professionals can work to optimize the safety of patients which include both verbal and nonverbal communication, as well as the effective use of appropriate communication technologies.
- Methods of effective verbal and nonverbal communication include treating patients with respect and showing empathy, clearly communicating with patients in a way that best fits their needs, practicing active listening skills, being sensitive with regards to cultural diversity and respecting the privacy and confidentiality rights of the patient.
- To use appropriate communication technology, healthcare professionals must choose which channel of communication is best suited to benefit the patient.

- Some channels are more likely to result in communication errors than others, such as communicating through telephone or email (missing nonverbal messages which are an important element of understanding the situation).
- It is also the responsibility of the provider to know the advantages and limitations of using electronic health records, as they do not convey all information necessary to understanding patient needs.
- If a health care professional is not practicing these skills, they are not being an effective communicator which may affect patient outcome.
- The goal of a healthcare professional is to aid a patient in achieving their optimal health outcome, which entails that the patient's safety is not at risk.
- Practice of effective communication plays a large role in promoting and protecting patient safety.

**Teamwork and communication**:

- ✓ During complex situations, communication between health professionals must be at its best.
- ✓ There are several techniques, tools, and strategies used to improve communication.
- ✓ Any team should have a clear purpose and each member should be aware of their role and be involved accordingly.
- ✓ To increase the quality of communication between people involved, regular feedback should be provided.
- ✓ Strategies such as briefings allow the team to be set on their purpose and ensure that members not only share the goal but also the process they will follow to achieve it.
- ✓ Briefings reduce interruptions, prevent delays and build stronger relationships, resulting in a strong patient safety environment.
- ✓ Debriefing is another useful strategy. Healthcare providers meet to discuss a situation, record what they learned and discuss how it might be better handled.
- ✓ Closed loop communication is another important technique used to ensure that the message that was sent is received and interpreted by the receiver.
- ✓ SBAR is a structured system designed to help team members communicate about the patient in the most convenient form possible.
- ✓ Communication between healthcare professionals not only helps achieve the best results for the patient but also prevents any unseen incidents.

**Safety culture**:

- As is the case in other industries, when there is a mistake or error made people look for someone to blame.
- This may seem natural, but it creates a blame culture where *who* is more important than *why* or *how*.

- A *just culture*, also sometimes known as *no blame* or *no fault*, seeks to understand the root causes of an incident rather than just who was involved.
- In health care, there is a move towards a patient safety culture. This applies the lessons learned from other industries, such as aviation, marine, and industrial, to a health care setting.
- When assessing and analyzing an incident, individuals involved are much more likely to be forthcoming with their own mistakes if they know that their job is not at risk.
- This allows a much more complete and clear picture to be formed of the facts of an event. From there, root cause analysis can occur.
- There are often multiple causative factors involved in an adverse or near miss event. It is only after all contributing factors have been identified that effective changes can be made that will prevent a similar incident from occurring.

**Disclosure of an incident**:

- After an adverse event occurs, each country has its own way of dealing with the incident. In Canada, a quality improvement review is primarily used.
- A quality improvement review is an evaluation that is completed after an adverse event occurs with the intention to both fix the problem, as well as preventing it from happening again.
- The individual provinces and territories have laws on whether it is required to disclose the quality improvement review to the patient.
- Healthcare providers have an obligation to disclose any adverse event to their patients because of ethical and professional guidelines.
- If more providers participate in the quality improvement review, it can increase interdisciplinary collaboration and can sustain relationships between departments and staff.
- In the US, clinical peer review is used: uninvolved medical staff review the event and work toward preventing further incidents.
- The disclosure of adverse events is important in maintaining trust in the relationship between healthcare provider and patient.
- It is also important in learning how to avoid these mistakes in the future by conducting quality improvement reviews, or clinical peer review.
- If the provider accurately handles the event, and disclose it to the patient and their family, he/she can avoid getting punished, which includes lawsuits, fines and suspension.

**Causes of healthcare error:**

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The simplest definition of a health care error is a preventable adverse effect of care, whether or not it is evident or harmful to the patient. Errors have been, in part, attributed to:

**Human Factors**

- Variations in healthcare provider training & experience, fatigue, depression and burnout.
- Diverse patients, unfamiliar settings, time pressures.
- Failure to acknowledge the prevalence and seriousness of medical errors.
- Increasing working hours of nurses

**Medical complexity**

- Complicated technologies, powerful drugs.
- Intensive care, prolonged hospital stay.

**System failures**

- Poor communication, unclear lines of authority of physicians, nurses, and other care providers.
- Complications increase as patient to nurse staffing ratio increases.
- Disconnected reporting systems within a hospital: fragmented systems in which numerous hands-offs of patients results in lack of coordination and errors.
- Drug names that look alike or sound alike.
- The impression that action is being taken by other groups within the institution.
- Reliance on automated systems to prevent error.
- Inadequate systems to share information about errors hamper analysis of contributory causes and improvement strategies.
- Cost-cutting measures by hospitals in response to reimbursement cutbacks.
- Environment and design factors. In emergencies, patient care may be rendered in areas poorly suited for safe monitoring. The American Institute of Architects has identified concerns for the safe design and construction of health care facilities.
- Infrastructure failure. According to the WHO, 50% of medical equipment in developing countries is only partly usable due to lack of skilled operators or parts. As a result, diagnostic procedures or treatments cannot be performed, leading to substandard treatment.

The Joint Commission's Annual Report on Quality and Safety 2007 found that inadequate communication between healthcare providers, or between providers and the patient and family members, was the root cause of over half the serious adverse events in accredited hospitals. Other leading causes included inadequate assessment of the patient's condition, and poor leadership or training.

**Common misconceptions about adverse events are:**

- "'Bad apples' or incompetent health care providers are a common cause." Many of the errors are normal human slips or lapses, and not the result of poor judgment or recklessness.
- "High risk procedures or medical specialties are responsible for most *avoidable* adverse events".
- Although some mistakes, such as in surgery, are easier to notice, errors occur in all levels of care. Even though complex procedures entail more risk, adverse outcomes are not usually due to error, but to the severity of the condition being treated.
- However, USP has reported that medication errors during the course of a surgical procedure are three times more likely to cause harm to a patient than those occurring in other types of hospital care.
- "If a patient experiences an adverse event during the process of care, an error has occurred". Most medical care entails some level of risk, and there can be complications or side effects, even unforeseen ones, from the underlying condition or from the treatment itself.

**Safety programs in industry**:

**Aviation safety**

- In the United States, two organizations contribute to one of the world's lowest aviation accident rates.
- Mandatory accident investigation is carried out by the National Transportation Safety Board, while the Aviation Safety Reporting System receives voluntary reports to identify deficiencies and provide data for planning improvements.
- The latter system is confidential and provides reports back to stakeholders without regulatory action.
- Similarities and contrasts have been noted between the "cultures of safety" in medicine and aviation.
- Pilots and medical personnel operate in complex environments, interact with technology, and are subject to fatigue, stress, danger, and loss of life and prestige as a consequence of error.
- Given the enviable record of aviation in accident prevention, a similar medical adverse event system would include mandatory (for severe incidents) and voluntary non-punitive reporting, teamwork training, feedback on performance and an institutional commitment to data collection and analysis.
- The Patient Safety Reporting System (PSRS) is a program modeled upon the Aviation Safety Reporting System and developed by the Department of Veterans Affairs (VA) and the National Aeronautics and Space Administration (NASA) to monitor patient safety through voluntary, confidential reports.
- Required training in crew resource management (CRM), which focused on team dynamics both inside the cockpit and outside, was introduced in the early 1980s after the tragic mishap of United Airlines

173. CRM is considered an effective means of improving safety in aviation and is utilized by the DoD, NASA, and almost all commercial airlines.

- Many of the tenets of this training have been incorporated into medicine under the guise of Team Stepps, which was introduced by the Agency for Healthcare Research and Quality (AHRQ).
- The AHRQ calls this program "an evidence-based teamwork system to improve communication and teamwork skills among health care professionals."

**Near-miss reporting:**

- A near miss is an unplanned event that did not result in injury, illness, or damage - but had the potential to do so.
- Reporting of near misses by observers is an established error reduction technique in aviation, and has been extended to private industry, traffic safety and fire-rescue services with reductions in accidents and injury.
- AORN, a US-based professional organization of perioperative registered nurses, has put in effect a voluntary near miss reporting system (SafetyNet), covering medication or transfusion reactions, communication or consent issues, wrong patient or procedures, communication breakdown or technology malfunctions.
- An analysis of incidents allows safety alerts to be issued to AORN members. AlmostME is another commercially offered solution for near-miss reporting in healthcare.

**Limits of the industrial safety model:**

- ✓ Unintended consequences may occur as improvements in safety are undertaken.
- ✓ It may not be possible to attain maximum safety goals in healthcare without adversely affecting patient care in other ways.
- ✓ An example is blood transfusion; in recent years, to reduce the risk of transmissible infection in the blood supply, donors with only a small probability of infection have been excluded.
- ✓ The result has been a critical shortage of blood for other lifesaving purposes, with a broad impact on patient care.
- ✓ Application of high-reliability theory and normal accident theory can help predict the organizational consequences of implementing safety measures.

**Electronic health record (EHR):**

- The electronic health record (EHR), previously known as the electronic medical record (EMR), reduces several types of errors, including those related to prescription drugs, to emergency and preventive care, and to tests and procedures.

- Important features of modern EHR include automated drug-drug/drug-food interaction checks and allergy checks, standard drug dosages and patient education information.
- Drug Information at the point-of-care and drug dispensing points help in reducing errors. Example: India, MedCLIK.
- Also, these systems provide recurring alerts to remind clinicians of intervals for preventive care and to track referrals and test results.
- Clinical guidelines for disease management have a demonstrated benefit when accessible within the electronic record during the process of treating the patient.
- Advances in health informatics and widespread adoption of interoperable electronic health records promise access to a patient's records at any health care site.
- Still, there may be a weak link because of physicians' deficiencies in understanding the patient safety features of e.g. government approved software. Errors associated with patient misidentification may be exacerbated by EHR use, but inclusion of a prominently displayed patient photograph in the EHR can reduce errors and near misses.
- Portable offline emergency medical record devices have been developed to provide access to health records during widespread or extended infrastructure failure, such as in natural disasters or regional conflicts.

**Active RFID platform:**

These systems' basic security measures are based on sound identifying electronic tags, in order that the patient details provided in different situations are always reliable. These systems offer three differently qualified options:

- Identification upon request of health care personnel, using scanners (similar to readers for passive RFID tags or scanners for barcode labels) to identify patient semi-automatically upon presentation of patient with tag to staff
- Automatic identification upon entry of patient. An automatic identification check is carried out on each person with tags (primarily patients) entering the area to determine the presented patient in contrast to other patient earlier entered into reach of the used reader.
- Automatic identification and range estimation upon approach to most proximate patient, excluding reads from more distant tags of other patients in the same area

Any of these options may be applied whenever and wherever patient details are required in electronic form Such identifying is essential when the information concerned is critical. There are increasing numbers of hospitals that have an RFID system to identify patients, for instance: Hospital La Fe in Valencia(Spain); Wayne Memorial Hospital (US); Royal Alexandria Hospital (UK).

**Computerized Provider Order Entry (CPOE):**

- Prescribing errors are the largest identified source of preventable errors in hospitals (IOM, 2000; 2007). The IOM (2006) estimates that each hospitalized patient, on average, is exposed to one medication error each day.
- Computerized provider order entry (CPOE), formerly called computerized physician order entry, can reduce medication errors by 80% overall but more importantly decrease harm to patients by 55%.
- A Leapfrog (2004) survey found that 16% of US clinics, hospitals, and medical practices are expected to utilize CPOE within 2 years.

**Complete Safety Medication System:**

- A standardized bar code system for dispensing drugs might prevent 25% of drug errors.
- Despite ample evidence to reduce medication errors, compete medication delivery systems (barcoding and Electronic prescribing) have slow adoption by doctors and hospitals in the United States, due to concern with interoperability and compliance with future national standards.
- Such concerns are not inconsequential; standards for electronic prescribing for Medicare Part D conflict with regulations in many US states.
- Specific Patient Safety Software**:**
- A standardized, modular technology system that allows a hospital, clinic, or health system record their Incidents that include falls, medication errors, pressure ulcers, near misses, etc.
- These systems can be configured to specific workflows and the analytics behind it will allow for reporting and dashboards to help learn from things that have gone wrong (and right). Some vendors include Datix, RL Solutions, Verge, Midas, and Quantros.

***Technological Iatrogenesis****:*

- Technology induced errors are significant and increasingly more evident in care delivery systems.
- This idiosyncratic and potentially serious problems associated with HIT implementation has recently become a tangible concern for healthcare and information technology professionals.
- As such, the term technological pathogenesis describes this new category of adverse events that are an emergent property resulting from technological innovation creating system and microsystem disturbances.
- Healthcare systems are complex and adaptive, meaning there are many networks and connections working simultaneously to produce certain outcomes.
- When these systems are under the increased stresses caused by the diffusion of new technology, unfamiliar and new process errors often result.

- If not recognized, over time these new errors can collectively lead to catastrophic system failures.
- The term "e-iatrogenesis" can be used to describe the local error manifestation. The sources for these errors include:

- Prescriber and staff inexperience may lead to a false sense of security; that when technology suggests a course of action, errors are avoided.
- Shortcut or default selections can override non-standard medication regimens for elderly or underweight patients, resulting in toxic doses.
- CPOE and automated drug dispensing was identified as a cause of error by 84% of over 500 health care facilities participating in a surveillance system by the United States Pharmacopoeia.
- Irrelevant or frequent warnings can interrupt work flow.

**Medical tourism**

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- **Medical tourism** refers to people traveling abroad to obtain medical treatment. In the past, this usually referred to those who traveled from less-developed countries to major medical centers in highly developed countries for treatment unavailable at home.
- However, in recent years it may equally refer to those from developed countries who travel to developing countries for lower-priced medical treatments.
- The motivation may be also for medical services unavailable or non-licensed in the home country: There are differences between the medical agencies (FDA, EMA etc.) world-wide, whether a drug is approved in their country or not.
- Even within Europe, although therapy protocols might be approved by the European Medical Agency (EMA), several countries have their own review organizations (i.e. NICE by the NHS) in order to evaluate whether the same therapy protocol would be "cost-effective", so that patients face differences in the therapy protocols, particularly in the access of these drugs, which might be partially explained by the financial strength of the particular Health System.
- Medical tourism most often is for surgeries (cosmetic or otherwise) or similar treatments, though people also travel for dental tourism or fertility tourism.
- People with rare conditions may travel to countries where the treatment is better understood.
- However, almost all types of health care are available, including psychiatry, alternative medicine, convalescent care, and even burial services.
- Health tourism is a wider term for travel that focuses on medical treatments and the use of healthcare services.
- It covers a wide field of health-oriented, tourism ranging from preventive and health-conductive treatment to rehabilitational and curative forms of travel. Wellness tourism is a related field.

**International healthcare accreditation:**

- International healthcare accreditation is the process of certifying a level of quality for healthcare providers and programs across multiple countries.
- International healthcare accreditation organizations certify a wide range of healthcare programs such as hospitals, primary care centers, medical transport, and ambulatory care services.
- There are a number of accreditation schemes available based in a number of different countries around the world.
- The oldest international accrediting body is Accreditation Canada, formerly known as the Canadian Council on Health Services Accreditation, which accredited the Bermuda Hospital Board as soon as 1968.
- Since then, it has accredited hospitals and health service organizations in ten other countries.
- In the United States, the accreditation group Joint Commission International (JCI) was formed in 1994 to provide international clients education and consulting services. Many international hospitals today see obtaining international accreditation as a way to attract American patients.
- Joint Commission International is a relative of the Joint Commission in the United States. Both are US-style independent private sector not-for-profit organizations that develop nationally and internationally recognized procedures and standards to help improve patient care and safety.
- They work with hospitals to help them meet Joint Commission standards for patient care and then accredit those hospitals meeting the standards.
- A British scheme, QHA Trent Accreditation, is an active independent holistic accreditation scheme, as well as GCR.org which monitors the success metrics and standards of almost 500,000 medical clinics worldwide.
- The different international healthcare accreditation schemes vary in quality, size, cost, intent and the skill and intensity of their marketing. They also vary in terms of cost to hospitals and healthcare institutions making use of them.
- Increasingly, some hospitals are looking towards dual international accreditation, perhaps having both JCI to cover potential US clientele, and Accreditation Canada or QHA Trent. As a result of competition between clinics for American medical tourists, there have been initiatives to rank hospitals based on patient-reported metrics.

**Disaster management in India:**

**Disaster management in India** refers to the conservation of lives and property during natural or man-made disasters. Disaster management plans are multi-layered and are planned to address issues such as floods, hurricanes, fires, mass failure of utilities, rapid spread of disease and droughts. India is especially

vulnerable to natural disasters because of its unique geo-climatic condition, having recurrent floods, droughts, cyclones, earthquakes, and landslides. As India is a very large country, different regions are vulnerable to different natural disasters. For example, during rainy season the peninsular regions of South India is mostly affected by cyclones and states of West India experience severe drought during summer.

## The Disaster Management Act, 2005

- ✓ The Disaster Management Act was passed by the Lok Sabha on 28 November 2005, and by the Rajya Sabha on 12 December 2005.
- ✓ It received the assent of the President of India on 9 January 2006. The Act calls for the establishment of a National Disaster Management Authority (NDMA), with the Prime Minister of India as chairperson.
- ✓ The NDMA has no more than nine members at a time, including a Vice-Chairperson. The tenure of the members of the NDMA is 5 years.
- ✓ The NDMA which was initially established on 30 May 2005 by an executive order, was constituted under Section-3(1) of the Disaster Management Act, on 27 September 2005.
- ✓ The NDMA is responsible for "laying down the policies, plans and guidelines for disaster management and to ensure very timely and effective response to disaster".
- ✓ Under section 6 of the Act it is responsible for laying "down guidelines to be followed by the State Authorities in drawing up the country Plans".

## Disaster Management Plan

On 1 June 2016, Pranab Mukherjee, the Ex President of India, launched the Disaster Management Plan of India, which seeks to provide help and direction to government agencies for prevention, mitigation and management of disasters. This is the first plan nationally since the enactment of the Disaster Management Act of 2005.

## About the Authority

National Disaster Management Authority (NDMA) is an agency of the Ministry of Home Affairs whose primary purpose is to coordinate response to natural or man-made disasters and for capacity-building in disaster resiliency and crisis response. NDMA was established through the Disaster Management Act enacted by the Government of India in December 2005. The Prime Minister is the ex-officio chairperson of NDMA. The agency is responsible for framing policies, laying down guidelines and best-practices and coordinating with the State Disaster Management Authorities (SDMAs) management.

**Defining Hospital Waste Management:**

Hospital waste management, also known as medical waste management, is a system that handles hospital-generated waste, including infectious, chemical, expired pharmaceutical and radioactive items, and sharps. Efficient waste management is critical for hospitals because medical waste can be pathogenic and environmentally hazardous. Non-compliance can cause negative ramifications like serious health risks, fines, and damage to a healthcare institution's reputation.

**Best Practices for Hospital Waste Management:**

Medical waste is hazardous, toxic, and even lethal. If not properly disposed of or treated, they pose grave risks for humans and the environment, like disease transmission and environmental poisoning and pollution. To achieve safe and sustainable management of medical waste, consider the top 3 best practices below:

1. **Keep abreast of state regulations**

   Each country or state has different regulations when it comes to medical waste. Research on these regulations and relevant updates to help keep your medical facility compliant. Doing so will help keep you and your organization aware of trainings, courses, and other resources to assist you in implementing proper waste management.

2. **Color-code containers and waste bins**

Hospital waste can be broadly categorized into different types, and each type requires a different disposal method. Segregating these different types of medical waste ensures that each type is discarded, transported, and destroyed properly and accordingly. Color coding helps prevent larger health issues arising from mislabeled medical waste.