PREFACE

In the curricular structure introduced by this University of students for various programmes, the opportunity to pursue Post Graduate Diploma course in a subject introduced by this University is equally available to all learners. Instead of being guided by any presumption about ability level, it would perhaps stand to reason if receptivity of a learner is judged in the course of the learning process. That would be entirely in keeping with the objectives of open education which does not believe in artificial differentiation.

Keeping this in view, study materials of the Post Graduate Diploma level in different subjects are being prepared on the basis of a well laid-out syllabus. The course structure combines the best elements in the approved syllabi of Central and State Universities in respective subjects. It has been so designed as to be upgradable with the addition of new information as well as results of fresh thinking and analysis.

The accepted methodology of distance education has been followed in the preparation of these study materials. Co-operation in every form of experienced scholars is indispensable for a work of this kind. We, therefore, owe an enormous debt of gratitude to everyone whose tireless efforts went into the writing, editing and devising of a proper lay-out of the materials. Practically speaking, their role amounts to an involvement in invisible teaching. For, whoever makes use of these study materials would virtually derive the benefit of learning under their collective care without each being seen by the other.

The more a learner would seriously pursue these study materials the easier it will be for him or her to reach out to larger horizons of a subject. Care has also been taken to make the language lucid and presentation attractive so that they may be rated as quality self-learning materials. If anything remains still obscure or difficult to follow, arrangements are there to come to terms with them through the counselling sessions regularly available at the network of study centres set up by the University.

Needless to add, a great part of these efforts is still experimental-in fact, pioneering in certain areas. Naturally, there is every possibility of some lapse or deficiency here and there. However, these do admit of rectification and further improvement in due course. On the whole, therefore, these study materials are expected to evoke wider appreciation the more they receive serious attention of all concerned.

Professor (Dr.) Subha Sankar Sarkar
Vice-Chancellor

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Advanced **Diploma in**
Hospital Front Office Management

PAPER-I

HOSPITAL AND HEALTH

Writer
Dr. Madhab Chakraborty

Editor
Dr. Debanjali Gupta

Re-edited by : Ms. Debjani Ganguli

PAPER-II

OVERVIEW OF HOSPITAL MANAGEMENT

Writer
Mr. Anirban Choudhury

Editor
Ms. Bidisha Goswami

PAPER-III

PRINCIPLES OF MANAGEMENT

Writer
Ms. Latika Bajoria

Editor
Dr. Anirban Ghosh

Re-edited by :
Ms. Ilora Ghosh

NETAJI SUBHAS OPEN UNIVERSITY

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HOSPITAL AND HEALTH

Unit 1 □ History, Growth And Classification Of Hospitals In India

Structure

1.1 Introduction

Since independence, India has achieved remarkable progress in social, political and economic fields. In the area of medical sciences too, remarkable progress has been observed. Unfortunately, however, hospital administration has lagged far behind. Even the most sophisticated and modern hospital of India continues to be governed by the stereotyped system of hospital administration.

It is the era of change of specialization. Therefore the hospital administration also becomes a specialized area for all the modern hospital apart from the clinical aspect. With the massive expansion of the health fields it has become essential to have specialists or experts in all the areas of hospital administration viz. planning, human resources, hospitality etc.

Hospitals are the focal points of education for the health professionals and clinical research necessary for advancement of medicine.

Thus the hospital is one of the most complexes of all administrative organizations. therefore, it requires a thorough knowledge not only of the hospital set up but also of its meaning, history , classification, peculiar conditions prevailing in hospital administration, etc. before one can undertake its management.

1.2 Nature and scope of a hospital

In the past, an individual afflicted by a wound or disease was condemned to suffer and fend for himself. In those primitive days the healthy never assisted to look after the afflicted. The practice was to consider such an afflicted person a spent-force and no longer useful to the society. Thus complete isolation from society was the tragic lot of one who feel ill.

As civilization advanced from the individual to the family, family to tribe, and finally to the organized community, society acknowledged a common responsibility towards the sick. It was only when civilization progressed then man sought to provide for the welfare of his fellow-beings (other than his own kith and kin.)

1.3 Definition of hospital

The term hospital means an establishment for temporary occupation by the sick and the injured.

A health facility where patients receive treatment

A hospital is a place to receive medical treatment.

A medical institution where sick or injured people are given medical or surgical care

An institution for the treatment, care, and cure of the sick and wounded, for the study of disease, and for the training of physicians, nurses, and allied health personnel

One of the most complex organizations in modern society

The hospital is an integral part of social and medical organization, the function of which is to provide for the population complete healthcare both curative and preventive, and who's out patient service move out to the family in its home environment. The hospital is also a center for the training of health worker and for bio social research. WHO—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 parturient. It may or may not also provide services for ambulatory patients on an out-put patient basis.

Criticism : The criticism labeled to the hospital is that it exist in splendid isolation in the community acquiring the euphemism "an ivory tower of disease"; It absorbs vast

proportion of health budget (50 to 80%). It is not people oriented; its procedures and styles are inflexible; it overlooks the cultural aspect of illness (treating the disease without treating the patient; the treatment is expensive; it is intrinsically resistant to change and so on.

In 1957, an expert committee of WHO emphasized that the general hospital cannot work in isolation; it must be a part of a social and medical system that provides complete health care for the population.

The community hospital should be a flexible institution, capable of adopting its resources to the total healthcare need of the community. This adaptation requires hospital administration that is both science and art. According to Dr. Rene Sand the right patient should receive the right care at right time in the right place at the right cost. This ideal seemingly simple is perhaps never achieved, like all other ideals because of a complex set of interacting and often conflicting social forces operating both within and outside the hospital system.

Today hospital means an institution in which sick and injured persons are treated. A hospital is different from a dispensary, a hospital primarily is an institution where in patients are received and treated while the main purpose of a dispensary is distribution of medicine and administration of outdoor relief.

A modern hospital is an institution which possesses adequate accommodation and experienced and well qualified personnel to provide services of curative, restorative and preventive character of the highest quality possible to all people regardless of race colors creed or economic status, which conducts educational and training programs for the personnel particularly required foe efficacious medical care and hospital services, which conducts research assisting the advancement of medical services and hospital services and which conduct programs in health education.

1.4 History of hospitals

1.4.1 Hospital – World History

In ancient cultures religion and medicine were linked. The earliest known institutions aiming to provide cure were Egyptian temples. Greek temples dedicated to the healer-god Asclepius might admit the sick, who would wait for guidance from the god in a dream. The Romans adopted his worship. Sinhalese (Sri Lankans) are perhaps responsible for

introducing the concept of dedicated Hospitals to the world. According to the Mahavamsa, the ancient chronicle of Sinhalese royalty written in the 6th century A.C. King Pandukabhaya (4th century B.C.) had lying-in-homes and hospitals (Sivikasotthi-Sala) built in various parts of the country after having fortified his capital at Anuradhapura. This is the earliest literary evidence we have of the concept of dedicated hospitals anywhere in the world.

Some institutions created specifically to care for the sick appeared in India. Brahmantic institutions were established in India, King Ashoka founded 18 such institutions 230 BC.

The first *teaching hospital*, however, where students were authorized to methodically practice on patients under the supervision of physicians as part of their education, was the Academy of Gundishapur in the Persian Empire. Moreover, "to a very large extent, the credit for the whole hospital system must be given to Persia" (*A medical history of Persia*, C. Elgood, Cambridge Univ. Press, p. 173.).

The Romans created *valetudinaria* for the care of sick slaves, gladiators and soldiers around 100 BC. The adoption of Christianity as the state religion of the empire drove an expansion of the provision of care, but not just for the sick. The First Council of Nicaea in 325 A.D. urged the Church to provide for the poor, sick, widows and strangers. It ordered the construction of a hospital in every cathedral town. Among the earliest were those built by the physician Saint Sampson in Constantinople and by Basil, bishop of Caesarea. The latter was attached to a monastery and provided lodgings for poor and travelers, as well as treating the sick and infirm. There was a separate section for lepers.

Medieval hospitals in Europe followed a similar pattern. They were religious communities, with care provided by monks and nuns. (An old French term for hospital is *hôtel-Dieu*, "hostel of God.") Some were attached to monasteries. Others were independent and had their own endowments, usually of property, which provided income for their support. Some were multi-function. Others were founded specifically as leper hospitals, or as refuges for the poor or for pilgrims. Not all cared for the sick.

Meanwhile Muslim hospitals developed a high standard of care between the eighth and twelfth centuries A.D. Hospitals built in Baghdad in the ninth and tenth centuries employed up to twenty-five staff physicians and had separate wards for different conditions and lead to the modern hospital. State-supported hospitals also appeared in China later during the first millennium A.D.

In Europe the medieval concept of Christian care evolved during the sixteenth and seventeenth centuries into a secular one, but it was in the eighteenth century that the modern

hospital began to appear, serving only medical needs and staffed with physicians and surgeons.

Britain led the field. Guy's Hospital was founded in London in 1724 from a bequest by wealthy merchant Thomas Guy. Other hospitals sprang up in London and other British cities over the century, many paid for by private subscriptions. In the British American colonies the Pennsylvania General Hospital was chartered in Philadelphia in 1751, after £2,000 from private subscription was matched by funds from the Assembly. In Continental Europe the new hospitals were generally built and run from public funds. The Charité was founded in 1710. Whatever the financing, by the mid-nineteenth century most of Europe and the United States had established a variety of public and private hospital systems.

In the United States the traditional hospital is a non-profit hospital, usually sponsored by a religious denomination. One of the earliest of these "almshouses" in what would become the United States was started by William Penn in Philadelphia in 1713. These hospitals are tax-exempt due to their charitable purpose, but provide only a minimum of charitable medical care. They are supplemented by large public hospitals in major cities and research hospitals often affiliated with a medical school. In the late twentieth century chains of for-profit hospitals have arisen.

1.4.2 History of Indian hospital :

The history of Indian medicine and surgery dates back to the earliest of ages. But hospitals as institutions to which a sick person could be brought for treatment were of a much latter origin in other countries. In India, hospitals have existed from ancient times even in the 6th century B.C., during the time of Buddha, there were a number of hospitals to look after the crippled and the poor. More such hospitals were started by Buddha's devotees later on in different parts of India as well as outside the country.

The outstanding hospitals in India at that time were those built by King Ashoka. Charak and Sushrutha of ancient India were famous physicians. Medicine based on Indian system was taught in the universities of Taxjlla and Nalanda, which probably contributed to the advances in Arabic medicine. The *Upakalpa-niyamAdhyayan* of Charake Suthrasthanan gives specification for hospital buildings, labor rooms and children's wards.

The qualifications for hospital attendants and nurses as well as specifications for hospital equipment, utensils, instruments, and diets have also been given. There is evidence to show that there were many hospitals in South India in the olden days, as observed in the Chola and Malakapuram edicts.

According to historians, the study of the history of the medicine of ancient India was greatly handicapped for want of inscriptions, manuscripts or other records as are available for other ancient systems of medicine. The seals and tablets discovered at Harappa and Mohenjodaro are yet to be deciphered. But we do find from the books written by Arabian and European travelers (about A.D. 600) that the study of medicine in India was in its bloom. Every major city had a medical school. The decline of Indian medicine started with the invasion of foreigners in the 10th century A.D. which was a period of unrest. The zeal of the native *vaidyas* for the investigation of the Indian flora slackened for want of encouragement. The invaders brought with them their own physicians called *hakims.* Under imperial patronage, the *hakims* began to prosper at the expense of the *vaidyas.* The maintenance of hospitals in India declined during this period.

The use of the allopathic system of medicine commenced in the 16th century with the arrival of European missionaries in South India. It was during the British rule that there was once again progress in the building of hospitals. The first hospital in India was probably built in Goa, as mentioned in *Fryer's Travels.* The first hospital in Madras was opened in 1664; the establishment of a hospital in Bombay was under discussion in 1670 but apparently it was not actually taken up till 1676; the earliest hospital in Calcutta was built in 1707—1708, and in Delhi, in 1874.

The Portuguese organized hospitals of the European type at Calicut (Kerala), Goa and Santhome (Madras) through missionary organizations. They set up treatment centers and trained local men and women as dressers, nurses, etc. In the early stages, missions were financed by foreign sources but later on when the people realized their value, local support and subsidies were available.

In the 17th century, the European doctors employed by the East India Company played an important role in the introduction of modern medicine in India. The East India Company in Madras established its first hospital in 1664 for its soldiers and another in 1688 for the civilian population.

Moreover, in the 17th century, Sir Thomas Roe introduced modern medicine in the court of Jahangir, the Moghul emperor. When other princely states also evinced interest, European doctors started becoming popular. Many doctors, after discharge from the services of the East India Company, settled down in India as private practitioners.

Quite a few also got employment in the courts of princely states. When European doctors felt the need for assistants, they trained some local inhabitants as compounders and dressers. After some training and experience they were termed 'native doctors'.

During the 17th and 18th centuries, there was a slow but steady progress in the growth of the modern system of medical practice in India and the indigenous system was pushed to the background. In the 19th century, modern medicine took firm root. Medical care based on this system spread all over India; mainly through the efforts of the missionaries organized medical training was started in the 19th century. The first medical school (The Native Medical School) was started in Calcutta, followed by one in Madras. The beginning both the modern system and the Ayurvedic system were taught.

A hospital Assistants course of two years duration was started by the army. The medical school in Calcutta was converted into a college in 1835. Later on when the universities were started, some of the medical schools were taken over and converted onto medical colleges.

1.5 Health committee appointed by the Government

National Health Committees

The Alma Ata declaration on primary health care and the national health policy of the government gave a new direction to health planning in India, making primary health care the central function and main focus of its national health system.

Various committees of experts have been appointed by the government from time to time to render advice about different health problems. The reports of these committees have formed an important basis of health planning in India. The goal of National Health Planning in India is to attain Health for all by the year 2000.

1. BHORE COMMITTEE

Bhore committee set up by the government of India in 1943 to investigate and recommend improvements to the Indian Public Health system. Under the chairmanship of Sir Joseph Bhore the committee made many landmark recommendations in its final report in 1946.

The committee was instrumental in bringing about the public health reforms related to peripheral health centres in India.

Some of the important recommendations of the Bhore committee were :

1. Integration of preventive and curative services at all administrative levels
2. The committee visualised the development of primary health centres in two stages

a. As a short term measure: it was proposed that each primary health centre in the rural areas should cater to a population of 40,000 with a secondary health centre to serve as a supervisory, coordinating and referral institution. For each PHC, 2 medical officers, 4 public health nurses, one nurse, 4 midwives, 4 trained dais, 2 sanitary inspector, 2 health assistant, one pharmacist, and 15 other class IV employees were recommended.

b. A long term programme (also called the 3 million plan) of setting up primary health units with 75 bedded hospitals for each 10000 to 20000 population and secondary units with 650 bedded hospitals; again regionalized around district hospital with 2500 bed

3. Major changes in medical education which includes 3 months training in preventive and social medicine to prepare "social physicians".

Although the Bhore Committee's recommendations did not form part of a comprehensive plan for national socio-economic development , the committee' s report continues to be a major national document, and has provided guidelines for national health planning in India.

2. MUDALIAR COMMITTEE. 1962.

This committee was known as the "Health Survey and Planning Committee", headed by Dr. A.L. Mudaliar, was appointed to assess the performance in health sector since the submission of Bhore Committee report. This committee found the conditions in PHCs to be unsatisfactory and suggested that the PHC, already established should be strengthened before new ones are opened.

The main recommendations of the Mudaliar Committee were :

1. Consolidation of advances made in the first two five-year plans
2. Strengthening of the district hospital with specialist services to serve as central base of regional services
3. Each PHC should not be made to cater to more than 40,000 population
4. To improve the quality of healthcare provide by the PHCs
5. Integration of medical & health services as recommended by the Bhore Committee
6. Constitution of an All India Health service on the pattern of Indian Administrative Service.

3. CHADHA COMMITTEE, 1963.

This committee was appointed under chairmanship of Dr. M.S. Chadha, the then Director General of Health Services, to advise about the necessary arrangements for the maintenance phase of National Malaria Eradication Programme.

The committee suggested that the vigilance activity in the NMEP should be carried out by basic health workers (one per 10,000 population), who would function as multipurpose workers and would perform, in addition to malaria work, the duties of family planning and vital statistics data collection under supervision of family planning health assistants.

4. MUKHERJEE COMMITTEE, 1965.

The recommendations of the Chadha Committee, when implemented, were found to be impracticable because the basic health workers, with their multiple functions could do justice neither to malaria work nor to family planning work.

The Mukherjee committee headed by the then Secretary of Health - Shri Mukherjee, was appointed to review the performance in the area of family planning. The committee recommended separate staff for the family planning programme. The family planning assistants were to undertake family planning duties only. The basic health workers were to be utilised for purposes other than family planning. The committee also recommended to delink the malaria activities from family planning so that the latter would received undivided attention of its staff.

5. JUNGALWALLA COMMITTEE, 1967.

This committee, known as the "Committee on Integration of Health Services" was set up in 1964 under the chairmanship of Dr. N Jungalwalla, the then Director of National Institute of Health Administration and Education (currently NIHFW). It was asked to look into various problems related to integration of health services, abolition of private practice by doctors in government services, and the service conditions of Doctors. The committee defined "integrated health services" as :-

1. A service with a unified approach for all problems instead of a segmented approach for different problems.

2. Medical care and public health programmes should be put under charge of a single administrator at all levels of hierarchy.

Following steps were recommended for the integration at all levels of health organization in the country

1. Unified Cadre
2. Common Seniority

3. Recognition of extra qualifications
4. Equal pay for equal work
5. Special pay for special work
6. Abolition of private practice by government doctors
7. Improvement in their service conditions

6. KARTAR SINGH COMMITTEE, 1973.

This committee, headed by the Additional Secretary of Health and titled the "Committee on multipurpose workers under Health and Family Planning" was constituted to form a framework for integration of health and medical services at peripheral and supervisory levels. Its main recommendations were:-

a. Various categories of peripheral workers should be amalgamated into a single cadre of multipurpose workers (male and female). The erstwhile auxiliary nurse midwives were to be converted into MPW(F) and the basic health workers, malaria surveillance workers etc. were to be converted to MPW(M). The work of 3-4 male and female MPWs was to be supervised by one health supervisor (male or female respectively). The existing lady health visitors were to be converted into female health supervisor.

b. One Primary Health Centre should cover a population of 50,000. It should be divided into 16 subcentres (one for 3000 to 3500 population) each to be staffed by a male and a female health worker.

7. SHRIVASTAV COMMITTEE, 1975.

This committee was set up in 1974 as "Group on Medical Education and Support Manpower" to determine steps needed to (i) reorient medical education in accordance with national needs & priorities and (ii) develop a curriculum for health assistants who were to function as a link between medical officers and MPWs. It recommended immediate action for :

1. Creation of bonds of paraprofessional and semiprofessional health workers from within the community itself.

2. Establishment of 3 cadres of health workers namely – multipurpose health workers and health assistants between the community level workers and doctors at PHC.

3. Development of a "Referral Services Complex"

4. Establishment of a Medical and Health Education Commission for planning and implementing the reforms needed in health and medical education on the lines of University Grants Commission.

Acceptance of the recommendations of the Shrivastava Committee in 1977 led to the launching of the Rural Health Service.

8. BAJAJ COMMITTEE, 1986.

An "Expert Committee for Health Manpower Planning, Production and Management" was constituted in 1985 under Dr. J.S. Bajaj, the then professor at AIIMS. Major recommendations are :-

1. Formulation of National Medical & Health Education Policy.
2. Formulation of National Health Manpower Policy.
3. Establishment of an Educational Commission for Health Sciences (ECHS) on the lines of UGC.
4. Establishment of Health Science Universities in various states and union territories.
5. Establishment of health manpower cells at centre and in the states.
6. Vocationalisation of education at 10+2 levels as regards health related fields with appropriate incentives, so that good quality paramedical personnel may be available in adequate numbers.
7. Carrying out a realistic health manpower survey.

1.6 Changes in hospital organization

As far as voluntary hospitals are concerned, many religious groups runs family style, mission oriented service centers for the sick. As these grew into larger and larger modern institution, the outward and inward pressures to adapt to the changes in society become evident.

In spite of various reports submitted by the various committees, modern hospitals in India have, for the most part, been organized along British lines with strict hierarchical structure.

Organizational changes are a requisite for organizational improvement and only a planned change is likely to be effective. Increasing specialization is leading to fragmentation. Functional specialization must give way to interfunctional integration to maintain organic harmony.

With the increasing complexity in specialization and medical care and acceptance of the hospitals as a service adjacent services to supplement the usual medical and nursing care are to be developed. These involve laundry, kitchen, housekeeping, inventory, and material management, laboratory services, maintenance, physiotherapy and more complex records and business procedures.

As modern hospitals have to perform more complex functions, employment of highly skilled personnel and better facilities has been felt. These consequences interacting with or affected by development outside the hospital have, in turn, led to new phenomenon and situations, namely, the appearance of hospital administration and human resource management as professions, and also financial and material management came into the picture.

Modern Hospitals are open 24 hours .Their personnel render services for the cure and comfort of patients. In the operation theatre skilled surgeons perform life saving surgeries. In the nursery new born receives the tender care of trained nurses. In the lab expert technicians conduct urine, stool and blood tests, vital to the battle against disease. In the Kitchen, cooks and dieticians prepare balanced meals that contribute to the patient's speedy recovery.

A hospital aims at the speedy recovery of patients. That is why its rooms are equipped with air conditioners, call bells and other devices. Several hospitals have libraries which provide books for the patients. The telephones keep the sick in touch with their friends and relatives. In most of the hospitals today patients have Newspapers and Barber services in their rooms. Many hospitals keeping in mind the recreation needs of their patients have provided televisions in their rooms/wards. To save the precious time of the medical staff, secondary duties, like explaining the diagnosis and line of treatment to the patients and their attendants are entrusted to another section of the staff called the medical social workers. In hospitals therefore the endeavor is to provide the best possible facilities to the patients within the hospital's resources.

1.7 Classification of hospital

Very large hospitals are often called Medical Centers and usually conduct operations in virtually every field of modern medicine.

CLASSIFICATION CONSIDERING THE LEVEL OF CARE

PRIMARY : Primary Health Care as defined by the World Health Organization in 1978 is:

Essential health care based on practical, scientifically sound, and socially acceptable method and technology universally accessible to all in the community through their full participation at an affordable cost and geared toward self-reliance and self-determination (WHO & UNICEF, 1978).

The ultimate goal of primary health care is better health for all. WHO has identified five key elements to achieving that goal:

- reducing exclusion and social disparities in health (universal coverage reforms);
- organizing health services around people's needs and expectations (service delivery reforms);
- integrating health into all sectors (public policy reforms);
- pursuing collaborative models of policy dialogue (leadership reforms); and
- Increasing stakeholder participation.

Primary health care shifts the emphasis of health care to the people themselves and their needs, reinforcing and strengthening their own capacity to shape their lives. Primary health care needs to be delivered close to the people; thus, should rely on maximum use of both lay and professional health care practitioners and includes the following eight essential components:

1. education for the identification and prevention/control of prevailing health challenges
2. proper food supplies and nutrition; adequate supply of safe water and basic sanitation
3. maternal and child care, including family planning
4. immunization against the major infectious diseases
5. prevention and control of locally endemic diseases
6. appropriate treatment of common diseases using appropriate technology
7. promotion of mental, emotional and spiritual health
8. Provision of essential drugs (WHO & UNICEF, 1978).

SECONDARY : Secondary medical care is the medical care provided by a physician who acts as a consultant at the request of the primary physician. It is an intermediate level

of health care that includes diagnosis and treatment, performed in a hospital having specialized equipment and laboratory facilities.

At this level more complex problems are dealt with. This care comprises essentially curative services and is provided by district hospitals and community health centers (in Govt. structure). This level serves as the first referral level in the health system.

TERTIARY : Specialized consultative care, usually on referral from primary or secondary medical care personnel, by specialists working in a center that has personnel and facilities for special investigation and treatment.

This level offer super specialist care. This care is provided by the regional/central level institutions. These institutions provide not only highly specialized care, but also planning and managerial skills and teaching for specialized staff. In addition, the tertiary level supports and complements the action carried out at the primary level.

CLASSIFICATION CONSIDERING THE TYPE OF MEDICINE

1. Allopathic hospital
2. Homeopathic hospital
3. Ayurvedic hospital
4. Unani hospital

CLASSIFICATION CONSIDERING THE PROFITABILITY STATUS

1. For profit
2. Not for profit or charitable

CLASSIFICATION CONSIDERING THE OWNERSHIP

1. Government
2. Private

CLASSIFICATION CONSIDERING THE DEGREE OF SPECIALTY

1. General: The best-known type of hospital is the general hospital, which is set up to deal with many kinds of disease and injury, and typically has an emergency ward/A&E department to deal with immediate threats to health and the capacity to dispatch emergency medical services. A general hospital is typically the major health care facility in its region, with large numbers of beds for intensive care and long-term care; and specialized facilities for surgery, plastic surgery, childbirth, bioassay laboratories, and so forth. Larger cities may have many different hospitals of varying sizes and facilities.

2. Specialized: A hospital providing medical, surgical or psychiatric testing and treatment for patients with specific illnesses or injuries. The specialized departments administratively attached to a general hospital and sometimes located in an annex or separate ward, may be excluded and their beds should not be considered in this category of specialized hospitals.

3. Super specialized: This hospitals have more focused specialized field of medical science.

CLASSIFICATION CONSIDERING THE TYPES OF SPECIALTY

1. Maternity
2. Pediatric
3. Geriatric
4. Cardiac
5. Psychiatric
6. Orthopedic
7. Dental
8. Eye
9. Oncology
10. Kidney
11. Multi specialty hospital ……etc.

**A medical facility smaller than a hospital is called a clinic, Clinics generally provide only outpatient services.

Unit 2 □ Concept Of Health

Structure

2.0 Introduction

Health is the common theme for all community and all community have their own concept of health; as health is not perceived the same way by all members of a community including various professional groups. In a world of continuous change, new concepts are bound to emerge based on new pattern of thought. A brief concept of changing concept of health is given below.

Biomedical concept :

The general concept of health is "absence of disease", and if one was free from disease, then the person considered as healthy. This concept is known as biomedical concept. It has the basis of "germ theory of disease" which dominated medical thought at the turn of 20^{th} century. This concept viewed the human body as a machine. A disease as a consequence of the breakdown of the machine and the doctors' tusk is to repair the machine. This is a very narrow view of health in which curing disease is the ultimate.

The criticism of this concept is that it has minimized the role of the environmental determinant, social determinant, psychological determinant, and cultural determinant of health. This model was found inadequate to solve some of the major health problems of mankind such as malnutrition, chronic diseases, accidents, drug abuse, mental illness, etc.

Ecological concept :

The failure of biomedical concept to solve all health problems gave rise to other concepts. The ecologist put forward an attractive hypothesis which viewed health as a dynamic equilibrium between man and his environment, and disease is maladjustment between these two.

Disease= maladjustment between man and environment

Dubos defined health as "health implies the relative absence of pain & discomfort and a continuous adaptation & adjustment to the environment to ensure optimal function. The human organism to environment". The ecological concept raises two issue, viz. imperfect man and imperfect environment.

Psychological concept :

Contemporary developments in social sciences revealed that health is not only a biomedical phenomenon, but one which is influenced by social, psychological cultural, economic and political factors of the people concerned. These factors must be taken into consideration in defining and measuring health. Thus health is both a biological and social phenomenon.

Holistic concept :

The holistic concept is a synthesis of all the above concepts. It recognizes the strength of social, economic political and environmental influences of health. It has been variously described as a unified or multidimensional process involving the well being of the whole person in the context of his environment. The holistic approach implies that all sectors of the society have an effect on health, in particular, agricultural, animal husbandry, food, industry, education, housing, public works, communications and other sectors. The emphasis of this concept is on the promotion and protection of health.

2.1 DEFINITION OF HEALTH

The word Health has come from the old English word 'HALE' which means safe and sound. Health is not merely absence of disease, it is positive quality of the living body, of which fitness for one's word and happiness is distinguishing marks.

"The condition of being sound in body, mind, or spirit; *especially* freedom from physical disease or pain" (Webster)

"soundness of body or mind; that condition in which its functions are duly and efficiently discharged". (Oxford English dictionary)

"A state of relative equilibrium of body from and function which results from its successful dynamic adjustment to forces tending to disturb it. It is not passive interplay between body substance and forces impinging upon it but an active response of body forces working towards readjustment. (Perkins)

The widely accepted definition is given by the World Health Organization (1948) in the preamble to its constitution, which is as follows :

"Health is a state of complete physical mental and social wellbeing and not merely an absence of disease or infirmity."

In recent years, this statement has been amplified to include the ability to lead a "socially & economically productive life"

The WHO definition of health has been criticized as being too broad. It helps people live well, work well and enjoy themselves. WHO definition of health is therefore considered by many as an idealistic goal than a realistic proposition.

In spite of the all above limitations the concept of health as defined by WHO is broad and positive in its implication; it sets out the standard, the standard of positive health.

Operational definition

The WHO definition of health is not an operational definition. In this connection and operational definition has been formed by a WHO study group which is "A condition or quality of human organism expressing the adequate functioning of the organism in given condition, genetic or environmental".

For measuring purpose we can say that health means

1. There is no obvious evidence of disease and that a person is functioning normally (Considering age, sex, community, etc.)
2. The several organs of the body are functioning adequate in themselves and in relation to one another — Homeostasis

New philosophy of Health

In recent years, we have acquired a new philosophy of health, which may be stated below:

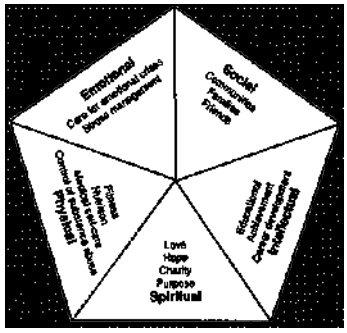
- Health is a fundamental human right
- Health is central to the concept of quality of life

- Health involves individuals, state & international responsibility
- Health is a world-wide social goal

2.2 DIMENSIONS OF HEALTH

Health is multidimensional. The different dimensions of health are as follows

- Physical dimension
- Mental dimension
- Social dimension
- Spiritual dimension
- Emotional dimension
- Vocational dimension
- Others



Health is complex and involves the interaction of various factors. In 1948, the World Health Organization wanted parameters to measure the functionality of an individual. The first three identified barometers include the physical, the social, and the mental constructs. Later, the emotional, spiritual, and environmental dimensions are added to the list.

2.2.1 Physical Dimension

Physical dimension purely refers to the perfect functioning of the body externally as well internally. Externally having good physique, good appearance, good texture and complexion, attractive features, well structure and strong body parts and limbs, well groomed posture, graceful carriage and efficient movement. Internally all system of human body i.e. cells tissue, organ and system functioning at the optimum level.

2.2.2 Mental Dimension

A person is mentally healthy if he or she is relaxed and free from any worries. A person is socially healthy if he or she can move in the society confidently with others. Mental health is not merely absence from mental illness. Mental health is balanced development of an individual's personality and emotional attitudes which enable him to live harmoniously with his fellow being. It is influenced by both biological and social factors.

A good mental health implies that an individual has adjust satisfactorily to his environment, home, work place, and other people of the society, so that he is realizing the maximum amount of happiness from living.

Mental health implies –

i) Control on emotions

ii) Sensitive to the needs of others

iii) Confidence in one's own abilities

iv) Freedom from unnecessary tensions, anxieties and worries

There is no health without mental health

- The essential dimension of mental health is clear from the definition of health in the WHO constitution: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Mental health is an integral part of this definition.
- The goals and traditions of public health and health promotion can be applied just as usefully in the field of mental health as they have been in the prevention of infectious or of cardio-vascular diseases, for example.

Mental health is more than the absence of mental disorders

- Mental health can be conceptualized as a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community.
- In this positive sense, mental health is the foundation for well-being and effective functioning for an individual and for a community. This core concept of mental health is consistent with its wide and varied interpretation across cultures.
- Mental health promotion covers a variety of strategies, all aimed at having a positive impact on mental health. Like all health promotion, mental health promotion involves actions that create living conditions and environments to support mental health and allow people to adopt and maintain healthy lifestyles. This includes a range of actions that increase the chances of more people experiencing better mental health.

Mental health is determined by socio-economic and environmental factors

- Mental health and mental health disorders are determined by multiple and interacting social, psychological, and biological factors, just as health and illness in general.

- The clearest evidence is associated with indicators of poverty, including low levels of education, and in some studies with poor housing and poor income. Increasing and persisting socio-economic disadvantages for individuals and for communities are recognized risks to mental health.
- The greater vulnerability of disadvantaged people in each community to mental health disorders may be explained by such factors as the experience of insecurity and hopelessness, rapid social change, and the risks of violence and physical ill-health.
- A climate that respects and protects basic civil, political, socio-economic and cultural rights is also fundamental to mental health promotion. Without the security and freedom provided by these rights, it is very difficult to maintain a high level of mental health.

Mental health is linked to behaviour

- Mental, social, and behavioural health problems may interact to intensify their effects on behaviour and well-being.
- Substance abuse, violence, and abuse of women and children on the one hand, and health problems such as HIV/AIDS, depression, and anxiety on the other, are more prevalent and more difficult to cope with in conditions of high unemployment, low income, limited education, stressful work conditions, gender discrimination, social exclusion, unhealthy lifestyle, and human rights violations.

Enhancing the value and visibility of mental health promotion

- National mental health policies should not be solely concerned with mental health disorders, but also recognize and address the broader issues which promote mental health. These would include the socio-economic and environmental factors, described above, as well as behaviour. This requires mainstreaming mental health promotion into policies and programmes in government and business sectors including education, labour, justice, transport, environment, housing, and welfare, as well as the health sector. Particularly important are the decision-makers in governments at local and national levels, whose actions affect mental health in ways that they may not realize.

2.2.3. Social Dimension :

A person is socially healthy if he or she can move in the society confidently with others. Social health is the ability to get along with one self and with others, to be independent but

at the same time to realize how dependent one is on other. Social health is concerned with helping an individual in making personal adjustment, group adjustment and adjustment as a member of society. A person with good social health –

i) Gets along well with people around

ii) Has pleasant manners

iii) Helps others

iv) Fulfills responsibility towards others

2.2.4. Spiritual Dimension

It is refers to that part of individual which reaches out and strive for meaning and purpose of life. It is intangible, which means it can not be seen, or touched, we can only fell it. This achievement is possible if only an individual has already reached physical, mental and social dimension of health.

2.2.5. Emotional Dimension

Emotions are the feelings which have great role in our life and lead to the modification of attitude, conducive to personal adjustment and well being. The environment we create by our behavior, our attitude, and our actions is the emotional environment and it greatly influences the personality of an individual. Emotion is an essential element in the adjusted nature of the life process.

2.2.6. Vocational Dimension

Vocational dimension is the sub-domain of physical, mental and social health. Livelihood is very serious problem being faced by an individual. Vocational health emphasizes upon the problem of livelihood and ensures the fulfillment of the economic needs of an individual. Vocational satisfaction provides him social efficiency, social status, social prestige, emotional stability and mental relaxation. Vocationally satisfied individuals also contribute to the increase in production and national wealth.

2.2.7. Other Dimensions

Educational dimension

Education brings changes in one's behavior and attitude enabling him to understand his responsibility to the society and to the nation. Educational Dimension of health i.e. health

education has heavy responsibility to discharge. Health education creates awareness regarding health rules, promotes health, builds up healthy environment and shows the path to follow toward the healthful living.

Nutrition Dimension

Good nutrition is a basic component of health. It is of prime importance in the attainment of normal growth and development and in the maintenance of health through out life. There is a growing realization that adequate nutrition is a necessary step in the improving the quality of life. The importance of malnutrition and under nutrition as an obstacle to social, and economical development, has brought nutritional to the fore front of national and international concern.

Environmental Dimension

The internal environment of man himself an external environment which surround him reflect the health status of an individual, the society and nation. Sanitation is one of the aspects of environmental health. It is the quality of living that is expressed in clean home, clean neighborhood a clean community. Being a way of life, it must come from within the people.

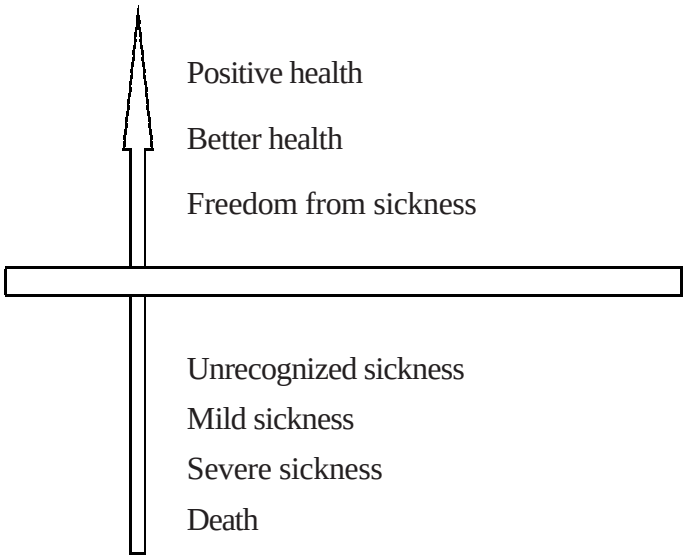
Curative and Preventive Dimension

This dimension deal with the study and application of curative medicine and preventive measures for the preservation of health of an individual. The Primary objective of curative medicine is the removal of disease. Over the years curative medicine has accumulated a vas body of scientific knowledge, technical skills, and machinery highly organized, not merely to treat disease, but to preserve life itself as per as it could be possible. The main objective of preventive medicine is prevention of disease promotion of health. It is applied to all healthy people. Modern preventive medicine can be defined as “the art and science of health promotion, disease prevention, disability limitation and rehabilitation.

2.3 HEALTH SICKNESS SPECTRUM

Health and disease lie along a continuum, and there is no single cut off point. The lowest point is death and the highest point corresponds to the WHO definition of health.

The spectral concept of health emphasizes that the health of an individual is not static; it is dynamic and a process of continuous change subject to frequent subtle variation.



2.4 DETERMINANTS OF HEALTH

- Heredity
- Environment
- Life-style
- Socio economic conditions
- Health & Family welfare services\
- Other factors

1. Heredity

The physical & mental traits of every human being are to some extent determined by the nature of his genes at the moment of conception. The genetic make-up is unique in that it cannot be altered after conception. A number of diseases are now known to be of genetic origin, eg. Chromosomal anomalis, errors of metabolism, mental retardation, some types of diabetes etc. The state of health therefore depends partly on the genetic constitution of man.

2. Environment

Hippocrates first related disease to environment; climate, water, air etc. Environment is classified as “internal” & “external”. The “internal” environment of a man includes each

& every component part, every tissue, organ & organ-system & their harmonious functioning within the system. The "external" or macro-environment consist of those things to which man is exposed after birth. The environmental factors range from from housing, water supply, family structure, social & economic support systems etc. Safe water and clean air, healthy workplaces, safe houses, communities and roads all contribute to good health. Employment and working conditions – people in employment are healthier, particularly those who have more control over their working conditions.

3. Lifestyle

Lifestyle or "the way people live" reflects a whole range of social values, attitudes & activities. It is composed of cultural & behavioral patterns & life-long habits (smoking, alcoholism). Many current day health-problems, like coronary artery diseases, obesity, lung cancer, drug addiction etc. are associated with lifestyle changes.

4. Socio-economic conditions

Health status is determined primarily by the level opf socio-econimoic development, per capita income, education, nutrition, employment, housing, the political system of the country etc.

5. Health services

The purpose of health services is to improve the health status of the population. It covers a wide spectrum of personal & community services for treatment of disease, prevention of illness and promotion of health. For eg. , immunization of children, care of pregnant women etc.

6. Others factors

Other factors like employment opportunities, increased wages, pre-paid medical programs, family support systems contribute to the health of the population. Higher income and social status are linked to better health. If an individual have not enough money to purchase and to fulfill his daily need, then the individual fells himself dull & useless and he will not be able to adjust with the other people freely.

2.5 RESPONSIBILITY OF HEALTH

Health is on one hand a highly personal responsibility and on the other hand a major public concern. It thus involves the joint efforts of the whole social fabric, viz. the individual, the community and the state to protect and promote health.

2.5.1 Individual responsibility

Today, more than ever, personal health responsibility or taking charge of one's own health is an essential step in disease prevention as well as protocols for healing and recovery from disease.

Personal health responsibility involves active participation in one's own health and healing plan through education and lifestyle changes. Patients today are expected to do their part by showing up for scheduled medical tests and procedures, following dietary recommendations, losing weight if indicated, taking medications as directed, avoiding the use of tobacco and recreational drugs, engaging in exercise programs, and educating themselves about their conditions.

Taking personal health responsibility also includes reviewing one's own medical records, including laboratory test results, and monitoring both the benefits and side effects of prescription and over-the-counter medications. Physicians also have a responsibility to explain the patient's diagnosis and to provide information about the benefits and side effects of all available treatment options. Physicians also have a responsibility to encourage their patients to learn more about their conditions and the lifestyle changes that influence the disease course.

2.5.2 Self care in health

Self care is personal health maintenance. It is any activity of an individual, family or community, with the intention of improving or restoring health, or treating or preventing disease.

Self care includes all health decisions people (as individuals or consumers) make for themselves and their families to get and stay physically and mentally fit. Self care is exercising to maintain physical fitness and good mental health. It is also eating well, self-medicating, practicing good hygiene and avoiding health hazards such as smoking to prevent ill health. Self care is also taking care of minor ailments, long term conditions, or one's own health after discharge from secondary and tertiary health care.

2.5.3 Community responsibility

Health can never be adequately protected by health services without the active understanding and involvement of communities whose health is at stake.

Our societies are complex and interrelated. Health cannot be separated from other goals. The inextricable links between people and their environment constitute the basis for a socioecological approach to health. The overall guiding principle for the world, nations, regions and communities alike is the need to encourage reciprocal maintenance - to take care of each other, our communities and our natural environment. The conservation of natural resources throughout the world should be emphasized as a global responsibility.

Changing patterns of life, work and leisure have a significant impact on health. Work and leisure should be a source of health for people. The way society organizes work should help create a healthy society. Health promotion generates living and working conditions that are safe, stimulating, satisfying and enjoyable.

Systematic assessment of the health impact of a rapidly changing environment - particularly in areas of technology, work, energy production and urbanization is essential and must be followed by action to ensure positive benefit to the health of the public. The protection of the natural and built environments and the conservation of natural resources must be addressed in any health promotion strategy.

2.5.4 Strengthen community action

Health promotion works through concrete and effective community action in setting priorities, making decisions, planning strategies and implementing them to achieve better health. At the heart of this process is the empowerment of communities, their ownership and control of their own endeavors and destinies.

Community development draws on existing human and material resources in the community to enhance self-help and social support, and to develop flexible systems for strengthening public participation and direction of health matters. This requires full and continuous access to information, learning opportunities for health, as well as funding support.

2.5.5 State responsibility

Health sector in India is the responsibility of the state, local and also the central government. But in terms of service delivery it is more concerned with the state. The center is responsible for health services in union territories without a legislature and is also responsible for developing and monitoring national standards and regulations, linking the

states with funding agencies, and sponsoring numerous schemes for implementation by state governments. Finally, both the center and the state have a joint responsibility for programs listed under the concurrent list.

Goals and strategies for the public sector in health care are established through a consultative process involving all levels of government through the Central Council for Health and Family Welfare. The outcomes of these processes provide a thrust to various sub sectors within the health sector. The private and voluntary sectors have emerged as an important arm of the health sector.

There has been a significant development in the health sector in India in the recent years. The central government in association with the states is initiating various programmes and projects to improve efficiency in the allocation and use of health resources through policy and institutional development.

State health projects have been formulated for developing the rural health standard and strengthening the PHC (Public Health Clinic) infrastructure, under the minimum needs programme, by providing enhanced assistance to regions with severe health problems, supporting voluntary organizations, and improving IEC activities. The Ministry of Health and Family Welfare is continuously coordinating with the states to make significant improvement in this regard.

2.5.6 International responsibility

The health of mankind requires the cooperation of governments, the people, national and international organizations both within and outside the United Nation system to achieving our health goal. This cooperation covers such subjects as exchange of experts, provision of drugs, and supplies, border meetings with regard to control of communicable diseases and achievement of “Health for all” through primary health care. The TCDN (Technical Cooperation in Developing Countries), ASEAN (Cssociation of South- East Asian Nation), and SAARC (South Asia Association for Regional Cooperation) are important regional mechanism for such cooperation.

2.6 Health And Development

Better health is central to human happiness and well-being. It also makes an important contribution to economic progress, as healthy populations live longer, are more productive, and save more.

Many factors influence health status and a country's ability to provide quality health services for its people. Ministries of health are important actors, but so are other government departments, donor organizations, civil society groups and communities themselves. For example: investments in roads can improve access to health services; inflation targets can constrain health spending; and civil service reform can create opportunities - or limits - to hiring more health workers.

Kerala's (a southern-most state in India) remarkable achievements in health in spite of its economic backwardness has provoked many analysts to talk about the unique "Kerala Model of Health" worth emulating by other developed countries. The hall mark of Kerala model is low cost of health care, universal accessibility and availability even to the poor sections of the society.

There are many socio-economic conditions unique to the state which have been postulated to make this health model possible. The high female literacy rate (87.72%) of the state is worth mentioning in the regard. The widely accepted health indication viz death rate, Infant Mortality Rate (IMR) and expectation of life at birth too are far advanced than the rest of the states in India and are even comparable with developed countries. Such that in Kerala, the expectation of life has increased, infant mortality rate is very low and there is decline in death rate. Also the health awareness among the citizens of the state maintains to be at a very high level.

2.7 Indicators of Good Health

Indicators are required not only to measure the health status of a community, but also to compare the health status of one country with that of another for assessment of healthcare needs; for allocation of scarce resources; and for monitoring and evaluation of health services, activities and programmes.

HEALTH INDICATORS

Health information undoubtedly has great social, political and economic importance. To have relevant information, it means to have basis for timely reporting, basis for action, and prerequisites for success.

- Importance of health indicators
  - To measure the health status of a community
  - To compare the health status of one country with that of another

– Assessment of health care need
– Resource allocation
– Monitoring and evaluation

Characteristics of effective indicator

An indicator is something that points to an issue or condition. Its purpose is to show you how well a system is working. If there is a problem, an indicator can help you determine what direction to take to address the issue. Indicators are as varied as the types of systems they monitor. However, there are certain characteristics that effective indicators have in common:

- Effective indicators are **relevant**; they show you something about the system that you need to know.
- They indicator should be valid. That is they should actually measure what they are supposed to measure.
- Effective indicators are **easy to understand**, even by people who are not experts.
- Effective indicators are **reliable**; you can trust the information that the indicator is providing.
- Lastly, effective indicators are based on **accessible data**; the information is available or can be gathered while there is still time to act.

Types of health indicators

1. Mortality indicator
2. Morbidity indicator
3. Disability indicator
4. Nutritional status indicator
5. Healthcare delivery indicator
6. Utilization rates indicator
7. Indicators of social and mental health
8. Environmental indicator
9. Socio economic indicator
10. Health policy indicators
11. Health care delivery indicators

1. **Mortality Indicator**
   a. Crude death rate
   b. Expectation of life
   c. Infant mortality rate
   d. Child mortality rate
   e. Maternal mortality rate
   f. Disease specific mortality rate
   g. Proportional mortality rate

- **Crude death rate :** Fair indicator of comparative health of people. It is defined as number of death per 1000 population per year in a given community.
- **Expectation of life :** The average number of years of life an individual of a given age is expected to live if current mortality rates continue to apply; a statistical abstraction based on existing age-specific death rates.
- **Infant mortality rate :** It is defined as the number of infant deaths (one year of age or younger) per 1000 live births. The most common cause worldwide has traditionally been due to dehydration from diarrhea. Other causes of infant mortality include malnutrition, malaria, congenital malformation, infection.
- **Child mortality rate :** It is defined as the number of deaths at age 1-4 years in a given year, per 1000 children in that age group at the mid point of the year concerned. It thus excludes the infant mortality.
- **Maternal mortality rate :** The number of maternal deaths related to childbearing divided by the number of live births (or by the number of live births + fetal deaths) in that year.
- **Disease specific mortality :** Mortality rates computed for specific diseases eg. Cancer, CAD, diabetes, accidents etc.
- **Proportional mortality rate :** The simplest measures of estimating the burden of a disease in the community ie., the proportion of all deaths currently attributed to it.

2. **Morbidity indicators :** To describe health in terms of mortality rates only is misleading, this is because, and mortality indicators do not reveal the burden of illness in a community. Therefore morbidity indicators are used to supplement the mortality data to describe the health status of a population.

The following morbidity rates are used for assessing the ill-health in the community.

1. Incidence and prevalence
2. Notification rate
3. Attendance rate at out patient departments, health centers etc.
4. Admission readmission and discharge rate
5. Duration of stay in hospital
6. Spells of sickness or absence from work or school.

3. Disability indicators

a. Event-type indicators
   i. Number of days of restricted activity
   ii. Bed disability days
   iii. Work-loss days (or school loss days) within a specified period

b. Person-type indicators
   i. Limitation of mobility: For eg., confined to bed, confined to house, special aid in getting around inside or outside of house.
   ii. Limitation of activity: For eg., limitation to perform the basic activities of daily living (ADL) – eating, bathing, dressing, going to toilet etc.

Sullivan's index :

This index (expectation of life free of disability) is computed by subtracting from the life expectancy, the probable duration of bed disability & inability to perform major activities, according to cross-sectional data from the population surveys. . The interest of the Sullivan indicator comes from its simplicity and its relative accuracy. Sullivan's index is considered one of the most advanced indicators currently available.

DALY (Disability – Adjusted Life Year) : DALY is a measure of burden of disease in a defined population and the effectiveness of the interventions. DALY expresses years of life lost to premature death and years lived with disability adjusted for the severity of the disability. One DALY is "one lost year of healthy life".

4. Nutritional status indicator

a. Anthropometric measurements of pre-school children, eg., height-weight, mid-arm circumference etc.
b. Height of children at school entry
c. Prevalence of Low Birth Weight (less than 2.6 kg)

5. **Healthcare delivery indicator**
    a. Doctor-population ratio
    b. Doctor-nurse ratio
    c. Population-bed ratio
    d. Population per health / subcentre
6. **Utilization rates indicator**
    a. Proportion of infant who are fully immunized.
    b. Proportion of Pregnant women who received antenatal care
    c. Bed occupancy rate
    d. Average length of stay
    e. Turn over interval.
7. **Indicators of social and mental health**
    – Rate of suicide
    – Rate of homicide
    – Rate of other act of violence
    – Rate of other crime
8. **Environmental indicators**
    – Air pollution
    – Water pollution
    – Noise pollution
    – Exposure to radiation
    – Exposure to toxic substances in food or drink.
9. **Socio economic indicators**
    – Rate of population increased
    – Level of unemployment
    – Dependency ratio
    – Literacy rate
    – Family size

10. Health policy indicators

- Proportion of GNP spent on health services
- Proportion of GNP spent on health-related activities (water supply, sanitation, housing, nutrition etc.)

11. Health care delivery indicators

- Doctor population ratio
- Doctor Nurse Ratio
- Population bed ratio

Unit 3 □ Concept of Disease

Structure

3.1 Introduction - Disease

Webster defines Disease as "a condition in which body health is impaired, a departure from a state of health, an alteration of the human body interrupting the performance of vital functions"

Disease is defined as a condition of the body or some part or organ of the body in which its functions are disrupted or deranged.

WHO has defined health but not disease. As because Disease has many shades – spectrum of disease – ranging from inapparent (subclinical) cases to severe manifestation of illness.

3.2 Theories of Diseases

Supernatural Theories of Disease

In ancient and primitive medicine, disease was often seen either as a form of punishment sent by the gods, or attributed to demons, ghosts, and evil spirits.

Theory of Humors (Four)

The human body was filled with four basic substances, called four humors, which are in balance when a person is healthy.

All diseases and disabilities resulted from an excess or deficit of one of these four humors.

Theory of Spontaneous Generation

Disease were spontaneously generated

3.3 Concept of causation

3.3.1 Germ Theory Of Disease

This theory gained momentum during the 19th & early 20th century. Because of this, emphasis shifted from empirical causes (bad air) to microbes as the sole cause of disease. It was also known as the Single cause theory - O**ne-to-one relationship between causal agent & disease.**

Disease agent → Man → Disease

This theory leads to one sided view of disease causation that diseases were caused by germ – one species of germ per disease.

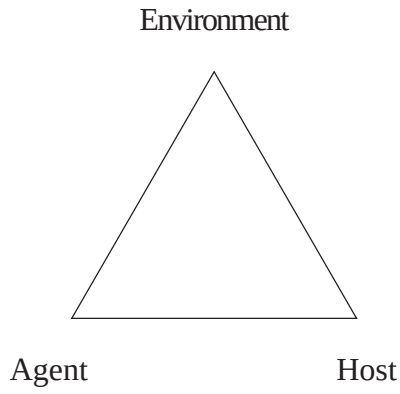
Fracastoro proposed in 1546 that epidemic diseases are caused by transferable seed-like entities that could transmit infection by direct or indirect contact or even without contact over long distances.

Discoveries in Microbiology marked a turning point in our aetiological concepts. Microorganisms were first observed by Anton van Leeuwenhoek, who is considered the father of microbiology. Louis Pasteur (1822-1895) demonstrated presence of bacteria in air in 1860.Robert Koch's postulates were first used in 1875 to demonstrate anthrax was caused by the bacterium Bacillus anthracis.

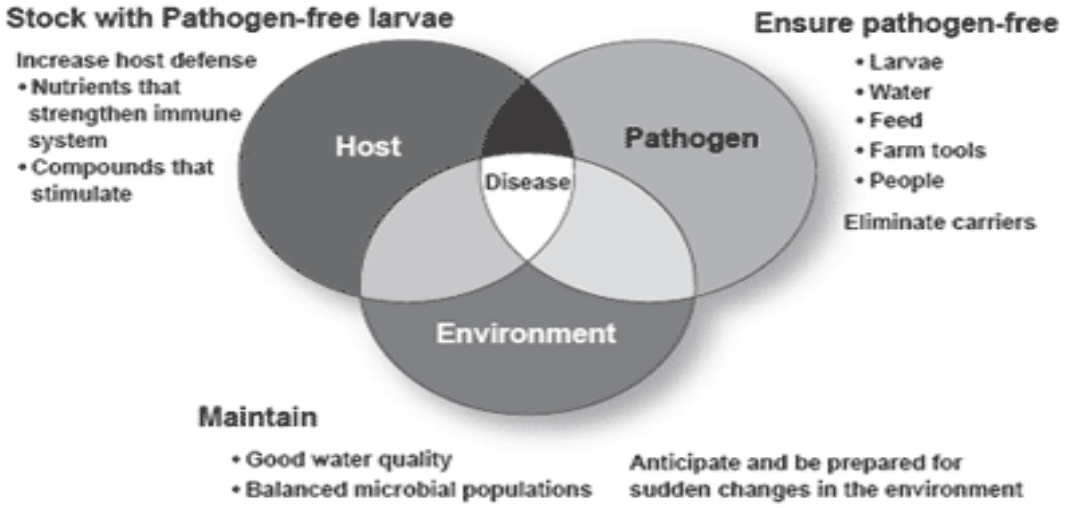
Gonococcus in 1847, Typhoid bacillus, pneumococcus in 1880, tubercle bacillus in 1882, cholera vibrio in 1883, diptheria bacillus in 1884. All attention were focussed on microbes & their role in disease causation.

3.3.2 Epidemiological Triad

Germ theory had many limitations. The element "Agent" was given equal importance as the "host" & "environment". It held the Traditional model for – Infectious disease causation. But not everyone exposed to TB develops TB. Same exposure, however in an undernourished or otherwise susceptible person may result in clinical disease. Other factors also exist apart from host & environment which are equally important to determine whether disease will occur in the exposed host.



A causal model of child abuse in terms of host-agent-environment by Justice & Duncan, 1975, 1977 & Justice & Justice 1976. Child abuse as a disorder within the parent (host), an must element for child abuse to occur is the presence or absence of "child". But "child" as an agent for child abuse is clearly an extension of the term "agent" beyond its original usage.



3.3.3 Factorial Causation

Later on it was recognized that a disease is rarely caused by a single agent alone, but rather depends upon a number of factors which contribute to its occurance.

As a result of advances in public health, chemotherapy, antibiotics & vector control – communicable diseases began to decline – only to be replaced by new type of diseases – CHD, Lung cancer, Ch. Bronchitis, mental illness etc. These diseases could not be explained on the basis of Germ theory or could be prevented by traditional methods of isolation, immunizations etc. It was realized that "Single cause idea" was an oversimplification & various other factors are equally important – social, economic, cultural, genetic, psychological etc.

A classic example of the Chain of causation : Infected cat → contaminated urine → contaminated litter → infected cut → "leptospirosis in host". The chain of events would not have occurred if the host had not cut his finger; had worn gloves; had put a bandage on his cut; had vaccination or the cat was put into isolation.

Tuberculosis can be due to TB bacilli as well as malnourishment, poverty, overcrowding. Diseases such as CAD can be due to excess of fat intake, smoking, lack of physical exercise, obesity etc.

It was realized that rather than a single chain of causation, a more complex model of disease causation is required. MacMohan, Pugh, Ipsen (1960) recognized that the chains of causation suffered from the defect of "over simplification" & proposed a new model – "Web of Causation"

3.3.4 Web of Causation

Suggested by MacMohan & Pugh in their book : Epidemiologic Principles & Methods – Model for disease causation. This theory was ideally suited to study chronic diseases – where disease agent is often not known, but the outcome is the interaction of multiple factors. It considers all the pre-disposing factors of any type & their complex inter-relationship with each other. Web of causation implies that sometimes removal or elimination of just only one link is sufficient to control the disease, provided that link is sufficiently important in the pathogenic process.

Stallones (1966) web of causation concept gave a clear view of how different factors may work together to produce one form or another of cardiovascular disease. Eg : Heredity tendencies, stress & lack of physical activity contribute to hypertension. Atherosclerosis also enhances the chances. Salt or sodium in diet is also a cause of HTN. Another eg : OBESITY. Being obese induces multiple metabolic abnormalities that contribute to cardiovascular disease, DM, other chronic disorders. Rising prevalence of obesity is due to urbanization, abundance of food supplies, reduction of physical activity.

It is now recognized that a disease is rarely caused by a single agent alone, but rather depends upon a number of factors which contribute to its occurance.

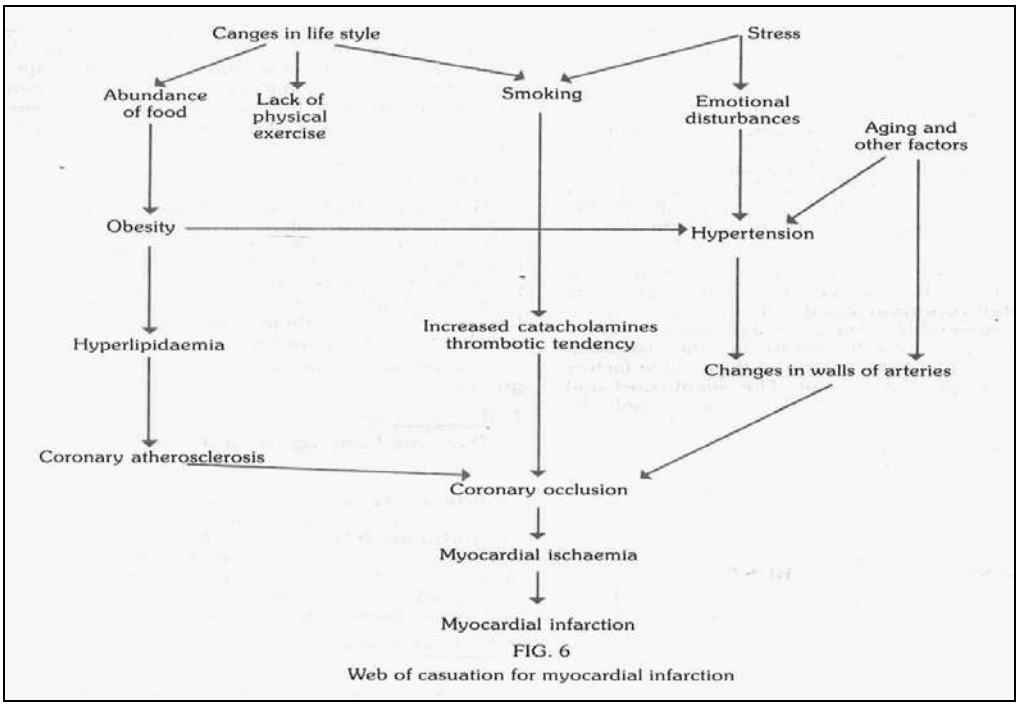


FIG. 6
Web of casuation for myocardial infarction

3.4 NATURAL HISTORY OF DISEASE

Disease results from a complex interaction between man, an agent (or cause of disease) & the environment. The term "**natural history of disease**" is a key concept in epidemiology. It signifies the way in which a disease evolves over time from the earliest stage of its pre-pathogenesis phase to its termination as recovery, disability or death (in the absence of treatment or prevention). Each disease has its own unique natural history, which is not necessarily the same in all individuals.

The natural history of disease consists of two phases :

- **Prepathogenesis, ie, process in the environment**
- **Pathogenesis, ie, process in man.**

3.4.1 PRE-PATHOGENESIS PHASE

This refers to the period preliminary to the onset of disease in man. The disease agent has not yet entered man, but the factors which favour its interaction with the human host are already existing in the environment. The situation is frequently referred to as "man in the midst of disease" or "man exposed to the risk of disease". The causative factors of disease maybe classified as AGENT, HOST & ENVIRONMENT. The mere presence of agent, host & favourable environmental factors is not sufficient to start the disease in man – **INTERACTION** of these three factors is required to initiate the disease process in man.

Agent Factors : The first link in the chain of disease transmission is a **disease agent.** The disease **"agent"** is defined as a substance, living or non-living, or a force, the excessive presence or relative lack of which may initiate or perpetuate – a disease process. Eg : **Biological agents** : viruses, bacteria, fungi etc.; **Nutrients agents** : proteins, fats, carbohydrates – excess or deficiency; **Physical agents** : exposure to excessive heat, cold, humidity, pressure, radiation may result in illness etc.

Host factors (intrinsic) : In epidemiology, the human host is referred to as "**soil**" & the disease agent as "**seed**". In some situations, host factors play a major role in determining the outcome of an individual's exposure to infection (Tb). Eg : **Demographic** - age, sex, ethnicity; **Biological** – genetics, enzymes, cellular constitution, different organs; **Lifestyle** – habits, nutrition, exercise, behavioural pattern etc.

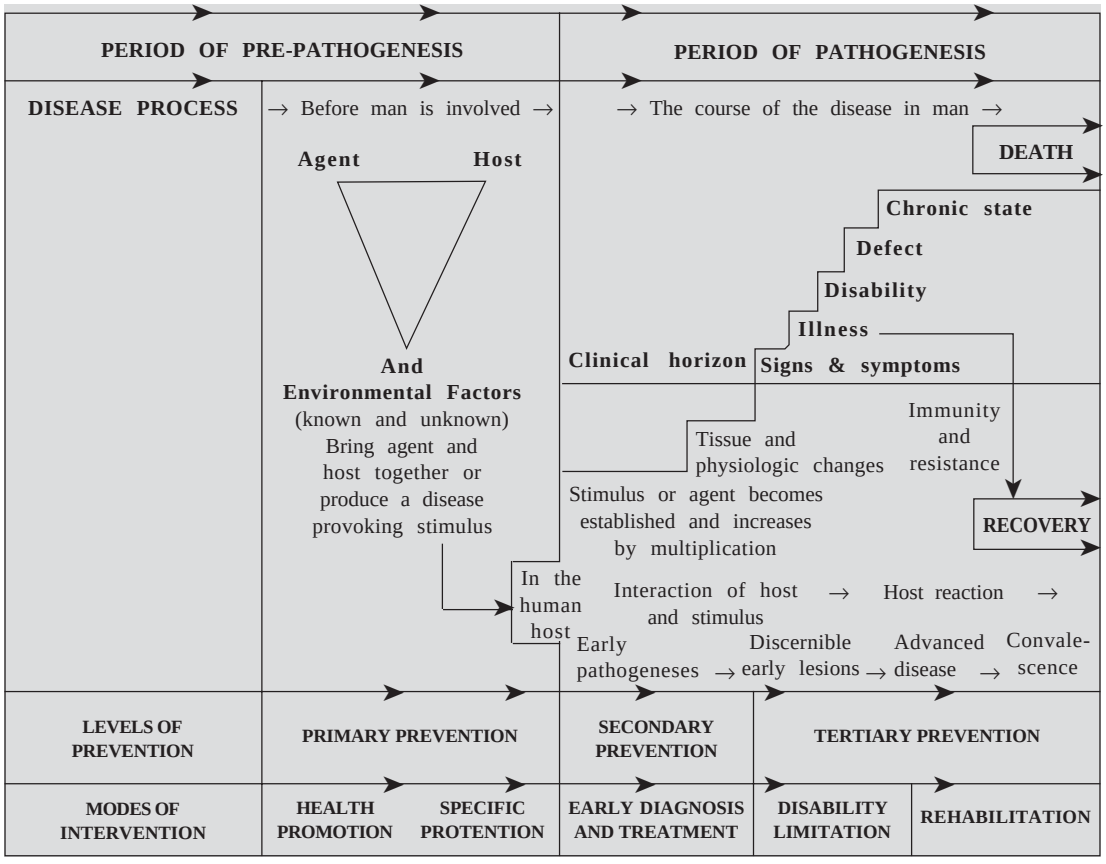
Environmental factors (extrinsic) : The **External** or **Macro environment** is defined as "all that which is external to the individual human host, living or non-living, and

with which he is in constant interaction. This includes all of man's external surroundings such as air, water, food, housing etc.

3.4.2 PATHOGENESIS PHASE

The pathogenesis phase begins with the entry of the disease "agent" in the susceptible human host. The next events are – the disease agent multiplies& induces tissue & physiological changes, progresses through a period of incubation & later through early & late pathogenesis. The final outcome of disease may vary – recovery, disability or death.

The pathogenesis phase may be modified by intervention measures such as immunization & chemotherapy. In chronic diseases like coronary heart disease, hypertension, cancer – the early pathogenesis phase is less dramatic. This phase is known as pre-symptomatic phase; as there is no manifestation of the disease. The pathological changes are essentially below the level of the "clinical horizon" The clinical stage begins when recognizable signs or symptoms appear & by the time the disease phase is well advanced into the late pathogenesis phase.



Risk Factors : For many diseases, the disease "agent" is still unidentified, eg coronary heart disease, cancer, peptic ulcer, mental illness etc.; then the term "risk factors" is generally used.

Risk factor is defined as an attribute or exposure that is significantly associated with the development of a disease **or** a determinant that can be modified by intervention, thereby reducing the possibility of occurrence of disease or other specified outcomes. ***Modifiable risk factors*** are smoking, hypertension, elevated cholesterol levels, physical activity, obesity etc. ***Unmodifiable or immutable risk factors*** such as age, sex, race, family history & genetic factors are not subject to change.

Spectrum Of Disease

The term **"spectrum of disease"** is a graphic representation of variations in the manifestations of disease. It is like the spectrum of light where the colours vary from one end to the other but difficult to determine where one colour ends & the other begins. At one end are subclinical infections which are not ordinarily identified & at the other end are fatal illnesses. In the middle of the spectrum lie illnesses ranging in severity from mild to severe.

Iceberg Of Disease

Disease in a community can be compared with an iceberg. The **floating tip of the iceberg** represents **what the physician sees** in the community ie., clinical cases. The vast submerged portion of the iceberg represents the hidden mass of disease ie latent, inapparent, pre-symptomatic & undiagnosed cases & carriers in the community. In some disease eg hypertension, diabetes, anaemia, malnutrition, mental illness; the unknown morbidity (ie the submerged portion of the iceberg) far exceeds the unknown morbidity.

The hidden part of the iceberg thus constitutes an important, undiagnosed reservoir of infection or disease in the community, & its detection & control is a challenge to modern techniques in preventive medicine.

3.5 Changing concept of disease

3.5.1 Concept of prevention

The goals of medicine are to promote health, to preserve health, to restore health when it is impaired, and to minimize suffering and distress.

Prevention : Definition and Concept

Actions aimed at eradicating, eliminating or minimizing the impact of disease and disability, or if none of these are feasible, retarding the progress of the disease and disability.

Prevention is defined in terms of four levels :

1. Primordial prevention
2. Primary prevention
3. Secondary prevention
4. Tertiary prevention

Primordial Prevention : Primordial prevention consists of actions and measures that inhibit the emergence of risk factors in the form of environmental, economic, social & behavioural conditions & cultural patterns of living etc.

Primary Prevention : Action taken prior to the onset of disease which removes the possibility that the disease will ever occur. It signifies intervention in the pre-pathogenesis phase of a disease or health problem.

Secondary Prevention : Can be defined as "action which halts the progress of a disease at its incipient stage & prevents complications". The specific interventions are early diagnosis (eg screening tests, case finding programmes) & adequate treatment. By early diagnosis & adequate treatment, secondary prevention attempts to arrest the disease process; restore health by seeking out unrecognized disease & treating it before irreversible pathological changes have been taken place; & reverse communicability of infectious diseases.

Tertiary Prevention

It is used when the disease process has advanced beyond its early stages. It signifies intervention in the late pathogenesis phase. ***Tertiary prevention*** can be defined as "all measures available to reduce or limit impairments& disabilities, minimize suffering caused by existing departures from good health to promote the patient's adjustment to irremediable conditions".

Early diagnosis and treatment

WHO Expert Committee in 1973 defined early detection of health disorders as "the detection of disturbances of homoeostatic and compensatory mechanism while biochemical,

morphological and functional changes are still reversible."The earlier the disease is diagnosed and treated the better it is for prognosis of the case and in the prevention of the occurrence of other secondary cases.

3.5.2 CONCEPT OF CONTROL

The term disease control describes ongoing operations aimed at reducing:

- The incidence of disease
- The duration of disease and consequently the risk of transmission
- The effects of infection, including both the physical and psychosocial complications
- The financial burden to the community.
- Control activities focus on primary prevention or secondary prevention, but most programs combine both.

Disease Elimination

Between control and eradication, an intermediate goal has been described, called "regional elimination". The term "elimination" is used to describe interruption of transmission of disease, as for example, elimination of measles, polio and diphtheria from large geographic regions or areas. Regional elimination is now seen as an important precursor of eradication

Disease Eradication

Eradication literally means to "tear out by roots". It is the process of "Termination of all transmission of infection by extermination of the infectious agent through surveillance and containment". Eradication is an absolute process, an "all or none" phenomenon, restricted to termination of an infection from the whole world. It implies that disease will no longer occur in a population. To-date, only one disease has been eradicated, that is smallpox.

Monitoring

Monitoring is "the performance and analysis of routine measurements aimed at detecting changes in the environment or health status of population" (Thus we have monitoring of air pollution, water quality, growth and nutritional status, etc).

It also refers to on -going measurement of performance of a health service or a health professional, or of the extent to which patients comply with or adhere to advice from health professionals.

Surveillance

Surveillance means to watch over with great attention, authority and often with suspicion. According to another, surveillance is defined as "the continuous scrutiny (inspection) of the factors that determine the occurrence and distribution of disease and other conditions of ill-health"

3.5.3 Evaluation of Control

- Evaluation is the process by which results are compared with the intended objectives, or more simply the assessment of how well a programme is performing.
- It should always be considered during the planning & implementation stages of a programme or activity.
- Evaluation may be crucial in identifying the health benefits derived (impact on morbidity, mortality, patient satisfaction).
- Evaluation can be useful in identifying performance difficulties.
- Evaluation studies may also be carried out to generate information for other purposes, eg., to attract attention to a problem, extension of control activities, training & patient management etc.

3.6 Disease and its classification

3.6.1 COMMUNICABLE DISEASES

An illness due to a specific infectious agent or its toxic products capable of being directly or indirectly transmitted from man to man, animal to animal or from the environment (air,dust,soil,water,food) to man or animal.

Modes Of Transmission

Direct Transmission

a. Direct Contact : Skin to Skin; Mucosa to Mucosa; Mucosa to Skin; Of the same person or different Person . Eg-STD, AIDS, leprosy, skin and eye infections.

b. Droplet Infection : Direct Projection of a spray of droplets of saliva and naso-pharyngeal secretions during coughing, sneezing or speaking to the surrounding atmosphere. Eg : Respiratory infections, diphtheria, whooping cough, TB, Meningococcal meningitis. Droplet Sprayed into the Air from a Sneeze.

c. Contact with Soil. Eg : Hookworm larva, Tetanus.

d. Inoculation into skin or mucosa. Eg : Rabies, infected needles.

Indirect Transmission

Traditionally 5F's - Flies ; Finger ; Fomite ; Food ; Fluids

Chicken pox; Measles; Mumps; Typhoid fever; Cholera; Tetanus; Leprosy ; AIDS

3.6.2 Non-communicable disease

or NCD, is a disease which is not contagious. Risk factors such as a person's lifestyle, genetics, or environment are known to increase the likelihood of certain non-communicable diseases. Of these three risk factors, 50% of all non-communicable diseases are a result of poor lifestyle choices such as drug use, alcohol and tobacco use, diet, lack of exercise or stress management.

Examples of non-communicable diseases include heart disease, cancer, asthma, diabetes, allergies, stroke, and more.

3.6.3 Lifestyle Diseases

As the name suggest, **lifestyle diseases** are a result of the way we lead our lives. Lifestyle diseases are the result of an ill-relationship of people with their environment. The fact that our diet is changing day by day, from high nutritional food, we move towards junk food, has contributed to the era of lifestyle diseases. Reduction in physical activity and exercise has also added to the scenario. Substance abuse, especially tobacco smoking and alcohol drinking may also increase the risk of certain diseases later in the life.

Way of preventing lifestyle disease

People need to change their habits in the direction of healthier living. We can do a lot to prevent the occurrence of life style diseases. We can have a very healthy life if we remain conscious of our life styles. It is also possible to keep these diseases under control, if we make sensible alteration in our life styles. Some suggestions are:-

I) Take up regular exercise like walking, yoga, cycling, etc

II) Take a balanced diet at proper meal times

III) Practice yoga or meditation to avoid stress in life

IV) Keep away from smoking and drinking as far as possible.

Unit 4 □ Basic Medical Terminology

"Suffix"

Sl. No.	Term	Meaning	Terminology
1	a-, an -	without	ANESTHESIA; absence of sense
2	ab-	away from	ABNORMAL; away from normal
3	ad-	toward	ADJOINING
4		gland	ADENOCARCINOMA; cancer of some gland
5	al -	like, similar	ABDOMINAL
6	amyl -	starch	AMYLOSE
7	angio -	vessel (blood)	ANGIOGRAM, ANGIOPLASTY
8	ankyl -	crooked, looped	ANKYLOSIS; stiffness of joint
9	ante -	before	ANTECUBITAL; infront of elbow
10	anti -	against	ANTIBACTERIAL
11	arterio -	artery	ARTERIOLE; ARTERY
12	arthro -	joint	ARTHROCENTESIS
13	asthen -	weakness, lack	MYASTHENIA GRAVIS; weakness of muscles & fatiguability
14	aud -, aur -	ear, hearing	AUDIBLE
16	bi -	both, two	BILATERAL
17	brachio -	arm	BRACHIAL ARTERY; major blood vessel of the upper arm
18	brady -	slow	BRADYPNEA; slow breathing
19	bronchi - , broncho -	bronchial	BRONCHIAL TUBE
20	buccal -	cheek	BUCCOLABIAL; related to cheek & lip
21	**carcin -**	cancer	CARCINOGENIC
22	**cardio -**	heart	CARDIOLOGY

23	**carpo -**	wrist	CARPOPEDAL; related to hands, wrists
24	**caud -**	tail	CAUDAL
25	**centi -**	hundredth (100th)	CENTIMETER
26	**cephalo -**	head	CEPHALALGIA; pain in head
27	**cerebro -**	brain	CEREBRAL; related to brain
28	**cervic -**	neck	CERVICAL; related to neck
29	**chiro -**	hand	related to hand
30	**chole -**	bile	CHOLELITH; gall stone
31	**cholecyst**	gall bladder	CHOLECYSTECTOMY; surgical removal of gall bladder
32	**chondro -**	cartilage	CHONDRITIS; inflammation of cartilage
33	**circum -**	around	CIRCUMFLEX; flexible around
34	**col -**	colon	COLONOSCOPY
35	**colp -**	vagina	COLPOSCOPY
36	**contra -**	against	CONTRAINDICATION; against direction
37	**cort -**	covering	CORTICAL BONE; outer portion of an organ
38	coxa -	hip	related to hip
39	costo -	ribs	COSTOVERTEBRAL JOINT; connects head of rib with thoracic vertebrae
40	cranio -	skull	CRANIAL
41	cubitus -	elbow, forearm	ANTECUBITAL
42	cut -	skin	CUTANEOUS
43	cysto -	bladder, sac	CYSTOCELE
44	cyt, cyte -	cell	LEUKOCYTE; white blood cell
45	deci -	tenth (10th)	DECIMAL

46	**dent -**	tooth	DENTIST
47	**derma -**	skin	DERMATITIS
48	diplo -	double	
49	dors -	back	DORSAL; relating to back
50	dys -	painful, addominal	DYSPEPSIS; difficulty in digestion
51	ecto -	outside	ECTOPIC; outside / displacement of organ
52	edem -	swelling (fluid)	EDEMATOUS; swelling of the area
53	encephal -	brain	ENCEPHALOGRAM; x-ray picture of brain
54	endo -	inside, within	ENDOSCOPY
55	entero -	intestine	ENTERITIS
56	epi -	upper, above	EPIDERMIS; upper layer of the skin
57	erythro -	red	ERYTHROCYTE
58	faci -	facies, face	FACIAL; related to face
59	fascia -	band (fibrous)	layer of fibrous tissue
60	gastro -	stomach	GASTRITIS
61	genu -	knee	GENU VALGUM, “knock knees”
62	gingiva -	gums	GINGIVITIS; inflammation of the gums
63	gloss -	tongue	GLOSSIA; related to tongue
64	gravid	pregnant	PRIMIGRAVIDA; first pregnancy
65	gyne -	woman	GYNECOLOGY
66	haemo -	blood	HAEMOSTASIS; to stop flow of blood
67	hemi -	half	HEMIPARESIS; mild paralysis of half part of body
68	hepato -	liver	HEPATITIS
69	hydro -	water	HYDROPHOBIA; fear of water
70	hyper -	excessive	HYPERTENSION; excessive tension (BP)
71	hypo -	deficient	HYPOTENSION; low BP

72	hyster -	uterus, womb	HYSTERECTOMY; surgical removal of uterus
73	ile -	intestine (part)	ILEUM; final part of the small intestine
74	ili -	hip bone	ILIAC
75	inter -	between	INTERVENOUS; between the veins
76	intra -	inside	INTRAMASCULAR; within the muscle
77	iri -	iris (eye)	IRIDECTOMY; surgical removal of part of iris
78	kerat -	cornea, scaly	KERATOSIS; growth of keratin on skin
79	kilo -	thousand	
80	labia -	lip	LABIODENTAL; related to lip & teeth
81	lacto -	milk	LACTOGENESIS; milk production by mammary glands
82	lapar -	abdomen	LAPAROTOMY; surgical incision in abdominal wall
83	laryng -	larynx	LARYNGITIS
84	leuko -	white	LEUKOCYTE
85	lingua -	tongue	LINGUISTICS; study of human languages
86	lip -	fat	LIPOMA; fatty tissu benign tumor
87	lith -	stone	LITHOTRIPSY; breaking of stone
88	lymph -	fluid	LYMPHEDEMA; localized fluid retention
89	macro -	large	MACROGLOSSIA; large tongue
90	mamm-, mast-	breast	MAMMOGRAM
91	melan -	black	MELANOCYTE
92	mening -	membrane	MENINGITIS; inflammation of brain, spinal cord membranes
93	meno-, mens-	menstruate	MENORRHEA; blood flow from uterus

94	meso -	middle	MESODERM; middle cell layer
95	metro -	uterus, womb	METRORRHAGIA; uterine bleeding at irregular intervals
96	micro -	small	MICROGLOSSIA; small tongue
97	milli	thousandth (1000th)	
98	mono -	one, single	MONOCYTE; single cell
99	myelo -	bone marrow	MYELOBLAST; stem cell
100	myo -	muscle	MYOBLAST; precursor to skeletal muscle
101	myx -	mucus	MYXOMA; tumor of connective tissue
102	nares-, nas-	nose, nostrils	NASAL
103	natus -	birth	NATAL; refers to birth
104	neo -	new	NEOPLASM; abnormal mass of new tissue
105	**nephro** -	kidney	NEPHROLOGY
106	**neuro** -	nerve	NEUROLOGY
107	ocul -	eye	OCCULAR; related to eye
108	odont -	tooth	ORTHODONTIST
109	onych -	finger, toe nail	ONYCHOPHAGIA; nail biting
110	oophoro -	ovary	OOPHIORECTOMY; surgical removal of ovary
111	**opthal** -	eye	OPTHALMOLOGY
112	or -	mouth, bone	ORAL
113	orchid -	testes	ORCHIDECTOMY; surgical procedure to remove testicles
114	**ortho** -	straight	ORTHOPAEDICS
115	osteo -	bone	OSTEOPOROSIS; porous bones
116	oto -	ear, hearing	OTORRHEA; discharge/flow from ear
117	ovario -	ovary	OVARIOECTOMY; surgical removal of ovary

118	ovi -	egg	OVOGENESIS; creation of ovum
119	pan -	all	PANOPHOBIA; fear of all/everything
120	para -	beside, abnormal	PARAPLEGIA; impairment in sensory functions in extremitis
121	part -	birth, labour	POST PARTUM; occuring after birth
122	ped -, pod -	foot	PEDAL; related to foot
123	**paed** -	child	PAEDIATRICS
124	peri -	around	PERIOSTETIS; inflammation around the bone
125	pharyng -	pharynx	PHARYNGITIS
126	phleb -	vein	PHLEBOTOMY; blood sample collection
127	phrenic -	diaphragm	COSTOPHRENIC; related to ribs & diaphragm
128	pleur -	pleura of lung	PLEURAL EFFUSION; fluid accumulation around lungs
129	**pneumo** -	lung	PNEUMONIA
130	poly -	many	POLYPHOBIA; fear of many things
131	post -	behind	POST OPERATION; after operation
132	pre -	before	PRESURGERY; before surgery
133	pro -	forward	PROOTIC; infront of ear
134	procto -	rectum	PROCTOLOGY; science / study of anus, rectum
135	pseudo -	FALSE	PSEUDOANEURYSM; false haematoma
136	**psycho** -	mind, soul	PSYCHIATRY
137	**pulm** -	lung	PULMONARY
138	pyelo -	bowl of kidney	PYELONEPHRITIS; bacterial infection of the kidney
139	pyo -	pus	PYOMETRA; pus in uterus
140	**ren** -	kidney	RENAL; related to kidney
141	retro -	backward	RETROGRADE; backward movement

142	rhin -	nose	RHINITIS
143	salpingo -	tube	SALPINGECTOMY; surgical removal of fallopian tube
144	sebum -	wax, suct	SEBACEOUS; glands which release oil or wax
145	semin -	seed	SEMINAL FLUID
146	sial -	saliva	SIALAGOGUE; secretion of saliva from salivary gland
147	soma -	body	SOMATOGENIC; originating or acting through the body
148	splen -	spleen	SPLENECTOMY; surgical procedure for spleen removal
149	spondyl -	spine	SPONDYLITIS; inflammation of vertebrae
150	squam -	scaly	SQUAMOUS; skin like fish scales
151	stoma -	mouth	STOMATOGNATHIC SYS; system consisting of mouth, jaws
152	stric -	narrowing	CONSTRICTED
153	sub -	below	SUBNASAL; below the nose
154	super -	above	SUPERIOR VENA CAVA
155	supra -	above	SUPRAORBITAL VEIN
156	tachy -	rapid	TACHYPNEA; fast breathing
157	thel -	nipple	related to nipple
158	therm -	heat	related to heat
159	thorac -	thorax	THORACIC
160	thrombo -	clot	THORUMBUS; blood clot
161	trache -	trachea	related to trachea
162	trachel -	neck	TRACHEOSTOMY; incision in neck
163	trans -	across	TRANSFUSION;
164	vas -	vessel	VASOCONSTRICTION; narrowing of blood vessel
165	vesic -	bladder, sac	like a cell membrane
166	viscera -	organ	internal organs

“PREFIX”

Sl. No.	Term	Meaning	Terminology
1	algia	pain	CEPHALGIA; Headache
2	cele	swelling	CYSTOCELE
3	centesis	puncture	ARTHROCENTESIS; puncture of the joint
4	crine	secrete within	ENDOCRINE SYS; secretes hormone within the blood stream
5	dactyl	finger, toe	PENTADACTYL; five fingers or toes
6	dema	swelling (fluid)	OEDEMA; fluid accumulation in the body
7	desis	surgical fixation	ARTHRODESIS; fixation of joint
8	duct	opening	
9	dynia	pain	GASTRODYNIA; stomach pain
10	ectasis	enlargement	BRONCHIECTASIS; enlargement of bronchi
11	ectomy	surgical removal	APPENDECTOMY; removal of appendix
12	emia	Blood	LEUKEMIA; blood cancer
13	genic	source, origin	CARDOGENIC SHOCK
14	gram, graph	picture	CARDIOGRAPH; instrument to record heartbeat
15	itis	inflammation	GASTRITIS; inflammation of the stomach
16	lysis	separation	ENTEROLYSIS; separation of intestines
17	malacia	softening	OSTEOMALACIA; softening of bones
18	megaly	enlarged	THYROMEGALY; enlargement of thyroid
19	oid	like, similar	DERMOID; cyst like skin

20	ology	study of	eg. CARDIOLOGY, NEPHROLOGY
21	olysis	breakdown	SPONDYLOSIS
22	oma	tumor	LIPOMA; benign tumor
23	osis	disease,abn.condition	CIRRHOSIS; disease of liver
24	ostomy	surgical opening	COLOSTOMY; form an opening of colon
25	pathy	disease	NEUROPATHY; damage to nerves & PNS
26	penia	deficiency	LEUKOPENIA; deficiency of white cell
27	pexy	fixation (tissue)	GASTROENTEROPEXY; fixation of stomach & intestine
28	phagia	swallow	DYSPHAGIA; difficulty in swallowing
29	phasia	speech disorder	DYSPHASIS; difficulty in speech
30	phobia	fear	CLAUSTROPHOBIA; fear of closed surrounding
31	phrenia	mental disorder	SCIZOPHRENIA; mental disorder
32	physis	growth (physical)	physis : site of growth at the end of a long bone
33	plasty	plastic surgery / surgical repair	RHINOPLASTY; surgical repair of nose
34	plegia	paralysis	PARAPLEGIA; impairment in sensory functions in extremitis
35	ptosis	dropping down	HYSTEROPTOSIS; downward uterus displacement
36	rrhagia	haemorrhage	BLOOD HAEMORRHAGE; bleeding
37	rrhaphy	suture, stitch	MYORRHAPHY; suture of muscles
38	rrhea	flowing	DIARRHEA; complete flow through
39	rrhexis	rupture	CARDIORRHEXIS; rupture of heart wall
40	sarcoma	tumor, cancer	related to cancer (originating from the mesoderm)

41	sclerosis	hardening	ATHEROSCLEROSIS; hardening of the artery wall
42	scope	picture, inspection	GASTROSCOPE; instrument to view gastro organs
43	spasm	contraction	BRONCHOSPASM; sudden contraction of wall of bronchioles
44	stasis	stoppage	HEMOSTASIS; process to stop bleeding
45	tripsy	crushing	LITHOTRIPSY; crushing of stones
46	uria	urine	DYSURIA; difficulty in urination

Model Questions
Paper I : Hospital & Health

Time : 3 hours **Total Marks : 100**

Section A

Answer any two of the following : (20 × 2 = 40)

1. Write down the layman's term of the following : **(20 × 1 marks = 20 marks)**

1. Paed-	**11. -penia**
2. Brady-	**12. -spasm**
3. Squam-	**13. -physis**
4. Ren-	**14. -pexy**
5. Aden-	**15. -pathy**
6. Encephal-	**16. -itis**
7. Pneumo-	**17. -dema**
8. Leuko-	**18. –malacia**
9. Pulm-	**19. -tripsy**
10. Cardio-	**20. -lysis**

2. Fill in the blanks : **(20 × 1 marks = 20 marks)**

1) Hospital is a place to receive medical _____.
2) _____ were responsible for introducing the concept of dedicated hospitals to the world.
3) _____ and _____ were the famous physician of ancient India.
4) First teaching hospital of the Persian Empire was the _____
5) Guy's hospital was built by _____ in _____ (location)

6) According to Ecological concept, disease is _____ between man and environment.

7) Health is a state of complete _____, _____ and _____ well being and not merely absence of disease.

8) HALE stands for _____ and DALY stands for _____.

9) Level of unemployment is a _____indicator.

10) Mental health is balanced development of an individual's _____ and emotional _____.

11) Germ theory was known as _____ cause theory.

12) The factors of Epidemiological triad are _____, _____& _____.

13) _____ theory was proposed as a new model over "Chain of causation" theory.

14) Natural history of disease is divided into two phases - _____ and _____

15) _____ is defined as "action which halts the progress of a disease at its incipient stage and prevents complications".

16) Bhore Committee was headed by _____.

17) _____ level of prevention is used when the disease process has advanced beyond its early stage.

18) _____ means to watch over with great attention, authority and often with suspicion.

19) 2 ways of preventing lifestyle disease are _____ & _____

20) AIDS is a _____ disease

3. Explain Primary Health Care, its key elements and its eight essential components. What is meant by Secondary Health Care and Tertiary Health Care?

(5+3+8+2+2 = 20)

4. Discuss the various Health Committees appointed by the Indian Govt & their recommendations. (20)

Section B

Answer any 3 questions **(3 × 12 marks = 36 marks)**

1. What are the different classifications of Hospitals? Explain them with examples.
2. Illustrate the history of Indian Hospitals ?
3. What are the different dimensions of health? Explain them.
4. Why Health Indicators are important ? Write the characteristics of effective indicators? Explain the Mortality and Morbidity indicators with example. (2+2+4+4=12)
5. Explain the different concepts of disease causation?
6. Write about the different Concepts of Disease Control & Disease Prevention?

Section C

Answer any 3 questions **(4 × 6 marks = 24 marks)**

1. Define Hospital ? What is considered as a Modern Hospital ? (2+4)
2. In which year was Bhore Committee set up and by whom. What were the recommendations of the Bhore Committee? (2+4)
3. Define Health ? Define Health – Sickness spectrum ? (2+4)
4. What are the different determinants of health? Explain them? 6
5. Explain Healthcare delivery indicator and Utilization rates indicator? (3+3)
6. What are Lifestyle diseases and what are the ways to prevent them ? (2+4)
7. Explain the Natural History of Disease ? 6
8. Define Communicable and Non – communicable diseases ? (3+3)

Paper-II

OVERVIEW OF HOSPITAL MANAGEMENT

Unit 1 □ AN OVERVIEW OF HOSPITAL MANAGEMENT

Structure

1.1 Introduction

The word Hospital owes its origin to the Greek word Hospital which means hospitality. The primary purpose of a Hospital is to provide accommodation for the sick and injured, and to give medical and nursing care for their recovery & rehabilitation.

A modern hospital has become highly scientific and complex institution over the years particularly in last three decades. This is due to introduction of diagnostic and therapeutic technologies.

1.2 Definition

According to WHO, a Hospital is an integral part of social and Medical organization, the function of which is to provide for the population, complete health care Both curative and preventive whose out patient service reach out to the family and its home environment and a hospital is also a centre for training of health workers and BIO Social Research.

1.3 Hospital as an organization, let us know how hospital functions as an organization

Organizing is the process of grouping the various activities in to workable units and connecting them through authority, control and co-ordination so as to perform identified jobs for achieving organization objectives.

Every organization has a structure called 'Organogram' and the structure varies according to function.

Each organization has distinct structure, objective and function, therefore differs from each other.

Organization structure forms the basic skeleton of the organization, which are :-

a) Helps to identify in consistencies and complexities in the organization structure.

b) Helps to identify major line of decision making authority.

c) It indicates the employees there position, status and role in the organization.

Each organization therefore has its own peculiarity to ensure its effectiveness. Similarly hospital is a social organization and a rational combination of the activities of a number of persons with different level of knowledge and skills for achieving a common goal of patient care through a hierarchy of authority and responsibility.

Hospital organization is very peculiar and differs from other organizations. Hence called a 'MATRIX' organization.

Functions of Hospital

1. Restorative/Curative – This includes diagnosis treatment rehabilitation and to provide emergency medical care.
2. Prevention of Diseases & Promotion of Health : Supervision of MCH and Family welfare including immunization control of various communicable & non commune cable diseases a hospital can also generate most reliable mortality and morbidity data for a population to which a hospital is rending its service.
3. Surveillance centre : Surveillance centre for both communicable & non communicable diseases.
4. Education & Research : Basic Education & Various induction and in service training for various Graduate & Post Graduate doctors Nurse & Paramedical staff.

5. Professional Support : Intellectual & Professional support need to be provided to medical practitioners at stipulated cost.
6. Primary Health care Programme : To become a part of PHC every Hospital should

- Provide support to PHC
- Promote community health development action.
- Basic & continuing education to workers of PHC
- Research on PHC (How to remove various socio Economical & Cultural Barriers)

1.3.1 Overall Functions

1. Intramural Functions

2. Extramural Functions

Intramural-

Intramural is a kind of function that performed by the hospital in its territory or premises.

Intramural function includes various kinds of services like OPD, Diagnostic, IPD, Emergency services and education and training for nursing and paramedics.

Brief accounts about this function are as follows-

OPD-

OPD stands for Out Patient Department,

It defines as the ambulatory service or medical care provides to the patients who are not needy for admitted to the hospital. This department works on the basis of day care.

Some writers say that OPD is the "shop window" of the hospital.

IPD-

IPD stands for In Patient Department,

IPD is the heart of the hospital. The foremost objective of the hospitals is to care for the sick and injured person; this task is carried out in the wards of the hospital.

Diagnostics-

Diagnosis is a medical procedure that helps in finding or diagnoses the disease or cause of disease of patient.

Diagnostic techniques are of two types as follows-

1. Invasive

2. Non- Invasive

Emergency services-

Emergency department is the vital department of the hospital. This deals with the emergency like accident, minor trauma, and other emergency cases associated with health.

Teaching and Education-

Teaching and education refers to the training of nursing and paramedical staff.

Extramural-

Extramural is a kind of function that performs by hospital in outside or surrounding areas.

It includes home care services, health camps, health promotion, day care centers etc.

A brief account about this function is as follows-

Home care service-

This type of health service provide by the hospital at the patients door step, Some patients wants medical help or service at there home, and hospital provides nursing care to the patient.

Health camps-

Health camps are held by the hospital in rural areas, schools, colleges, etc

Health promotion-

This type of service held by the hospital at village level and in rural areas.

Health promotion is done by street plays, individual and public counseling etc.

Day Care centers-

This center includes minor medical procedures and minor operations which held on day basis. This includes eye care camps, dental camps etc.

1.4 Classification of Hospitals

1.4.1 General Classification

A. Public Hospitals : Public Hospitals are those which are run by the Government (Central State / Local Bodies) an Non commercial Lines public Hospitals may be General or specialized Based an the treatment for common disease where as specialized hospital provide treatment for specific diseases, live cancer, psychiatric diseases eye diseases, infections diseases etc.

B. Voluntary Hospitals : voluntary Hospitals are those which are established under societies registration Act 1860, or public trust Act 1882. They are run with public / private funds on non commercial basis. These hospitals spends more on patient care than what they receive term patients. The trend is to charge high fees from Rich patients and very little fees from poor patients However main source of Revenue are public or private donations, Grant from central / State and philanthropic organizations. They run on non profit no loss basis.

C. Private Nursing Homes : Private Nursing Homes are generally owned by an Individual doctor or group of doctors. The nursing homes are run an a commercial Basis. But nursing home does not admit patients suffering from communicable diseases. Drug addiction or mental illness.

D. Corporate Hospitals : Corporate Hospitals are actually public Limited companies dormered under companies act. They run on commercial lines. It can provide General / Specialized treatment or both.

1.4.2 According to Govt. of India : The directory of Hospitals in India 1988

A. General Hospital – Permanently stuffed by at least 2 / more medical officer. Offers In patient accommodation. Medical & nursing care for more than one category of medical diseases Eg. General medicine, General surgery, obstetric, pediatrics etc.

B. Rural – located in a rural area stuffed by at least. Or more physicians offer in patient accommodation for more than one category of medical discipline Eg. General Medicine, General surgery, obstetrics, pediatrics.

C. Specialized – Hospital providing medical & Nursing care for primarily only and discipline or specific disease.

D. Isolation Hospital – Patients suffering from infectious diseases.

E. Teaching Hospital - Hospitals attached with a college for MBBS /BDS Education.

1.5 Departmentation of Hospital

1. Patient Care Service Department :

A Out Patient service – In the field of medicine, surgery, pediatrics, orthopedics, gynecology & obstetrics, skin & ophthalmology, ENT Dental etc.

B In Patient services :

-Wards (General & Specialty)

- Intensive care Unite

- Operation Theatre

- Labor Room

C Emergency Services :

D Rehabilitation Service Department

Physiotherapy

Occupational therapy

Speech therapy

2. Diagnostic Service Department

- Radiology
- ECG, Echo, Holter, USG
- Laboratory
- Pathology
- Biochemistry
- Microbiology
- Blood Bank
- Haematology

3. Supportive Service Department

- Medical Records Department
- Pharmacy
- Dietary (Kitchen)
- Central Sterile supply department (CSSD)
- Laundry and House keeping
- Waste disposal
- Stores & Purchase Department.

4. Transport Service Department

- Internal (Wheel Chairs, Trolleys etc.)
- External (Ambulance, Vehicles etc.)

5. Engineering Maintenance Service Department

- Building, Roads, Electricity
- Instruments, Air conditioning
- Equipments, Lifts
- Water Supply , Drainage

6. Communication Service Department

- Telephone, Intercom
- PABX , Computers (LAN)
- Paging / Mobile, Public Address System

7. Public Relations Department

- Information Centre, Help Desk & Reception

8. Social Support Service Department

- Patient Support (Both Economical and psychological)
- Family support

9. Education Cell & Training Department

- Medical College
- Nursing School
- Paramedical Courses
- Reorientation Courses
- Work Shops.

10. Mortuary Service Department

11. Clinico-Administrative Services Department

- Nursing Department
- Admission & Discharge
- Infection Control
- Sanitation & Hygiene

12. Administrative Services

- Operation management
- Personnel Management
- Materials Management

- Marketing Management
- Financial Management
- Office Management

1.6 Definition & Classification of Hospital Beds

1.6.1 Definition

WHO defines a hospital bed as a bed that is regularly maintained and staffed for the accommodation and full-time care of a succession of inpatients and is situated in wards or a part of the hospital where continuous medical care for inpatients is provided. The total of such beds constitutes the normally available bed complement of the hospital.

1.6.2 Classification

A. General Classification

- **Licensed Beds** : The maximum number of beds for which a hospital holds a license to operate. Many hospitals do not operate all of the beds for which they are licensed.
- **Physically Available Beds** : Beds that are licensed, physically set up, and available for use. These are beds regularly maintained in the hospital for the use of patients, which furnish accommodations with supporting services (such as food, laundry, and housekeeping). These beds may or may not be staffed but are physically available.
- **Staffed Beds** : Beds that are licensed and physically available for which staff is on hand to attend to the patient who occupies the bed. Staffed beds include those that are occupied and those that are vacant.
- **Un-staffed Beds** : Beds that are licensed and physically available and have no current staff on hand to attend to a patient who would occupy the bed.
- **Occupied Beds** : Beds that is licensed, physically available, staffed, and occupied by a patient.
- **Vacant/Available Beds** : Beds that are vacant and to which patients can be transported immediately. These must include supporting space, equipment, medical material, ancillary and support services, and staff to operate under normal circumstances. These beds are licensed, physically available, and have staff on hand to attend to the patient who occupies the bed.

B. According to the type of patient care :

- **Adult Intensive Care (ICU)** : Can support critically ill/injured patients, including ventilator support.
- **Medical/Surgical** : Also thought of as "Ward" beds.
- **Burn or Burn ICU** : Either approved by the American Burn Association or self-designated. (These beds should not be included in other ICU bed counts.).
- **Pediatric ICU :** The same as adult ICU, but for patients 17 years and younger.
- **Pediatrics** : Ward medical/surgical beds for patients 17 and younger.
- **Psychiatric** : Ward beds on a closed/locked psychiatric unit or ward beds where a patient will be attended by a sitter.
- **Negative Pressure/Isolation** : Beds provided with negative airflow, providing respiratory isolation. Note : This value may represent available beds included in the counts of other types.
- **Operating Rooms** : An operating room that is equipped and staffed and could be made available for patient care in a short period.

Unit 2 □ IN PATIENT SERVICES

Structure

2.1 Introduction

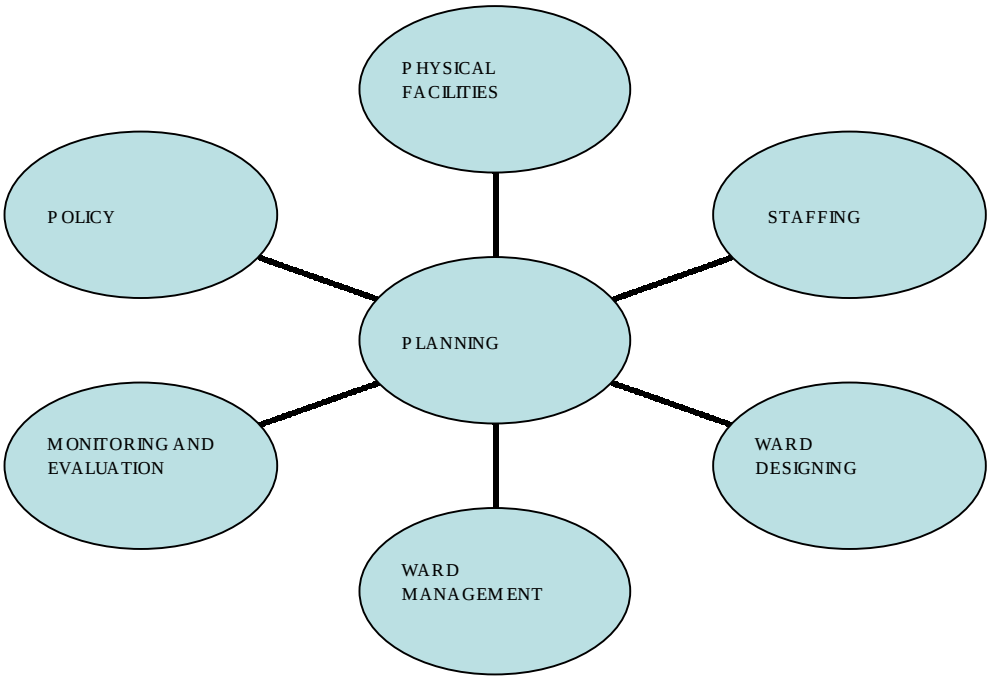
The inpatient service area forms approximately l/3rd of whole hospital complex.

- The primary role of the hospital is to provide curative care to the sick through provision of a shelter in the hospital, under direct supervision.
- It requires a systematically organized 'In patient care' facility. The organization of in patient service is very important because while providing curative care, there should be provision to look into the patients physical, emotional and psychological needs.
- The patient must feel at home having a clean, peaceful atmosphere, and adequate provision for self-entertainment.
- The attendants visiting the patients must also be provided facilities to wait for some times, and must be satisfied with the hospital sanitation and type of care to their patient.
- There has to be adequate safety and security and privacy for the patients and nutritious diet during the stay.

2.1.1 The Functions of inpatient services are :

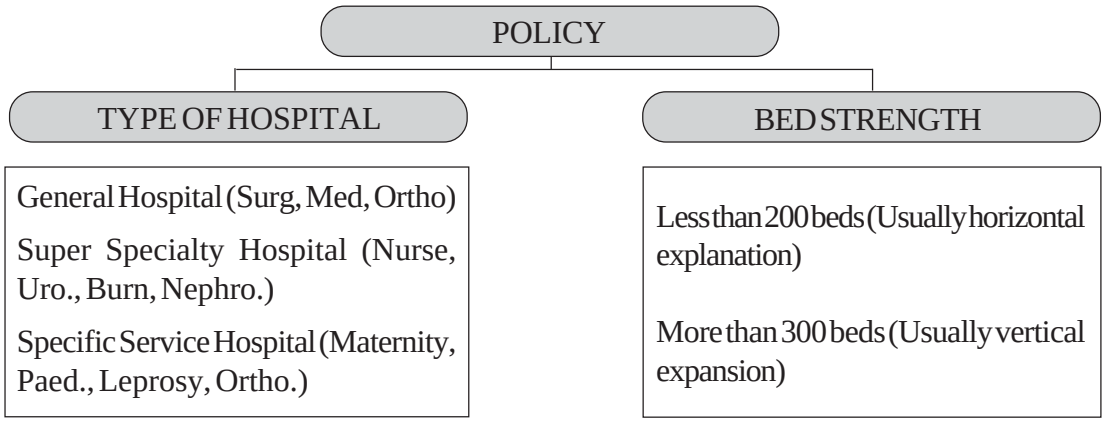
- To render nursing care to all patients.
- To provide necessary equipment, essential drugs and all other stores required for patient care in an organized manner in the ward.
- It serves as a temporary home for the patient and hence it is designed to accommodate all the needs of a patient.
- It provides opportunity for training medical, nursing and paramedical staff, besides conducting research work.

2.2 PLANNING AND ORGANIZATION OF INPATIENT SERVICES

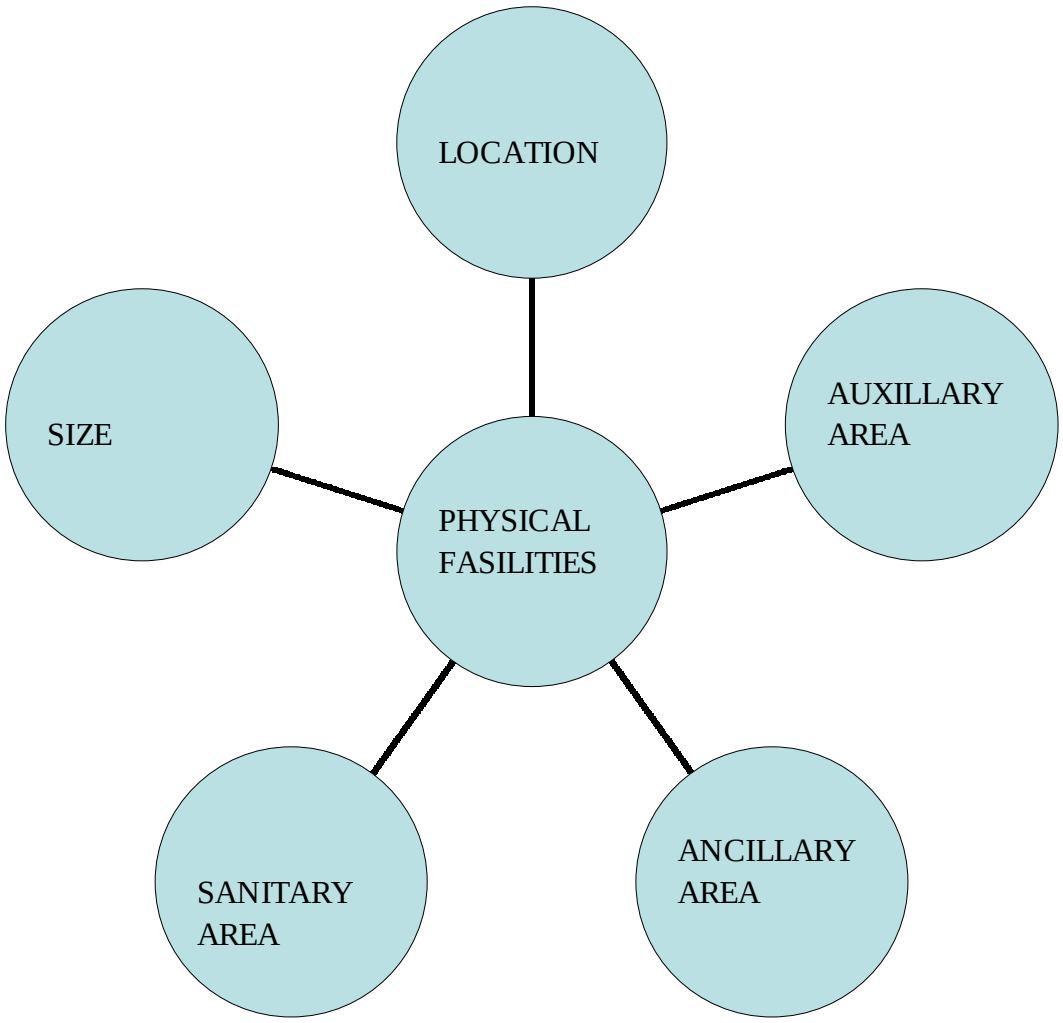


2.3 POLICY OF HOSPITAL

The indoor facility creation depends on the policy of the hospital to have the type of services and size of the hospital.



2.4 PHYSICAL FACILITIES



LOCATION

1. Should be at the backside of hospital complex to avoid traffic flow and congestion.
2. Have direct access from OPD and Emergency and OT.
3. Single door entrance to ward complex to restrict the traffic and visitors.
4. Good intramural transportation systems like wide corridors, lifts etc.

SIZE

1. The size of the ward or nursing unit varies from 20 ft to 90 ft.

2. The size of the ward depends on – Type of patient to be served

- Critical care units like ICU, CCU, Post op, burn have small wards where constant attention is required 20 to 30 beds.
- Patient requiring frequent attention, intermediate ward size 40-50 beds.
- For chronic long duration stay patients the size may be 70-90 beds.
- Availability of Nursing and other staff.
- Positioning of Nursing Station i.e. central, lateral.
- Close or open ward.

Ancillary Accommodation

Nursing station is the nerve centre of the ward area should be so located that the nurses can keep watch over as many patients as possible and the distant to the farthest patient should not be too much..

- Nurses room with attached toilet facility. The room should have a cupboard for medicines
- A counter in the open space outside the nurse's room carries out work
- A built-in drug cupboard for daily use medicine House physicians room : A suitable size room with examination couches and wash-hand bas is provided for the doctor on duty.

Clean work like setting up a trolley or a treatment tray for a minor procedure and so on. This is sometimes combined with treatment room.

(i)Treatment room : Including special examinations, minor dressings, lumber puncture, and intravenous injections and so on is carried out in this room. This reduces the risk of cross infection, the patient and the doctor receive better facilities and privacy and other patients are not disturbed.

(ii) Ward Kitchen/Pantry

The major function of the ward kitchen is temporary storage and distribution of meals and the preparation of beverages. The kitchen should be equipped with facilities for hot water, refrigerator, hot case and facilities for storage of crockery and cutlery. This room should have a large sink for washing various articles.

(iii) Day Room

A place congenial for sitting and relaxing is provided in the ward unit with comfortable chairs and reading material. This place can also be used as dining place and for meeting visitors. A common day room can be provided for two adjacent wards.

(iv) Stores

A small store room for keeping linen and bulk supply of cleaning material is also provided. Attached to the stores, a space may be provided for patient's lockers where they can keep their personal articles. Dirty utility or sluice room is provided in each ward for cleaning bed pans, urinals, sputum mugs and for storage of stool and urine specimens. It should be fitted with bedpans sink/washer.

(v) Janitor's Room

A Janitor's room is provided in each ward for keeping cups, cleaning material and buckets. It should have a large sink for cleaning buckets and other equipment and adequate supply of hot and cold water.

(vi) Water and Electricity Supplies

Adequate round-the-clock water supply should be available for ward areas, approximately 300 liter of water is required per bed per day.

Light points for ward and ancillary accommodation should be carefully designed. There should not be any glare from the lights. Alternative source of sunlight should be planned. There should be one industry switch for portable X-ray and one each of 15 ampere and 5 ampere in each cubicle for any contingency.

(vi) Communication

Effective two-way communication should be planned and provided. If hospital is 500 bedded with teaching and research activities, an alternative communication system of paging could also be planned for effective and prompt patient care.

(vii) Air-conditioning

A centralized positive pressure air-conditioning of hospital inpatient area helps in patient comfort and reducing hospital infection rate.

(viii) Auxiliary Accommodation

This accommodation includes ward laboratory seminar room, Nurse's rest room, Visitor's room etc. This accommodation is usually, common between 2 and 3 wards or for each floor.

2.5 Staffing Norms as per Indian Nursing Council

The Indian Nursing Council has developed norms for the staffing purpose.

It recommends one staff nurse per 3 beds in teaching & one staff nurse per 5 beds in non-teaching hospitals.

For 60 beds, there should be 20 staff nurses in teaching hospitals & 12 staff nurses in non-teaching hospitals.

NURSING STAFF FOR WARDS, SPECIAL UNITS & OPD AS RECOMMENDED BY INDIAN NURSING COUNCIL.

Particulars	Nursing Sister	Staff Nurse
Gen Med & Surgical Wards	1 :25 beds	1 :3 beds
ICU / CCU / Special. Wards	1 each shift	1 :1 bed (each Shift)
Labour Room	1 each shift	4 in each shift
OT	1 each shift	3 for 24hrs per table in each shift
OPD	1 overall 1 Gynae OPD	1 in each clinic of the department
-Casualty & Emergency Departments	1 in each shift	2-3 depending on the no. of admissions

IDEALLY STAFFING PATTERN IS

Bed : Nurse Ratio	1 : 1 in Surgical ITU
Bed : Nurse Ratio	2 : 1 in ITU / CCU
Bed : Nurse Ratio	5 : 1 in General Ward
Bed : Nurse Ratio	1 : 1 in Private Rooms

2.6 Critical Care Delivery Mechanism

Intensive care service is the most important component of progressive patient care. The services are provided through careful planning and organizing an Intensive care unit, (ICU).

The patients who are critically ill and require maximum and high level of efficient nursing care are kept in ICU for treatment.

2.6.1 Types

Such type of patients who are so sick, that they are not in a position to care for their health. It includes the following type of patients.

1. Who are unable to communicate their needs.

2. Who requires extensive nursing care.

3. Require constant observation and supervision.

4. Require ventilator support.

For this reason planning and organizing ICU service is so vital.

2.7 ALOS

27.1 Definition

Average length of stay

The number of nights that a patient spends in hospital is commonly referred to as their length of stay in hospital. If a patient is discharged and admitted on the same day then the length of stay is zero and they are basified as a day-patient. If a patient spends at least one night- hospital then they are classified as an inpatient.

2.7.2 ALOS Formula

Total number of bed-days in a year (Hospitalized patient days in a year)

No. of discharges and deaths in the same year

Reducing ALOS

1. Improved pre-operative assessment
2. Improved post-operative Care.
3. Improved use of post-operative resources

2.7.3 ALOS Affects Hospital costs

DIRECT COST :

— Medicine Consumables

— Lab / Diagnostics

— Professional Fees

IN DIRECT COST :

- GW charges

- ITU / CCU charges

- OT charges

2.8 Admission Process

2.8.1 Introduction : Patients are admitted to the hospital for various reasons such as scheduled tests and investigations procedures on surgery, emergency medical treatment or

for stabilization or roistering of existing medical conditions. Hospital admission involves iteming at a hospital for at least one night or more.

Functions of admission department mainly include admission transfer and discharge of putting. In some progressive hospitals the functions of this department is enlarged to include reception round the lock impunity or information and what is called as centralized putting service. Such department co-ordinates patents animal registration medical records, cessation of bids etc.

2.8.2 Registration : Before the patient is taken to then respective words some admission procedures have to be fulfilled. The person's data is recorded into the hospital computer system. This data includes.

• Name of the patient • Guardian's name (Father husband's name) • Date of birth • Sex • Marital status • Occupation • Nationality • Religion • Permanent address & Phone number • Name & Address of Next To Kin	This data is intend into the computer system and an ID, number is created. This entire rouses is known as registration of the patient

Before registering the patient, it s seen whether the patient is convened under insurance policy or not. If he is covered insurance policy, then he is registered under respective corporate heading for example the patient has the TPA of **Genins India Pvt Ltd** then he is registered under TPA of Genins India Pvt Ltd for cashless facilities

Admission : After registration is completed the process of admitting the patient actually begins. The procedure comprises of selecting the procedure (Reason) for which the patient is getting admitted, selecting a particular Bed and the admitting the patient under the respective doctor.

For all patients, the "next of kin" detail is duly filled up. For outstanding patients, taking local contact number is mandatory.

After entering the total data in the computer system of the hospital the admission report is-taken out and signed by the patient or his relative.

After the form is duly filled up the patient's relative is given the total information about the staying in the hospital and about the financial matters involved in it. Then he is asked to go to the Cash Counter with the documents and deposit the initial advance amount.

If the patient is covered by Insurance then he is sent to the corporate desk and informed about the corporate policy details.

After completing all these formalities the patient is taken to the Nursing Station in the respective ward and from there to their respective rooms.

2.8.3 Location

The admitting department should be strategically located. Since some of the patients seeking admission are physically incapacitated, confused or even disoriented, the department should be located in the ground floor of the main hospital building. Other Points to be considered are

a. Situated on the same level as the hospital's main building
b. be readily identifiable
c. provided with a sign that can be seen without difficulty from the hospital's main entrance, reception area and the information desk.
d. It should be adjacent or close to emergency service, outpatient department, medical records, laboratory, radiology and the cash counter.

2.8.4 Design

Admission and discharge should take place in a pleasant and comfortable environment where the patient is assured privacy and individual attention. Cubicles where in which, the hospital representative can interact with the patient on a one-on-one basis are highly recommended. Special consideration should given to decor, furniture, etc, which should be pleasing to eye.

2.8.5 Responsibilities

The task of the Admission department doesn't stop with the admission procedure only.

One of the major tasks of the Admission department is to keep the patient relatives updated with every information about the patient's condition. The department also answers to all enquiries about package details of the procedures or the surgeries to be done on the patient.

In case, any accident case comes to the hospital it is the responsibility of the Admission room to intimate the nearby police station about the patient. In case of deaths the Admission room takes care of the deceased patient's relatives. The admission room gives all the information about what to be done next.

2.9 Types of Cases Reporting To Admission

2.9.1 MEDICO-LEGAL CASES :

Emergency medical officer sends a MLC report stating the detail incident properly signed by on-duty medical officer and the witness. This report is sent to the admission officer who in turn arranges for sending this report to Local Police station. A separate file is maintained for keeping the reports accordingly stamped by the police station (POLICE CASE) in RED COLOUR.

2.9.2 FOREIGN PATIENTS :

Normally during admitting out station patients, the passport of the patient is checked.

2.9.3 CORPORATE PATIENTS :

If the patient is a corporate patient (IP-CORPORATE) with the name of the corporate. The photocopy of ID card/lnsrrar card is taken and patient is referred to CORPORATE DESK for formalities. Relatives are ,r/ : about the detailed formalities.

2.10 Discharge Process

Discharge is the release of an admitted patient from the hospital. Discharges also include deaths in hospital.

a) The doctor is the sole decider in this case. If he notices improvements, above Average Recovery Index (ARI), he intimates that to the discharge station (or personnel), one day prior to the day of discharge.

b) The second situation is also navigated by the doctor, himself If he notices remarked improvement he takes the spot decision and the rest of the procedures follows.

c) The third situation is a mutual understanding between the patient relatives and the doctor : n commonly called DORB (i.e. Discharge on Risk Bond) and governed by the patient relatives request. The doctor then intimates n discharge station regarding the developments and the remaining processes follows, as usual.)

In the processes seem to be too simple only if carried out in a methodical way. The wider of each situation are described below :

■ **Handing Expiry**

Hospital Death : Hospital death is the Death of any admitted permitted during his or her stay in the hospital.

■ **Policy To Handle Expiry**

Normally in case of any expiry patient relatives are explained about this by the medical officer and then relatives are sent to admission officer who explains about the formalities they have to under go to take the hand over of the deceased .

Relatives can arrange for the own vehicle to take the body of the deceased or in need admission office can help them by giving the different phone nos of dead body carriers

Handover over of original Death Certificate with relevant investigation papers are actually given to relatives when relatives comes with the vehicle and clears all there previous dues if any the Cash Counter.

Relatives have to sign on Expiry Record Register and on the carbon copy of the death certificate

declaring relatives have received the original certificate and identified the body while receiving

2.11 Medical Records

2.11.1 Introduction

The need for appropriate, written documentation of patients' treatment in hospitals cannot be brushed aside, because failure to maintain words means failure of duty towards the patient.

The record contains observations regarding the patient history, physical condition, investigations, line of treatment, daily progress diagnosis and discharge/death summary, and cause of death.

"In view of this record carries importance not only to patient but also to the hospital, doctor and court of law as a legal document. It is also used for teaching, training, and medical research.

Looking in to the importance of medical records, its documentation, preservation and safety is very essential. This needs a group of specially trained and dedicated team of workers for its maintenance."

A. Patient's Need

Serves as a story of the patient's passage through hospital, maintaining continuity in that story. It saves time in avoidable investigations if patient is readmitted and may well influence the course of subsequent hospitalization. Physicians now do not always have the time to get acquainted with the family life of a patient. For this reason, a written report of the family history and personal history are necessary. From an economic standpoint, use of medical record by other agencies representing insurance claims, union benefits, unemployment and industrial compensation is of paramount importance to the patient. Information contained in the medical records is often the determining factor in providing the patient with financial support or subsequent medical care for the remainder of his or her life.

B. Physician's Need

Medical record meets the physicians' needs as :

1. Practice of scientific medicine based on recorded facts,
2. Continuity of medical care,
3. Evaluation of his or her own capabilities and shortcoming, and
4. Effective communication for the medical team.

If adequate in content, records when properly classified can be promptly retrieved for study and research. The progressive physician welcomes an opportunity to use such source material to survey the result of the treatment in a particular disease entity. Frequently a physician will wish to review all cases which he or she has had in the hospital during a given time. The doctor may have a patient who dose not remember details of a previous hospitalization, but by referring to the record of that hospitalization, he or she may ascertain what organ or organs were removed at the time of operation. Also, the physician or the hospital may need to refer to the record of medico legal purpose.

C. Institution's Need

The hospital benefits as the records help in :

- Generating hospital statistics.
- Teaching and research.

- Admission control.
- Planning of service.
- Improving quality of care.

Statistics gathered from medical record show to the hospital administrator whether or not the efforts of physicians supplemented by the hospital facilities are in accordance with reasonable expectations of modern scientific medicine. Liability suits involving hospitals have been on the increase. Therefore, the hospital should be able to bring before the court of law a complete, up-to-date medical record, fully documented, in regard to the patient's illness and treatment. Testimony based on record facts is given a greater consideration than testimony dependent on memory.

D. Health Authority's Need

The records are important to the public health authorities as they contain reliable information regarding morbidity and mortality patterns of dependent population. National and state health laws require that certain reports be made available regularly to them. Reports like births and deaths, infectious diseases, notifiable diseases, statistics regarding incidence of diseases, and types and number of family planning procedures are constantly required by the government. Without the aid of medical records, this is not possible.

MEDICAL RECORD :

2.11.2 Definition :

McGibony considered medical record as a clinical, scientific, administrative and legal document relating to patient care in which are record sufficient data written in the sequence of events to justify diagnosis and warrant treatment and end result. Medical records is defined simply as a systematic documentation of a patient's personal and social data, history of his or her aliment, clinical findings, investigations, diagnoses, treatment given, and an acount of follow up and final outcome. A medical records document serves as : a clinical document listing the clinical history, physical examination, investigations, nursing records, etc. a scientific document because it is used to study the patient's condition and progress through scientifically practiced medicine, and for research. An administrative document it helps administrative control, planning of services, budgeting, improving quality of care, hospital statistics. Medical records are a personal document so far as it is associated with an individual identifying him or her history of illness, findings, treatment, and complication and so on. Being a personal document, it is a privileged communication, the information from which cannot be released without the patient's

consent. On the other hand, it is also an impersonal document, when its contents are used for research and training, without disclosing to whom the information belongs.

2.11.3 Major Functions of Medical Record :

The functions of the medical record department are :

1. To develop a good medical records system
2. To generate hospital statistics
3. Develop new record system in newer departments,
4. Reporting to state and health agencies,
5. Traning, and
6. Quality assurance.

2.11.4 Retention of records :

The length of time a medical record is to be retained should be determined by the existing law. However, there is no law in India which specifies such a period. In the absence of such regulatory requirement, the hospital administration will have to establish its own policy governing retention. Theoretically, hospitals should retain records for as long as there is a medical or administrative need for them, e.g. subsequent patient care, medical research, review and evaluation of professional and hospital services, or defense of professional or other liability actions. Apart from the above factors, the hospital should also consider the storage capabilities. The retention periods have been endlessly debated in various forums with some clinicians wanting to retain them up to 20 years.

Some of the senior medical records officers consider it desirable to retain them as under :-

a. Need of patient : Upto 7 years
b. Medico legal : Inpatient-7years Out-patient-5years
c. Teaching/research : Upto7years

2.11.5 Computerization of Medical Records

Medical records department is one of the most suitable departments in a hospital for computerization of it's entire function .Since the department's entire operation deals with information and documentation handling,comprehensive,computerized hospital management

system would have a significant impact on its daily operations. It would directly benefit medical records by :

1. location monitoring of patient charts
2. automatic assignment of ICD numbers
3. improved procedures for generating admission, discharge, birth, death and other medical records
4. Simplification of chart-abstracting functions.

2.12 Consent

Consent is a written authorization which is obtained from a patient or his nearest relative (Next to Kin) for medical examination, investigations, treatments and procedures performed in health care facilities. In case of children, persons with unsound mind, unconscious patients, the consent of guardian spouse or nearest relative may be obtained. The consent of husband is required if an operation is required by his wife for any marital function.

Patient need to give valid consent to medical treatment; and it is his prerogative to refuse treatment even if the said treatment will save his or her life. For this reason Informed consent has become so important, for the defense of both the doctor as well as his patient, even from the legal point of view.

- **General Consent** : Related to medical examination, investigation and treatment must be obtained from the admission office as a routine, in all cases of admitted patients in a hospital.
- **Special consent** : Special consents are obtained for surgical procedures (operations) like amputation, sterilization, patients leaving against medical advice donation of organs, post mortem examinations etc. these must be obtained by the sister in charge of the ward in presence of a witness. The legal responsibility is shouldered on the operating surgeon.
- **Emergency operations** : Procedures which has to be performed to save the life of a patient (for whom consent was not possible) the consent has to be signed by 2 physicians including one operating surgeon and the hospital administrator or his representative. This has to be written in patient's file " An emergency operation has to be performed to save the life of the patient and cannot be delayed."
- **Patients leaving against medical advice** : Consent has to be obtained if a patient leaves the hospital against medical advice. Next to kin must sign the consent form along

with the patient with full information about the risk involved in it and hospital is not responsible for any adverse effects.

2.13 Patient Satisfaction

- A patient is any person who receives medical attention, care, or treatment. The person is most often ill or injured and in need of treatment by a physician or other medical professional, although one who is visiting a physician for a routine check-up may also be viewed as a patient.
- **Tips for Generating Patient Satisfaction and Compliance**

1. Establish a sense of trust
2. Uncover Patients' Actual Needs
3. Think dialogue, not monologue
4. Don't force "the close"
5. Always follow up

2.13.1 Concept of Satisfaction

Satisfaction is an important element in the evaluation stage. It refers to the consumers' state of being adequately rewarded. Adequacy of satisfaction is a result of matching the actual past experience with the expected reward. Patients form certain expectations prior to the visit. Once patients come to the hospital and experience the facilities, they may then become either satisfied or dissatisfied. Satisfaction or dissatisfaction refers to emotional response to the evaluation of service, consumption, experience. It will have five key elements. They are :

1. **Expectations :** The seeds of patient satisfaction are sowed during the pre-purchase phase when consumers develop expectations or beliefs about what they expect to receive from the product. These expectations are carried forward and again activated at the time of reusing.

2. **Performance :** During the usage of services the patients experience the actual product in use and perceive its performance on the dimensions that are important to us.

3. **Comparison :** It will be done after usage with pre-usage expectations.

4. **Confirmation/Disconfirmation** : Comparison of expectations with actual performance results in satisfaction or dissatisfaction.

5. **Discrepancy :** If the performance levels are not equal, discrepancy results.

2.13.2 Factors Influencing Patient Satisfaction

Every human being carries a particular set of thoughts, feelings and needs. The wishing list might be of value for those who want to know the real person within the patient. One must admit that there are a lot of things which could be altered. By getting to know the patients a little more to get their views on the care one ought to come closer to what the patients consider as a good care.

Patient satisfaction is a team effort of various categories of staff in the organization as well as an effective leadership.

Here are many factors within the hospital which influence Patient satisfaction and these results in :

1. Greater profitability.
2. Improved patient retention and patient loyalty.
3. Increased patient referrals.
4. Improved compliance.
5. Improved productivity.
6. Better staff morale.
7. Reduced staff turnover.
8. Improved collections.
9. Greater efficiency.
10. Reduced risk of malpractice suit.
11. Personal and professional fulfillment.
12. Name and fame to the organization

2.14 Hospital Quality Assurance System

Quality assurance is any systematic process of checking to see whether a product or service being developed is meeting specified requirements. Many hospitals have a separate quality assurance committee devoted to quality assurance.

A quality assurance system is said to increase patient's confidence and a hospital's credibility, to improve work processes and efficiency, and to enable a hospital to better compete with others.

Quality assurance was initially introduced in World War II when ammunitions were inspected and tested for defects after they were made. Today's quality assurance systems emphasize catching defects during the process, before they get into the final output of the product.

All dimensions like accessibility, appropriateness, continuity, effectiveness & efficiency must be given equal importance in quality assurance.

Quality assurance is gaining importance because of increase consumer's awareness about health, stiff market competition, growing Medical tourism and finally the growing concern for Patient safety.

Unit 3 □ HOSPITAL DIAGNOSTIC SERVICES

Structure

3.1 LABORATORY SERVICES & BLOOD BANK

Introduction

The importance of hospital laboratory services cannot be overestimated because the practice of medicine today requires more and more laboratory examinations, and physicians have ,need of diagnostic facilities whether they are' private practitioners or hospital-based doctors. Undoubtedly, one reason for the concentration of doctors in cities and towns is the availability of such services, as contrasted with the lack of such services in rural and less densely populated centres.

A hospital laboratory service can be a high income generating service and economic asset to the hospital. An efficient laboratory service for outpatients has bearing on reducing the number of patients admitted solely for laboratory investigations, thus, reducing pressure on hospitals beds. An efficient laboratory service also helps in reducing the average length of stay of admitted patients.

IMPORTANCE OF LAB : Laboratory services are essential to health care delivery. The hospital lab offers the convenience of local service, and familiarity with both the outpatient and his physician. Hospital labs depend on their outpatient testing to make up money lost during times of low in-house census They address both preventive and curative activities, i.e. patient diagnosis, and the selection of drugs for treatment. They are also an indispensable tool in the surveillance and control of diseases. Improved disease recognition will improve the accuracy of statistical reporting, and thus effective national health planning.

The basic functions of a laboratory service are

(i) To assist doctors in arriving at or confirm a diagnosis and to assist in the treatment and follow-up of patients. In doing this,

(ii) The laboratory not only generates prompt and reliable reports, but also to function as a storehouse of reports for future references. A hospital-based laboratory has also

(iii) To carry out urgent tests at any part of day or night and therefore provide service 24 hours a day, and in big hospitals

(iv) The laboratory also assists in teaching programmes for doctors, nurses and laboratory technologists.

Various Divisions of Laboratory - A hospital laboratory work generally falls under the following divisions:

1. Haematology

2, Microbiology

3. Clinical chemistry

4. Histopathology.

Outpatient Sample Collection

Provision of a laboratory sample collection facility on the outpatient department of large hospitals may be necessary because of the high quantum of OPD investigations. The room should be located at a suitable place in the outpatient department. The design of this area should include waiting room for the patients, specimen toilets separately for male and female patients. Provision should be made for containers with appropriate preservatives, for correct labeling of samples, and for keeping record of each patient.

Sample Receiving In the reception area, all samples of blood, faeces, urine, pus, body fluids, swabs, etc. should be received at the reception window counter. Sufficient racks/shelves and a hand washing facility must be available in this area. Under no circumstances, samples should be collected from any patient in any room used as laboratory work area.

Staffing

The hospital laboratory service should be under the control and direction of a doctor with qualifications in pathology. He or she bocomes the overall incharge of the laboratory with responsibilities of quality control, standardisation and administration. He or she should be a part of the regular medical staff of the hospital

Smaller hospitals may not justify full-time services of a pathologist.

The number of medical laboratory technologists (MLTs) and laboratory technicians will depend upon :

(i) the number of samples per day,

(ii) the range of tests to be performed under various sections, viz. clinical chemistry, haematology, microbiology and histopathotogy (or other specialist laboratories),

(iii) emergency service,

(iv) MLTs and laboratory technicians perform all technical procedures in various sections, prepare reports of completed investigations, check and maintain equipment, and requisition necessary supplies and materials.

MLTs are responsible for most of the routine technical work of the laboratory. The selection, training and experience of MLTs and laboratory technicians should instill confidence in the medical staff as regards the standard of their output. A committed person with basic qualification and experience can successfully handle various technical functions under the supervision of the pathologist even under adverse working conditions. MLTs and laboratory technicians in a section work under a technical supervisor who has special-expertise and experience in that section. This means that each section in a large laboratory should have a technical supervisor.

Equipments

1. Robot cell counter.
2. Centrifuge
3. Microhaematocrit centrifuge.
4. Refrigerators
5. Blood bank refrigerator
6. Water still
7. Pressure sterilizer
8. Pipette washer
9. Flame photometer.
10. Spectrophotometer
11. Hot air oven
12. Incubator
13. Calorimeter.

Blood bank : A **blood bank** is a bank of blood or blood components, gathered as a result of blood donation or collection, stored and preserved for later use in blood transfusion. The term "blood bank" typically refers to a division of a hospital where the storage of blood product occurs and where proper testing is performed (to reduce the risk of transfusion related adverse events). However, it sometimes refers to a collection center, and indeed some hospitals also perform collection.

- Outpatient Samples Provision of sample collection centre in the outpatient department will be a necessity in larger hospitals where the volume of workload from outpatient department is considerable. A technician receives urine and stool sample and draws blood for hematology and clinical chemistry. The samples are then sent to the main laboratory for processing.
- HIV Necessary safety precaution should be understood clearly by all concerned while drawing blood samples from suspected HIV and hepatitis patients, with disposable syringes and needles. Needed on ordering only the appropriate tests required for diagnosis or prognosis based on clinical judgment and filling the required forms completely.

Laboratory Waste Disposal

Histopathology and microbiology laboratory waste should be considered as hazardous waste and should be disposed accordingly. In fact, all waste material from all the sections of the laboratory can be treated as hazardous waste and should be disposed of by burning in the hospital incinerator.

3.2 CARDIAC CAUTERIZATION LABORATORY (CATHLAB)

Overview

Cardiac catheterization views the anatomy of the heart using a contrast material injected into the coronary arteries under fluoroscopic imaging.

Cardiac Catheterization is a relatively painless non-surgical procedure that is performed in a specially equipped hospital laboratory. With a number of well-established and well-equipped cath labs operating across country their number raising steadily—the procedure is becoming common.

The procedures performed in the cardiac catheterization laboratory can be classified as diagnostic therapeutic. Some examples of diagnostic and therapeutic procedures that are performed in a Cath lab are listed below.

Diagnostic procedures

- o Coronary angiogram.
- o Right and left heart catheterization
- o Electrophysiological studies.
- o Intravascular ultrasound

Therapeutic procedures

- Coronary angioplasty with stent implantation.
- Rotablator, Atherectomy
- Percutaneous translational valvuloplasty
- Pacemaker implantation
- Implantation of cardioverter defibrillator.
- Retrieval of broken catheters
- Laser Angioplasty

After patient is properly identified, the procedure must be explained before consent can be signed, Baseline vital signs will be done and as long as these are within the doctor's interest, can proceed with the procedure. Blood tests must be done

The technologist working with the cardiologist must be scrubbed in following basic sterile surgical technique, The patient is then draped from neck down with sterile drapes, All equipment (radiation shields, image intensifier, equipment used to manipulate machine) must be prepped with sterile covers

When doctor and tech are scrubbed and all equipment and supplies are ready, the procedure may begin. After numbing the groin area, the femoral artery is palpated and a needle is inserted in that direction. When blood comes out of needle, the artery has been accessed. A small, flexible guidewire is then inserted into the lumen of the needle. The needle can then be removed but the wire must maintain position.

Movement of catheter is monitored under fluoroscopy (x-ray movies) with the cardiologist manipulating its movements. The fluoroscopic machine is manipulated by a qualified, scrubbed in, radiology technologist. When catheter is in place, wire can be removed and contrast administered.

The x-ray machine is suspended from the ceiling. It can be manipulated in multiple angles and views to achieve a desired picture. The x-ray comes from the bottom of the machine and the image intensifier that transmits the image is above the patient. Lead shielding and a radiation badge is required for all personnel in the room during the procedure.

The procedure is complete when the cardiologist has seen all the views and anatomy desired and all pressures recorded. The catheter can be removed and manual pressure must be applied to entry site for 15 minutes.

■ **Risks**

Cardiac catheterization carries a slightly higher risk than other heart tests, but is very safe when performed by an experienced team.

Generally, the risks include the following :

- Cardiac arrhythmias
- Cardiac tamponade
- Heart attack
- Bleeding
- Low blood pressure
- Reaction to the contrast medium
- Stroke
- Trauma to the artery caused by hematoma

■ **Possible complications of any type of catheterization include the following :**

- A risk of bleeding, infection, and pain at the IV site
- A very small risk that the soft plastic catheters could damage the blood vessels
- Blood clots could form on the catheters and later block blood vessels elsewhere in the body.
- The contrast material could damage the kidneys (particularly in patients with diabetes).

■ **Design elements**

The following facilities are needed :

o Catheterization procedure room

o Control/Console room

- Patient holding room, preferably equipped with ECG monitors
- Patient recovery room
- Technicians' work room
- Dark room for 35 mm film, if necessary.
- Equipment storage room (for defibrillator, echo-cardiograph and other equipment)
- Film viewing area for cardiologists
- Desirable—a small chemistry lab (for blood gas analysis). Advanced cath labs have full-scale electro-physiology labs.
- Scrub facilities
- Storage space for case carts
- Alcove for wheelchairs and stretchers
- Clean and soiled utility rooms
- Toilet(s)

The procedure room in the catheterization laboratory is a clean room similar to the special procedures room in the radiology department. Most hospitals—particularly smaller ones—have cath labs with single procedure rooms which may also be used for other special procedures. One of the advantages of having two procedure rooms is that one control room, strategically located, can serve two procedure rooms. They will also come in handy when expansion of the hospital becomes inevitable. The sterile field is the area occupied by the patient, the angiographer (cardiologist), his assistant and the scrub nurse, besides the case cart or back table with supplies.

It is recommended that the control room be located at the foot-end of the patient table to provide optimum visual contact to the procedure room through the dividing glass wall.

It is absolutely imperative that the architect has detailed discussion with cardiologist(s) and other specialists responsible for evolving the plan and later using the facility. The architect should also be in close-consultation and act in consonance with the manufacturers/ suppliers of are technical.

Other Facilities

- Clerical work area for scheduling, transcribing, filing, billing, etc.
- Filing space for films and records
- Sterilization facilities-autoclaving, ethylene oxide (gas) sterilization and chemical sterilization.

Some of these facilities may be off site, for example, in the cardiology department.

3.3 NUCLEAR MEDICINE

What is General Nuclear Medicine?

Nuclear medicine is a branch of medical imaging that uses small amounts of radioactive material to diagnose or treat a variety of diseases, including many types of cancers, heart disease and certain other abnormalities within the body.

Nuclear medicine or radionuclide imaging procedures are noninvasive and usually painless medical tests that help physicians diagnose medical conditions. These imaging scans use radioactive materials called radiopharmaceuticals or radiotracers.

Depending on the type of nuclear medicine exam you are undergoing, the radiotracer is either injected into a vein, swallowed or inhaled as a gas and eventually accumulates in the organ or area of your body being examined, where it gives off energy in the form of gamma rays. This energy is detected by a device called a gamma camera, a (positron emission tomography) PET scanner and/or probe. These devices work together with a computer to measure the amount of radiotracer absorbed by your body and to produce special pictures offering details on both the structure and function of organs and tissues.

In some centers, nuclear medicine images can be superimposed with computed tomography (CT) or magnetic resonance imaging (MRI) to produce special views, a practice known as image fusion or co-registration. These views allow the information from two different studies to be correlated and interpreted on one image, leading to more precise information and accurate diagnoses. In addition, manufacturers are now making single photon emission computed tomography/computed tomography (SPECT/CT) and positron emission tomography/computed tomography (PET/CT) units that are able to perform both imaging studies at the same time.

Nuclear medicine also offers therapeutic procedures such as radioactive iodine (I-131) therapy that uses radioactive material to treat cancer and other medical conditions affecting the thyroid gland.

Some common uses of the procedure

Physicians use radionuclide imaging procedures to visualize the structure and function of an organ, tissue, bone or system of the body.

Nuclear medicine imaging scans are performed to :

- analyze kidney function.
- visualize heart blood flow and function (such as a myocardial perfusion scan).
- scan lungs for respiratory and blood flow problems.
- identify inflammation in the gallbladder.
- evaluate bones for fractures, infection, arthritis and tumors.
- determine the presence or spread of cancer in various parts of the body.
- identify bleeding into the bowel.
- locate the presence of infection.
- measure thyroid function to detect an overactive or underactive thyroid.
- investigate abnormalities in the brain, such as seizures, memory loss and abnormalities in blood flow.
- localize the lymph nodes before surgery in patients with breast cancer or melanoma.

Preparation

You may be asked to wear a gown during the exam or you may be allowed to wear your own clothing.

Women should always inform their physician or technologist if there is any possibility that they are pregnant or if they are breastfeeding their baby.

You should inform your physician and the technologist performing your exam of any medications you are taking, including vitamins and herbal supplements. You should also inform them if you have any allergies and about recent illnesses or other medical conditions.

Jewelry and other metallic accessories should be left at home if possible, or removed prior to the exam because they may interfere with the procedure.

You will receive specific instructions based on the type of scan you are undergoing.

See the Radioactive iodine (I-131) therapy page for instructions on how to prepare for the procedure.

Equipment

Most nuclear medicine procedures are performed using a gamma camera, a specialized camera encased in metal that is capable of detecting radiation and taking pictures from different angles. It may be suspended over the examination table or it may be beneath the table. Often, gamma cameras are dual-headed with one camera above and one camera

beneath the table. The camera could also be located within a large, doughnut-shaped scanner similar in appearance to a computed tomography (CT) scanner. In some imaging centers, the gamma camera is located beneath the exam table and out of view.

A positron emission tomography (PET) scanner is a large machine with a round, doughnut shaped hole in the middle, similar to a CT or MRI unit. Within this machine are multiple rings of detectors that record the emission of energy from the radiotracer in your body.

A computer aids in creating the images from the data obtained by the camera or scanner.

A probe is a small hand-held device resembling a microphone that can detect and measure the amount of the radiotracer in a small area of your body.

There is no specialized equipment used during radioactive iodine therapy, but the technologist or other personnel administering the treatment may cover your clothing and use lead containers to shield the radioactive material you will be receiving.

Procedure

With ordinary x-ray examinations, an image is made by passing x-rays through your body from an outside source. In contrast, nuclear medicine procedures use a radioactive material called a radiopharmaceutical or radiotracer, which is injected into your bloodstream, swallowed or inhaled as a gas. This radioactive material accumulates in the organ or area of your body being examined, where it gives off a small amount of energy in the form of gamma rays. A gamma camera, PET scanner, or probe detects this energy and with the help of a computer creates pictures offering details on both the structure and function of organs and tissues in your body.

Unlike other imaging techniques, nuclear medicine imaging studies are less directed toward picturing anatomy and structure, and more concerned with depicting physiologic processes within the body, such as rates of metabolism or levels of various other chemical activity. Areas of greater intensity, called “hot spots”, indicate where large amounts of the radiotracer have accumulated and where there is a high level of chemical activity. Less intense areas, or “cold spots”, indicate a smaller concentration of radiotracer and less chemical activity.

In radioactive iodine (I-131) therapy, radioactive iodine (I-131) is swallowed, absorbed into the bloodstream in the gastrointestinal (GI) tract and concentrated from the blood by the thyroid gland where it destroys cells within that organ.

How is the procedure performed?

Nuclear medicine imaging is usually performed on an outpatient basis, but is often performed on hospitalized patients as well.

You will be positioned on an examination table. If necessary, a nurse or technologist will insert an intravenous (IV) line into a vein in your hand or arm.

Depending on the type of nuclear medicine exam you are undergoing, the dose of radiotracer is then injected intravenously, swallowed or inhaled as a gas.

It can take anywhere from several seconds to several days for the radiotracer to travel through your body and accumulate in the organ or area being studied. As a result, imaging may be done immediately, a few hours later, or even several days after you have received the radioactive material.

When it is time for the imaging to begin, the gamma camera will take a series of images. The camera may rotate around you or it may stay in one position and you will be asked to change positions in between images. While the camera is taking pictures, you will need to remain still for brief periods of time. In some cases, the camera may move very close to your body. This is necessary to obtain the best quality images. If you are claustrophobic, you should inform the technologist before your exam begins.

If a probe is used, this small hand-held device will be passed over the area of the body being studied to measure levels of radioactivity. Other nuclear medicine tests measure radioactivity levels in blood, urine or breath.

The length of time for nuclear medicine procedures varies greatly, depending on the type of exam. Actual scanning time for nuclear imaging exams can take from 20 minutes to several hours and may be conducted over several days.

When the examination is completed, you may be asked to wait until the technologist checks the images in case additional images are needed. Occasionally, more images are obtained for clarification or better visualization of certain areas or structures. The need for additional images does not necessarily mean there was a problem with the exam or that something abnormal was found, and should not be a cause of concern for you. You will not be exposed to more radiation during this process.

If you had an intravenous line inserted for the procedure, it will usually be removed unless you are scheduled for an operating room procedure that same day.

During radioactive iodine (I-131) therapy, which is most often an outpatient procedure, the radioactive iodine is swallowed, either in capsule or liquid form.

What will I experience during and after the procedure?

Most nuclear medicine procedures are painless and are rarely associated with significant discomfort or side effects.

If the radiotracer is given intravenously, you will feel a slight pin prick when the needle is inserted into your vein for the intravenous line. When the radioactive material is injected into your arm, you may feel a cold sensation moving up your arm, but there are generally no other side effects.

When swallowed, the radiotracer has little or no taste. When inhaled, you should feel no differently than when breathing room air or holding your breath.

With some procedures, a catheter may be placed into your bladder, which may cause temporary discomfort.

It is important that you remain still while the images are being recorded. Though nuclear imaging itself causes no pain, there may be some discomfort from having to remain still or to stay in one particular position during imaging.

Unless your physician tells you otherwise, you may resume your normal activities after your nuclear medicine scan. If any special instructions are necessary, you will be informed by a technologist, nurse or physician before you leave the nuclear medicine department.

Through the natural process of radioactive decay, the small amount of radiotracer in your body will lose its radioactivity over time. It may also pass out of your body through your urine or stool during the first few hours or days following the test. You may be instructed to take special precautions after urinating, to flush the toilet twice and to wash your hands thoroughly. You should also drink plenty of water to help flush the radioactive material out of your body as instructed by the nuclear medicine personnel.

Who interprets the results and how do I get them?

A radiologist who has specialized training in nuclear medicine will interpret the images and forward a report to your referring physician.

Benefits

- The information provided by nuclear medicine examinations is unique and often unattainable using other imaging procedures.
- For many diseases, nuclear medicine scans yield the most useful information needed to make a diagnosis or to determine appropriate treatment, if any.
- Nuclear medicine is less expensive and may yield more precise information than exploratory surgery.

Risks

- Because the doses of radiotracer administered are small, diagnostic nuclear medicine procedures result in low radiation exposure, acceptable for diagnostic exams. Thus, the radiation risk is very low compared with the potential benefits.
- Nuclear medicine diagnostic procedures have been used for more than five decades, and there are no known long-term adverse effects from such low-dose exposure.
- Allergic reactions to radiopharmaceuticals may occur but are extremely rare and are usually mild. Nevertheless, you should inform the nuclear medicine personnel of any allergies you may have or other problems that may have occurred during a previous nuclear medicine exam.
- Injection of the radiotracer may cause slight pain and redness which should rapidly resolve.
- Women should always inform their physician or radiology technologist if there is any possibility that they are pregnant or if they are breastfeeding their baby. See the Safety page for more information about pregnancy, breastfeeding and nuclear medicine exams.

Limitations of General Nuclear Medicine

Nuclear medicine procedures can be time-consuming. It can take hours to days for the radiotracer to accumulate in the part of the body under study and imaging may take up to several hours to perform, though in some cases, newer equipment is available that can substantially shorten the procedure time. You will be informed as to how often and when you will need to return to the nuclear medicine department for further procedures.

The resolution of structures of the body with nuclear medicine may not be as clear as with other imaging techniques, such as CT or MRI. However, nuclear medicine scans are more sensitive than other techniques for a variety of indications, and the functional information gained from nuclear medicine exams is often unobtainable by any other imaging techniques.

Nuclear medicine procedures are of two types :

(1) **In-vivo procedures** in which radioisotopes are administered to patients and

(2) **In-vitro procedures** where radioactivity is added to the samples collected room the patient In-vivo tests are classified into organ-imaging procedures and non-imaging procedures.

With the availability of many short-lived radioisotopes, nuclear medicine has now become an important medical specialty with wide applications in various branches of medical science. Some of the important applications of nuclear medicine are—imaging of various organs such as heart, thyroid, liver, brain, bone, kidney, etc., thyroid function studies, investigations of the central nervous system, absorption studies in gastroenterology, nuclear hematology and renal function studies like radioman- nun assay of various hormones. With the help of a gamma camera, a variety of dynamic function studies can be performed using appropriate radio pharmaceuticals.

Location and design

Since the nuclear medicine department caters to the needs of all clinical departments, it should be located centrally. At the same time, because of radiation hazards associated with the use of radioni elides, the department should be planned in such a way that there is no radiation exposure to non-radiation employees and the general public. Also radiation workers handling radioisotopes should receive minimum exposure. A major problem is the safe and proper disposal of radioactive material.

The department should be close to diagnostic radiology, outpatient services, social services, laboratory and medical records. Many patients are ambulatory. Traditionally, nuclear medicine is a part o diagnostic radiology using the common facilities of the department.

When a hospital decides to set up a nuclear medicine department, the authorities are faced with a number of questions regarding location, facilities planning, equipment and availability of trained personnel. More importantly, they would want to know the procedure for obtaining clearance from various regulatory bodies. The first step in this process is to consult an expert or a team of experts who will guide them.

To encourage the growth of nuclear medicine so that benefits of nuclear medicine techniques can be made available to patients in all parts of the country, the Division of Radiological Protection (DRP) of BARC has brought out publications providing guidelines to hospitals wishing to set up a nuclear medicine department. It also helps them to obtain information regarding location, planning, equipment and procedural details. Hospitals may contact the Board of Radiation and Isotope Technology, V. N. Purav Marg, Deonar, Mumbai-400094.

3.4 OPERATION THEATRE

Introduction :

Operation theatre is the most important revenue generating centre of a hospital. It undertakes all the surgeries and operations done in the hospital. The location of OT suite should ensure quietness, free from external disturbances and close to the surgical wards. Corridors leading to this unit should not be used as thorough passages. An important factor in the location is future growth. If expansion is envisaged in the future, the present location and plan must permit for expansion in an orderly fashion without upsetting the basic relationship of the internal organization

Art of surgery is created by the hands of a surgeon. These hands are of no use, if there is an inadequate operation facility. All surgical departments need a well equipped Operation Theater (OT) to work with. The surgical departments save the precious life through operation. About fifty percent of hospital beds are allocated to surgical departments signifying its importance.

With the introduction of super specialty services and gradual development in operation technologies, the designing of operation theatre is becoming more sophisticated and complex in nature.

This has warranted an intelligent planning and skillful organizing of a modern OT so as to meet the modern demand for surgery as well as, matching the expectations of the surgeons.

Therefore planning an OT has become more crucial. Certain aspects like clean environment, adequate safety of staff and patients, controlling of infection, are issues to be considered at the stage of planning itself. The above factors reflect the importance of organizing an operation theatre, depicting the technical and conceptual skills of a hospital Administrator.

Zoning

The OT suite is a potential source of hospital infection in general and wound infection in particular. The suite has to be designed with the aim of minimizing the risk of hospital infection being brought into the suite. Therefore, the whole OT suite is planned on the concept of four zones, predicted on the types of activities, patterns of circulation and degree of sterility to be maintained. These zones are the disposal zone, protective zone, clean zone, and sterile zone.

Criteria for Zoning : The aim of zoning is that when staff members, patients or supplies enter the OT suite, the risk factors of carrying the chances of infection with them get lesser and lesser, as they pass from the protective through clean to aseptic zone.

General Principles

1. Clean and dirty traffic-flows within the OT suite should be segregated as best as possible. Spaces in the suite should be arranged in such a way that while moving from one space to another, there is continuous progression of cleanliness from entrance of OT suite to the operating room.
2. Staff working in the OT department should be able to move from one clean area to the other without having to pass through unprotected areas.
3. Soiled materials and waste should be removed from the operating rooms without passing through highly clean areas.
4. OT ventilation should be independent of the air movement of the rest of the hospital. Therefore, from cleaner to less clean areas.

The OT suite organization revolves around the central aseptic work area, i.e. the actual operating rooms. Activities take place in this zone that requires full aseptic conditions, such as exposure of living tissues and handling sterile instruments. Here, the highest level of cleanliness and aseptic conditions are maintained.

3.5 RADIOLOGY SERVICES

The term “Radiology” now incorporates :

- Radio diagnosis -X-ray
- Ultra Sonography
- CT scan
- Magnetic resonance imaging (MRI)
- Digital subtraction angiography (DSA) Radiotherapy
- Nuclear medicine
- Interventional radiology.

Siting and layout

Siting

1. The department should be easily accessible to the OPD, casualty and the inpatient wards.

2. If the department is designed as a limb of the hospital building, conveniently approachable from the user departments, it meets the above requirement.
3. Therefore, it should preferably be sited on the ground floor.
4. It should not be sandwiched between other departments.
5. It should have some scope for expansion at a later date.
6. Radiation protection has no bearing on sitting (but has a bearing on the layout of radiographic rooms).
7. Flexibility, expandability and upgradeability need to be kept in mind while sitting the department.

Layout

Factors to be considered

1. Adequate reception and registration area

2. Convenient patient flow with minimization of crisscross traffic

3. adequate waiting areas

4. Provision of rooms for the technical functioning :

• Chief radiologist office

• Radiologists

• X-ray rooms

• Darkrooms/auto processing room.

• Film store

• X-ray record room.

• Staff locker room and toilet.

• Viewing gallery and conference room.

• Film drying room Barium room.

• Recovery room for patients subjected to special investigations

• UItrasonography room

• Toilets.

Radiation protection : If radiology rooms are isolated and built so that people cannot come within one meter of its outside walls, no protection to walls is required. However, as this is not always possible, the walls of the rooms where radiographic machines are located have to be adequately reinforced.

As per recommendations of the radiation protection division of Bhaba Atomic Research Centre (BARC), Mumbai the walls of the radiography rooms have to be 9 inches thick concrete walls or 14 inches thick brick masonry walls which are sufficient for primary as well as scattered radiation. Where they are thin, lead shielding of walls is advisable.

- The places which need special protection are :

i. wall behind the chest stand in radiology room

ii. Wall between radiology room and adjoining room.

- Personal protective measures, viz. wearing the lead-rubber apron while working and lead rubber gloves while doing fluoroscopy work provide adequate protection.
- Use of personal film badge/dosimeter and their quarterly submission to BARC.

X Ray

Definition

X-rays are a form of electromagnetic radiation, just like visible light. In a health care setting, a machines sends are individual x-ray particles, called photons. These particles pass through the body. A computer or special film is used to record the images that are created.

Structures that are dense (such as bone) will block most of the x-ray particles, and will appear white. Metal and contrast media (special dye used to highlight areas of the body) will also appear white. Structures containing air will be black, and muscle, fat, and fluid will appear as shades of gray.

How the Test is Performed

The test is performed in a hospital radiology department or in the health care provider's office by an x-ray technologist. The positioning of the patient, x-ray machine, and film depends on the type of study and area of interest. Multiple individual views may be requested.

Much like conventional photography, motion causes blurry images on radiographs, and thus, patients may be asked to hold their breath or not move during the brief exposure (about 1 second).

How to Prepare for the Test

Inform the health care provider prior to the exam if you are pregnant, may be pregnant, or have an IUD inserted.

If abdominal studies are planned and you have had a barium contrast study (such as a barium enema, upper GI series, or barium swallow) or taken medications containing

bismuth (such as Pepto-Bismol) in the last 4 days, the test may be delayed until the contrast has fully passed.

You will remove all jewelry and wear a hospital gown during the x-ray examination because metal and certain clothing can obscure the images and require repeat studies.

How the Test Will Feel

There is no discomfort from x-ray exposure. Patients may be asked to stay still in awkward positions for a short period of time.

Risks

For most conventional x-rays, the risk of cancer or defects due to damaged ovarian cells or sperm cells is very low. Most experts feel that this low risk is largely outweighed by the benefits of information gained from appropriate imaging. X-rays are monitored and regulated to provide the minimum amount of radiation exposure needed to produce the image.

Young children and fetuses are more sensitive to the risks of x-rays. Women should tell health care providers if they think they are pregnant.

3.6 MAGNETIC RESONANCE IMAGING (MRI)

Definition : An MRI, also known as magnetic resonance imaging, is a pain-free non-invasive medical test used to procure two dimensional images of the structures of the body. The process uses intense magnetic fields to make images of the inside of the body.

In a traditional MRI, the patient is placed on a bed that moves inside a tube, where the MRI is done. An open MRI, an option for patients who are bothered by small spaces or are very large, does not require the patients to be placed in the tube, but is done in the "open".

MRIs are used to detect problems within the body or brain without surgery, and can identify abnormalities from outside the body.

If your physician suspects that you have a an illness or disease process, an MRI may be ordered in an attempt to identify the problem. In some cases, a diagnosis can be made with an MRI and may prevent or indicate the need for surgery.

Also Known As : Magnetic Resonance Imaging, Open MRI

Examples : An MRI was recommended to determine if the patient was having seizures due to a brain tumor.

In MRI, a patient is made to lie in a high magnetic field, and various radiofrequency pulses are put on and off repeatedly. The signals from human tissue are received and fed to computer which converts these signals into images on a TV screen.MRI detects lesions measuring 3 mm and less.

The images are very sharp and clear and shown in 3 dimensions. It produces excellent tissue contrast—the bones do not impede the images, thus, giving a clear picture of internal structures. Though MRI cannot replace CT, it can detect vital lesions that plight slip out of CT images.

Beyond doubt MRI is the choice of modality in imaging spine and brain as, due to very high contrast resolution, MRI provides excellent white and grey matter differentiation. This has made complicated operations of the brain and spine simpler. Apart from the imaging of brain and spine, MRI has also been successfully used in the region of abdomen, pelvis, orbit, chest, musculoskeletal system, joints and in staging of cancers.

Instead of the conventional superconducting magnet system, permanent magnet systems are now available. Compact and sleek, because of permanent magnets the newer systems have a low power consumption, operating costs are low, they have a non-claustrophobic gantry aperture, magnetic shielding is not required, and which occupy only about 30 sq m space. These are easy to install and maintain even in existing buildings. The total space requirement for a MRI system including office and other administrative accommodation is a minimum 85 sq m. The present cost of such a system is approximately Rs. 3 crores.

3.7 ECHO CARDIOGRAPHY & ELECTRO CARDIOGRAPHY

Definition of Electrocardiogram :

An electrocardiogram (ECG) is a test that records the electrical activity of the heart.

How the test is performed :

You will be asked to lie down. The health care provider will clean several areas on your arms, legs, and chest, and then attach small patches called electrodes to the areas. It may be necessary to shave or clip some hair so the electrodes stick to the skin.

The number of patches used may vary.

You usually need to remain still, and you may be asked to hold your breath for short periods during the procedure. It is important to be relaxed and relatively warm during

ECG recording. Any movement, including muscle tremors such as shivering, can alter the results.

The electrodes are connected by wires to a machine that converts the electrical signals from the heart into wavy lines, which are printed on paper and reviewed by the doctor.

Sometimes this test is done while you are exercising or under minimal stress to monitor changes in the heart. This type of ECG is often called a stress test.

How to prepare for the test :

Make sure your health care provider knows about all the medications you are taking, as some can interfere with test results.

Exercising or drinking cold water immediately before an ECG may cause false results.

How the test will feel :

An ECG is painless. No electricity is sent through the body. The electrodes may feel cold when first applied. In rare cases, some people may develop a rash or irritation where the patches were placed.

Why the test is performed :

An ECG is used to measure :

- Any damage to the heart
- How fast your heart is beating and whether it is beating normally
- The effects of drugs or devices used to control the heart (such as a pacemaker)
- The size and position of your heart chambers

An ECG is a very useful tool for determining whether a person has heart disease. Your doctor may order this test if you have chest pain or palpitations.

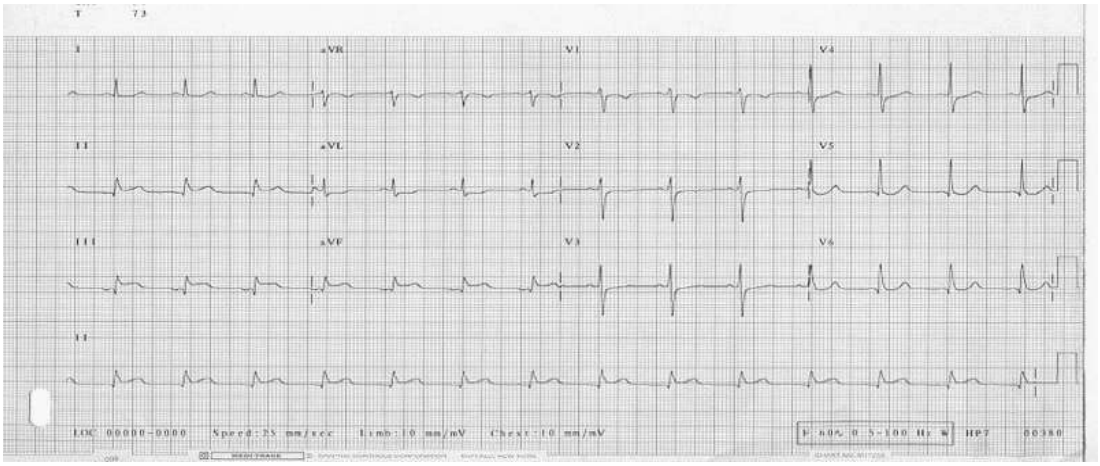
An ECG may be included as part of a routine examination in patients over age 40.

Normal ECG wave.

PQRST Graph

ECHO CARDIOGRAM

The echocardiogram is an extremely useful test for studying the heart's anatomy. It is non-invasive and entirely safe, and when interpreted by well-trained cardiologists, is very accurate.



How is the echocardiogram performed?

The echocardiogram is a simple test to have done. You will lie on an examination table, and a technician will hold a transducer (a device that resembles a computer mouse) against your chest, slowly sliding it back and forth. (The technician will apply a Vaseline-like gel to your chest to aid in sliding the transducer.) You may be asked to roll on your side during the test, or hold your breath for a few seconds. The test takes 30 to 60 minutes to complete.

How does the echocardiogram work?

The transducer that's placed on your chest sends sound waves toward the heart. Like the sonar on a submarine, the sound waves bounce off the heart, and are collected by the transducer.

These returning sound waves are processed by a computer, assembled into a two-dimensional image of the beating heart, and displayed on a TV screen (which you will be able to see if you wish). By aiming the transducer, the technician will be able to image most of the important cardiac structures.

Model Question
Paper II : Overview of Hospital Management

Time : 3 hours **Total Marks : 100**

Section A

Answer any two of the following : (20 × 2 = 40 marks)

1. Write short notes on : - [5 × 4]

a. ECHO

b. MRI

c. Dark room

d. CT SCAN

e. Blood bank

2. Define hospitals as per WHO? What are the similarities and differences between a hospital and a hotel? Define hospital beds and the detail classification of hospital beds? [4+6+2+8]

3. Define Medical Records? What is the importance of medical records? How do you handle an expiry? [5+10+5]

4. What do you understand by the term ALOS? What is the formula for ALOS? Define the factors that influence patient satisfaction? What do you understand by hospital quality assurance system? [2+2+8+8]

5. Enumerate the physical facilities of Inpatient department? [20]

Section B

Answer any three of the following : (3 × 12 = 36 marks)

1. What do you know by intramural and extramural functions of hospital?

Write short notes on : - [4+4+4]

a) Public Hospitals

b) Corporate Hospitals.

2. What are the functions of impatient services? Write about registration in admission process? [6+6]

3. What do you mean by Planning and organization of Inpatient services? Explain Policy of hospital? [6+6]

4. Write about the location, design and responsibilities of admission department? [12]

5. Define consent? State the various types of consents? [4+8]

6. What are the types of nuclear medicine procedures? What are the limitations of General Nuclear Medicine? Mention the benefits of this procedure? [4+4+4]

7. What are the equipments used in Nuclear medicine procedure? How is the procedure performed? [2 × 6]

Section C

Answer any four of the followings : (4 × 6 = 24 marks)

1. Fill in the blanks :- [2 × 3]
   a. Father of scientific management was……..
   b. The nurse patient ratio for a critical patient in CCU is ……..
   c. DORB stands for …….
2. What do the abbreviations stand for [1 × 6]
   a. PICU
   b. CCU
   c. MRI
   d. DSA
   e. NCCU
   f. RICU
3. How hospital functions as an organization? [6]
4. What is the process of retention of records? [6]

5. Explain the importance of Laboratory services? What are the various divisions of laboratory? What do you understand by outpatient sample collection? [2+2+2]
6. Explain Computerization of medical records? [6]
7. What is critical care delivery mechanism? [6]
8. Define electro cardiogram? Why and how the test is performed? [2+4]
9. What is the criterion for zoning? Enlist the principles of zoning in O.T? [2+4]
10. Explain Cardiac catheterization procedure? [6]

Paper-III

PRINCIPLES OF MANAGEMENT

Unit 1 □ Management

Structure

1.1 Introduction

In studying management as a process, various managerial activities can be taken as basis for defining management. Thus management is what a manager does. However, this definition, through simple, suffers from two serious limitations. *First*, there is a problem in identifying the people in the organization who can be called as managers because there is no uniformity in the titles given to the people. For example, people may be called as president, chief executive or managing director at the top level. Similarly at the middle level, they can be called as the executive or accountant, and at lower level as supervisors. Therefore, it becomes difficult to identify who is a manager and who is not; whose activities should be treated as managerial and whose activities as non-managerial. Thus what should be studied is not cleared. *Second*, even if the problem of identifying people as manager is solved, the problem of identifying managerial activities remains because people known as managers may perform different kinds of activities some of which may not really be managerial. Therefore, unless some yardsticks are prescribed to distinguish between managerial and non-managerial activities, managerial activities cannot be identified. For this purpose, the total activities of an organization can be divided into groups: operational and managerial. Those activities which are of operative nature through which actual work is accomplished such as handling a machine by workers, putting the material into go-down, etc., are called operational activities. As against this some activities are performed to get

things done like a supervisor instructing a worker to do a particular job, or marketing manager instructing his salesman to contact the customers to sell the product, etc. such activities are different from the first group and are known as managerial activities. Thus management can be defined as the process of getting things done by others.

1.2 What is Management

Management is invariably defined as the process of 'getting things done through the efforts of others', 'getting from where we are to where we want to be with the least expenditure of time, money, and efforts', or 'coordinating individual and group efforts toward super ordinate goals'. Though this definition of management as process use different statements, all of them convey the same set of meanings in their final analysis. Two definitions of management quoted here throw light on the nature of management. Though both of them define management differently, their basic orientation remains the same. Koontz defines management in a very simple form when he states that :

"Management is the art of getting things done through and with the people in formally organised groups."

Mc. Farland defines management in more elaborate form. According to him, "Management is defined for conceptual, theoretical and analytical purposes as that process by which managers create, direct, maintain, and operate purposive organisation through systematic, coordinated co-operative human effort."

According to Henry Fayol management is "to manage is to forecast and plan, to organize, to command, to cooperate and to control".

Both of these definitions point to the activities which relate to getting things done by others. Thus management is the sum total of activities which lay down plans, policies, purposes and secure men, machine, money, and materials required for the completion of these purposes, put all of them into operation, supervise and check their performance and provide incentives and satisfaction to men for the execution of these desired operations.

1.3 Features of management

In the light of the above definitions and discussions, following characteristics of management as process can be identified :

1. ***Organised Activities*****.** Management is a process of organised activities. Without organized activities, two groups of people cannot be involved in the performance of activities. Where a group of people are involved in working towards a common objective, management comes into existence. The organized activities may take a variety of forms ranging from a tightly structured organization to a very loosely-knit organisation. It can be a company like Tata Iron and Steel Company or a local social club. But all organizations have one thing in common; they want to progress efficiently towards the achievement of their objectives, through the coordinated efforts of people. This is done by management process. Therefore, where a single individual pursues his personal objectives, management has no operational meaning. However, when an attempt is made to channel the individual's quest for personal objectives along the lines that contribute to the overall objectives of the group, management becomes the means by which the random action is controlled.

2. ***Existence of Objectives*****.** An objective or set of objectives should exist towards which the organized group activities are directed. Without objectives, it becomes difficult to define the direction where organized group activities would lead to. The existence of objectives is a basic criterion of every human organization because all organizations are deliberate and purposive creation and, therefore, they should have some objectives. The objectives are agreed upon by the members of the group or the organization. The organizational objectives are the desired state of affairs which an organization attempts to realize. The realization of objectives is sought through the coordinated efforts of the people constituting an organization.

3. Relationship among Resources. Organised activities meant to achieve common goals are brought about to establish certain relationships among the available resources. Resources include money, machine, materials, and people. All these resources are made available to those who manage; they apply knowledge, experience, principles for getting desired results. Thus the essence of management is integration of various organizational resources. However, since people at operative level do the things by the use of various physical and other resources, it is more important for the management to take care of integration of human resources. Thus management is concerned with the proper utilization of human resources which, in turn, utilize other resources.

4. Working with and through people. Management involves working with people and getting organizational objectives achieved through them. The idea of working through people is interpreted in terms of assigning activities to subordinates. The superior subordinates relationships are created because of organized activities. Through the process of assignment and reassignment of activities, the actual work is performed by people at the operative level which is the lowest level in an organization.

5. Decision-Making. Management process involves decision-making at various levels for getting things done by others. Decision-making basically involves selecting the most appropriate alternative out of several. If there is only one alternative, the question of decision-making does not arise. The quality of alternative which a manager selects determines the organisation's performance, and the entire future of the organization rests on the degree to which the right decisions are made by managers. Therefore the success or failure of managers can be judged by the quality of the decisions that they make.

There are various elements of management process. These are generally classified as planning, organizing, staffing, directing and controlling. The coordinated performance of these leads to the realization of organizational objectives. This aspect of management process will be discussed in a separate unit.

1.4 Social Responsibility of Management

The concept of social responsibility of management has undergone changes over the years. Initially, society expected that managers that managers should not do for the company what they would not do in their personal life. Rejecting this view it was proposed that management should uphold the interests of all stakeholders. This concept has also been discarded in all business societies. In industrial societies the concept at present means that management takes up the social problems created by the business while doing its normal activities, such as pollution and problems of the society arising out of the existing social condition, such as women doing family chores find little leisure resulting into health break at early life stage. There are many areas where management should accept responsibility of solving problems created by its action and the problems of the society itself. Globalization process will also throw up new social problems that may cripple the society. Thus the concept of social responsibility at present does not relate to act of balancing between private ethics and public ethics or responsiveness to a particular group of the society but to the whole society. In developing countries where society is moving towards business society, management is urged to be responsive to the interested group. Social responsibility of the management can be discussed as follows :

i) Responsibility towards owners : In large companies ownership and management are separated. Shareholders handover the task of running the business to the management with the expectation of safety of their capital and a fair return on it. By their decisions and actions, managers should instill trust in the mind of the shareholders/owners.

ii) Responsibility towards employees : The hardwork, ingenuity, loyalty and dedication of the employees make the business efficient and effective. Managers and non-managers all are employees. In addition to legal obligations to employees, management should provide a healthy environment in which employees can give their best and feel a sense of achievement.

iii) Responsibility towards customers : Business exists so long its products and services can satisfy the customers. Customers expect that business makes quality goods and service conveniently available at affordable process. The term quality connotes different to different people. In a competitive market making the goods available is one of the secrets of marketing success. Quality, price and distribution channel are subject matters of managerial decisions. By making the right decision in these areas managers fulfil their responsibilities to the customers.

iv) Responsibility towards society : Apart from the specific social segments with whom the company interacts in the normal course of its business, the management should be responsive to its immediate environment and people living in the vicinity of the company. The release of harmful smoke and gas into the atmosphere, discharge of toxic effluents into the near by water bodies, dumping of wastes and used packaging material that litter city open space, pollute the physical environment.

1.5 Nature of Management

The study and application of management techniques in managing the affairs of the organization have changed its nature over the period of time. Though management as a practice came long ago, in fact, with the existence of human groups themselves, its impact as a formal body of knowledge has been felt much later, particularly during the last five-six decades. Various contributions to the field of management have changed its nature, for example, from merely a practice to science also. Similarly, other changes have also occurred. Thus the nature of management can be described as follows :

1. Multidisciplinary. Management is basically multidisciplinary. This implies that, although management has been developed as a separate discipline, it draws knowledge and concepts from various disciplines. It draws freely ideas and concepts from such disciplines as psychology, sociology, anthropology, economics, ecology, statistics, operations research, history, etc. Management integrates the ideas and concepts taken from these disciplines and

presents newer concepts which can be put in practice for managing the organizations. In fact the integration of knowledge of various disciplines is the major contribution of management and this integrated discipline known as management. Therefore, the contributions in the field can be expected from any discipline which deals with some aspects of human beings.

2. Dynamic Nature of Principles. Principle is a fundamental truth which establishes cause and effect relationships of a function. Based on integration and supported by practical evidences, management has framed certain principles. However, these principles are flexible in nature and change with the changes in the environment in which an organization exists. Because of the continuous development in the field, many older principles are being changed by new principles. Continuous researches are being carried on to establish principles in changing society and no principles can be regarded as a final truth. In fact, there is nothing permanent in the landslide of management.

3. Relative, Not Absolute Principles. Management principles are relative, not absolute and they should be applied according to the need of the organization. Each organization may be different from others. The difference may exist because of time, place, socio-cultural factors, etc. however, individuals working within the same organization may also differ. Thus a particular management principle has different strength in different conditions. Therefore, principles of management should be applied in the light of prevailing conditions. Allowance must be made for different changing environment.

4. Management Science or Art. There is a controversy whether management is science or art. However, management is both a science and art. This will be elaborated later.

5. Management as Profession. Management has been regarded as a profession by many while many have suggested that it has not achieved the status of a profession. This aspect has been discussed in detail later.

6. Universality of Management. Management is a universal phenomenon. However, management principles are not universally applicable but are to be modified according to the needs of the situation. Universality of management will be discussed later in this unit.

The nature of management suggests that it is a multi disciplinary phenomenon; its principles are flexible, relative and not absolute. It is both science and art; it can be taken as a profession and finally it is a universal. However, the last three aspects need further elaboration because of differing views over this aspect of management.

1.6 Management : Science or Art

The controversy with regard to the nature of management, as to whether it is a science or art, is very old. This controversy however is not very much in the air though the controversy is yet to be settled. Specification of exact nature of management as science or art or both is necessary to specify the process of learning of management. It is to be noted that learning process in science differs from that of art. Learning of science basically involves the assimilation of principles while learning of art involves its continuous practice.

Much of the controversy of management as science or art is on account of the fact that the earlier captains of the industry and managers have used intuition, hunches, commonsense, and experience in managing organization. They were not trained professional managers, although they were very brilliant and had developed commonsense through which they managed well. Commonsense and science differ in the following ways :

1. Common sense is vague as compared to scientific knowledge.
2. Flagrant inconsistency often appears in commonsense whereas logical consistency is the basic of science.
3. Science systematically seeks to explain the events with which it deals; commonsense ignores the need for explanation.
4. The scientific method deliberately exposes claims to the critical evaluation of experimental analysis; commonsense method fails to test conclusions in any scientific fashion.

Science is based on logical consistency, systematic explanation, critical evaluation and experimental analysis. Thus science can be defined as follows :

Science is a body of systematized knowledge accumulated and accepted with reference to the understanding of general truths concerning a particular phenomenon, subject, or object of study.

Thus science is a systematized body of knowledge. The process of scientific theory construction and confirmation can be viewed as involving the following steps :

1. The formulation of a problem or complex of problems based on observation;
2. The construction of theory to provide answers to the problem or problems based on inductions from observations;
3. The deduction of specific hypotheses from the theory;

4. The recasting of the hypotheses in terms of specific measures and the operations required to test the hypothesis;
5. The devising of actual situation to test the theorem; and
6. The actual testing in which confirmation does or does not occur.

1.6.1 Management as Science

Judging from the above features of formulation of theory in science, management cannot be regarded as science because it is only half-way. It may be called 'inexact science'. Let us explain:

In terms of its structure, it is a number of scientific disciplines each of which attempts to provide a set of internally consistent hypotheses, principles, laws, and theories but there are many young sciences like management that only approximate this state.

One of the most important rules of science is that concepts have to be defined clearly in terms of the procedures involved in their measurement. Meanings have to be clear and unambiguous to avoid confusion. The consequence has been almost unfathomable confusion over various terms has played a conspicuous part.

In science, observations must be controlled so that causation may be imputed correctly. This is a difficult rule to follow, especially in studying organizational phenomena. Various research studies in management have suffered because of the bias of researchers. In many studies, for example, a variable that was thought to be irrelevant was found to exert a casual influence. However, the effort to identify factors that must be controlled and to develop procedures to accomplish this is a continuing one.

Scientific statements are testable and the tests are capable of repetition with same result. Furthermore, explanatory statements are logically consistent with other explanatory statements are logically consistent with other explanatory statements that have been confirmed. However, this does not happen in management exactly. Many of the management principles lack empirical evidences and are not testable. Further, these principles do not give the similar results under varying conditions and, therefore, lack universal application. Attempts are being made to evolve principles in management on the basis of scientific observations which may have universal application, but still the process is in evolutionary stage.

1.6.2 Management as an Art

Management can be regarded as an art also. The meaning of art is related with the bringing of a desired result through the application of skills. Whereas under science, one learns the 'why'

of a phenomenon, under art, one learns the 'how' of it. Art is thus concerned with the understanding of how particular work can be established. That is, art has to do with applying of knowledge or science or of expertness in performance. This is especially important in management because in many instances much creativeness and adroitness in applying the managerial efforts are necessary to achieve the desired results. Furthermore the adequate consideration of people involved in managerial action is vital and adds to the concept of art of managing.

Science and art are complementary fields of endeavor; they are not mutually exclusive. The medical doctor requires the knowledge of chemistry, biology, and anatomy. But excellence in absorbing these funds of knowledge does no make him an excellent physician. He has to apply his wealth of knowledge expertly, and his skill in perceiving how and when to use his knowledge is essential to his success in preventing and controlling diseases of mankind. Therefore, knowledge is not sole qualification. Similarly in management if one student scores *A* grade and another scores *B* grade, it does not mean that the former would be better manager than the latter. This is so because management is an art and a better manager is one who knows how to apply the knowledge in solving a particular problem. Management is an art can be seen from the following facts :

1. The process of management does involve the use of know-how and skills like any other art such as music, painting, sculpture, etc.
2. The process of management is directed to achieve certain concrete results as other fields of art do.
3. Management is creative like any other art. Creativity is major dimension in managerial success. It creates new situations for further improvement.
4. Management is personalized meaning thereby that there is no "one best way of managing". Every man in his profession has individual approach and technique in solving the problems. The success of managerial task is related with the personality of the man apart from the character and quality of general body of knowledge.

1.6.3 Management : Both Science and Art

Thus to be a successful manager, a person requires the knowledge of management principles and also the skills of how the knowledge can be utilized. Absence of either will result into efficiency. A comparison between science and art can be presented below which suggests that a manager requires both aspects of management to be successful.

Science	Art
Advances by knowledge	Advances by practice
Proves	Feels
Predicts	Guesses
Defines	Describes
Measures	Opines
Impresses	Expresses

It can be seen that management uses both scientific knowledge and art in managing an organization. As the science of management increases so should the art of management. A balance between the two is needed. Neither should be overweighed or slighted. Some feel that further gains in science of management well restrict art more and more. This is true to a limited extent only. The fact remains that to be useful, knowledge or science must be applied, that is, art must be present. Therefore, the old saying that 'knowledge is power' is partially true. The correct saying should be applied 'knowledge is power.' People having abundant knowledge may have little use if they do not know how to use knowledge. This is particularly true for management which is a situational phenomenon.

1.7 Exercises

1. Define management and discuss the features of Management in detail.
2. Discuss the nature of management.
3. Is management a Science or art Discuss?
4. Write a note on the Social Responsibility of the Management.

Unit 2 □ Management and Administration

Structure

2.1 Introduction

There is often a terminological conflict between management and administration. Some authors suggest that there is no fundamental difference between management and administration; whatever the difference the two exists, it exists only in terms of usage in different walks of life. Other authors suggest that there is difference between these two terms because both of them represent different activities. Therefore, it is desirable to resolve terminological conflict between management and administration.

At the initial level of development of management thought, no distinction between management and administration was made and both the terms were used interchangeably. In 1923, the terminological conflict between the two was raised by Oliver Sheldon when he emphasized administration as decision-making function and management as execution function. After that there have been lots of controversies between these terms. These controversies have resulted into three different approaches :

(*i*) administration is above management

(ii) administration is a part of management

(*iii*) administration and management are the same.

2.2 Administration is above Management

According to many classical thinkers, administration is above management so far as different functions in the organizations are concerned. They perceive that both administration

and management activities are different though both of them may be performed by a single individual in an organization. Prominent among them are Oliver Sheldon, William Spriegel, Milward, Lansberg, Ordway Tead, Florence, etc. The general view is that administration relates to policy formulation and management relates to policy execution and these two activities are not the same. For example, according to Milward, "administration is primarily the process and agency used to establish the objective or purpose which an undertaking and its staff are to achieve; secondly, administration has to plan and to stabilize the broad lines or principles which will govern action. These broad lines are usually called policies. Management is the process and agency through which execution of policy is planned and supervised." Similar view has been expressed by William Spriegel when he says that "Administration is that phase of a business enterprise that concerns itself with the overall determination of institutional objectives and the policies necessary to be followed in achieving those objectives. Management on the other hand, is an executive function which is primarily concerned with carrying out broad policies laid down by the administration."

The basic approach of these authors is that administration determines the basic framework of the organization within which managerial functions are taken. Since these sets of functions are different, different types of person with different qualities are required. However, such early authors on management appear to be influenced by the fact that administrative process in non-business activities was well developed as compared to management. It can be seen in the next unit that most of the early contributors to management thought studied managerial process in the business organizations comparatively at lower levels whose primary responsibility was to execute what was decided by higher-level of management. Therefore, they could perceive the functions of management as limited to lower levels only. The only exception came from Henry Fayol who studied the entire management functions and never distinguished between management and administration.

2.3 Administration is a Part of Management

This approach holds the view that management is a comprehensive term and administration is its part. For example, Brech has taken management "as the generic name for the total process of executive control in industry or commerce." He defines management as "a social process entailing responsibility for the effective and economical planning and the regulation of the operation of an enterprise, in the fulfillment of a given purpose or task." On the other hand, he defines administration as "that part of management that is concerned with the installation and

carrying out of the procedures by which it is laid down and communicated and the process of activities regulated and checked against plans." If this view is accepted, administration becomes a subordinate function to overall management function and as such administration which concerned with day-to-day executive routine work is a part of management. Thus the previous analysis of distinction between management and administration stands completely revised if this view is accepted.

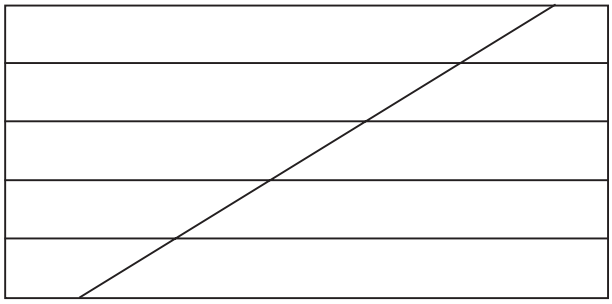
2.4 Management and Administration are same

According to the third approach which is the most popular and practical one, management and administration are same. Both involves the same functions, principles and objectives. For example, while speaking at the Second International Congress of Administrative Science, Fayol, one of the most important early thinkers on management thought, has said, "all undertakings require planning, organization, command, coordination and control, and in order to function properly, all must observe the same general principles. We are no longer confronted with several administrative sciences but with one which can be applied equally well to public and private affairs." Thus there is no difference between management and administration. Whatever the difference between the two lies is mostly in their use in different fields of human activities.

The distinction between the two terms may be drawn by analyzing the origin of the word administration. Its origin is found in the bureaucratic structure of government or in regular of some laws. The government often uses the word administrator, instead of management, to handle and manage its affairs. In law also, administrators are appointed to look after the estate of a deceased person. While handling the government affairs, administrators are to execute the broad policies laid down by the government, though they may also participate in policy formulation. Similarly, the estate administrators keep intact the property and manage the estate according to some specific mandates of law. On the other hand, management is normally used in business sphere. However, whether administration is used in non-business fields and management is used in business field does not make a fundamental distinction between the two because of similarity of the process involved in these. Infact, even this distinction is also disappearing. For example, many authors have written books under the title "Business Administration" which implies that these books would be used by persons acquiring knowledge to be utilized in handling business affairs. Similarly, many institutions offering management courses offer M.B.A. degrees for their management graduates while other offers M.B.M.

degrees for the similar type of students thus, in practice, the difference between the two disappearing fast.

The basic point of controversy between management and administration lies in terms of coverage of activities. The controversy arises because people call the various level management functions differently. For example, the contents of management functions in terms of policy formulation and execution can be presented as follows. Some call the formulation function as administration others call it management. However, both are management functions.



It may be suggested that two sets of people may not be required to perform two sets of management functions. Every one performs all managerial functions, only relative importance of these functions varies. The content of policy formulation is higher at higher levels, it is lower at lower levels while execution is otherwise. Therefore, it becomes unimportant whether policy formulation function is known as administration or management. This is the reason why most of the contemporary authors try to avoid this age-old controversy.

2.5 General Principles of Management

Fayol has given fourteen principles of management. He has made distinction between management principles and management elements. While management principle is a fundamental truth and establishes cause-effect relationship, management element denotes the function performed by a manager. While giving the management principles, Fayol has emphasized two things: *(i)* The list of management principles is not exhaustive but suggestive and has discussed only those principles which he followed on most occasions. (*ii*) Principles of management are not rigid but flexible. According to him, "there is nothing rigid or absolute in management affairs; it is all a question of proportion. Therefore, principles are flexible and capable of adopting to every need. It is matter of knowing how to make use of them which is a difficult art requiring intelligence, experience, and proportion. Various principles of management are as follows:

1. ***Division of work.*** Fayol has advocated division of work to take the advantages of specialization. According to him, "specialization belongs to natural order. The workers always work on the same part, the manager concerned always with the same matters; acquire an ability, sureness, and accuracy which increase their output. Each change of work brings in it training and adaptation which reduces output… yet division of work has its limit which experience and a sense of proportion teach us may not be exceeded." This division of work can be applied at all levels of the organization.
2. ***Authority and Responsibility.*** The authority and responsibility are related, with the latter the corollary of the former and arising from it. Fayol finds authority as a continuation of official and personal factors. Official authority is derived from the manager's position and personal authority is derived from personal qualities such as intelligence, experience, moral worth, past services, etc. Responsibility arises out of assignment of activity. In order to discharge the responsibility properly, their should be parity of authority and responsibility.
3. ***Discipline.*** All the personnel serving in an organization should be disciplined. Discipline is obedience, application, energy, behaviour, and outward mark of respect shown by employees. Discipline may be of two types: self-imposed discipline and command discipline. Self-imposed discipline springs from within the individual and is in the nature of spontaneous response to a skilful leader. Command discipline stems from a recognized authority and utilizes deterrents to secure compliance with a desired action, which is expressed by established customs, rules and regulations. The ultimate strength of command discipline lies in its certainty of application. Such a discipline can be obtained by sanctions in the forms of remuneration, warnings, suspension, demotion, dismissal, etc. however, applying such sanctions, people and attendant circumstances must be taken into account. This can be learned by experience and tact of the managers.
4. ***Unity of Command.*** Unity of command means that a person should get orders and instructions from only one superior. The more completely an individual has a reporting relationship to a single superior, the less is the problem of conflict in instructions and the greater is the feeling of personal responsibility for results. This is contrary to Taylor's functional foremanship. On this conflicting view, Fayol suggested that, "I do not think that a shop can be well run in flagrant violation of this (unity of command). Nevertheless, Taylor successfully managed large-scale concerns. I imagine that, in practice, Taylor was able to reconcile functional ism with the principle of unity of

command, but this is the supposition whose accuracy I am not in a position to verify." Fayol has considered unity of command as an important aspect in managing an organization. He says that "should it unity of command be violated, authority is undermined, discipline is in jeopardy, order disturbed, and stability threatened. This rule seems fundamental to me and so I have put it to the rank of a principle."

5. ***Unity of Direction.*** According to this principle, each group of activities with the same objective must have one head and one plan. Unity of direction is different from unity of command in the sense that former is concerned with functioning of the organization in respect of its grouping of activities or planning while latter is concerned with personnel at all levels in the organization in terms of reporting relationship. Unity of direction provides better coordination among various activities to be undertaken by an organization.
6. ***Subordination of Individual to General Interest***. Common interest is above the individual interest. Individual interest must be subordinate to general interest when there is conflict between the two. However, factors like ambition, laziness, weakness, etc., tend to reduce the importance of general interest. Therefore, superiors should set an example in fairness and goodness. The agreement between employers and employees should be fair and there should be constant vigilance and supervision.
7. ***Remuneration of personnel.*** Remuneration of employees should be fair and provide maximum possible satisfaction to employees and employers. Fayol did not favour profit-sharing plan for workers but advocated it for managers. He was also in favour of non-financial benefits though these were possible only in the case of large scale organizations.
8. ***Centralisation.*** Everything which goes to increase the importance of subordinate's role is decentralization; everything which goes to reduce it is centralization. Without using the term 'centralization of authority'. Fayol refers the extent to which authority is centralized or decentralized. Centralization and decentralization are the question of proportion. In small firms, centralization is the natural order, but in large firms, a series of intermediaries are required. Share of authority and initiative left to intermediaries depends on the personal character of the manager, his moral worth, the reliability of his subordinates, and also on the conditions of the business. Since both absolute and relative values of managers and employees are constantly changing, it is desirable that the degree of centralization or decentralization may itself vary constantly.

9. ***Scaler Chain***. There should be a scaler chain of authority and of communication ranging from highest to the lowest. It suggests that each communication going up or coming down must flow through each position in the line of authority. It can be short-circuited only in special circumstances when its rigid following would be detrimental to the organization. For this purpose, Fayol has suggested 'gang plank' which is used to prevent the scaler chain from bogging down action.
10. ***Order***. This is a principle relating to the arrangement of things and people. In *material* order, there should be a place for everything and every thing should be in its place. This kind of order demands precise knowledge of the human requirements and resources of the organization and a constant balance between these requirements and resources of the organization and a constant balance between these requirements and resources. Normally, bigger is the size of the organization, more difficult this balance is.
11. ***Equity***. Equity is the combination of justice and kindness. Equity in treatment and behaviour is liked by everyone and it brings loyalty in the organization. The application of equity requires good sense, experience, and good nature for soliciting loyalty and devotion from subordinates.
12. ***Stability of Tenure.*** No employee should be removed within short time. There should be reasonable security of jobs. Stability of tenure is essential to get an employee accustomed to new work and succeeding in doing it well. Unnecessary turnover is both cause and effect of bad management.
13. ***Initiative.*** Within the limits of authority and discipline, managers should encourage their employees for taking initiative. Initiative is concerned with thinking out and execution of a plan. Initiative increases zeal and energy on the part of human beings.
14. **Espirit de Corps.** This is the principle of 'union is strength' and extension of unity of command for establishing team work. The manager should encourage spirit de corps among his employees. The erring employees should be set right by oral directions and not by demanding written explanations. Written explanations complicate the matters.

2.6 Exercises

1. What are the general principals of Management?
2. Define Administration & management and explain the same with diagrams.
3. Administration is a part of Management. Explain.

Unit 3 □ Functions of Management and its Nature

Structure

3.1 Management Process

The general approach of studying management is to treat it as a process. The term process refers to an identifiable flow of information through interrelated stages of analysis directed towards achievement of an objective. It is a concept of dynamic rather than static existence. Events and relationships are seen as dynamic, continuous and flexible, and as such, must be considered as a whole : a dynamic interaction both affecting and being affected by many variables. Thus management as a process may involve a number of activities or elements. The management process assumes that the totality of what managers do can be divided into set of interrelated functions. Therefore, the study of management basically involves the study of managerial functions.

3.2 Functions of Management

Management process suggests that all the managers in the organization perform certain functions to get the things done by others. However, what are these functions which

compromise management process is not quite clear and divergent views have been expressed on this. The basic reason for this diversity of views is as follows :

There is no complete agreement among the writers on management about what functions are performed by managers. Various terms and functions have not been defined with sufficient degree of precision and it is often difficult to know what a writer means by a given concept. List of managerial functions has been derived based on managerial experience rather than from systematic researches. Naturally observations of one manager may differ from others.

Because of the above factors, the list of management functions varies from author to author with number of functions ranging from three to eight. For example, Fayol, an early thinker of management process, has classified management functions into planning, organizing, commanding, coordinating and controlling. Gullick and Urwick have described the functions of management as POSDCORB. Each letter of this word denotes the initial letter of management functions, that is, planning, organizing, staffing, directing, coordinating, reporting and budgeting. Davis includes planning, organizing and controlling. Brech includes planning, organizing, motivating, coordinating, and controlling. Koontz and O'Donnell have included planning, organizing, staffing, leading (directing in previous editions) and controlling. Earnest Dale has suggested innovation and representing also as important management functions besides these. Thus it can be seen that there is no agreement over the various functions of management. These functions have been treated differently over the period of time. Ervin Williams has summaried the various managerial functions developed over the period of time.

Table 3.1 : Evolution of Management Functions

1. Early concepts	Plan	Organise	Command	Discipline
2. Management process defined by Fayol	Plan	Organise	Command Coordinate	Control
3. Further modification	Plan	Organise	Direct	Control
4. Modified by behavioural influence	Plan	Organise	Motivate	Control
5. Recent modification by business	Plan	Organise	Integrate	Measure
6. Suggested further	Plan	Organise	Achieve	Appraise

Source : Ervin Williams, "Evolution of Organic Management Functions", Atlanta Economic Review, April 1971, p. 27.

If the various functions of management, as suggested by various authors, are taken into account, the list of functions can be presented as follows :

Table 3.2 : Combined List of Management Functions

Planning	Staffing
Organising	Directing, Leading and Motivating
Commanding	Inovating
Coordinating	Representing
Controlling	Decision – making
Investigation	Activating
Communicating	Evaluating
Securing efforts	Administering
Formulating purpose	

The list is very long. However, this can be shortened by combining some functions into one. For example, directing may include leading, motivating, communicating, commanding, activating, and securing efforts. Similarly planning may include formulating purpose, innovating; investigating may fall under planning and controlling, and so on. Taking the classification of management functions in this way, unanimity prevails in respect of three functions, viz. planning, organizing and controlling. However, to get the things done by others requires some sort of directing human behaviour to purposeful activities. Therefore, directing can be considered like the above three functions. Some authors have carved out a fifth function as staffing by splitting the social aspect of organizing. However, this has acquired great importance in the context of the manager's responsibility for getting human resources in the organizing. Thus managerial functions may broadly be grouped into planning, organizing, staffing, directing and controlling. Some authors add coordinating in this list but this is not a separate function of management and it can be treated as essence of management since the basic objective of all managerial functions is to achieve coordination in organized efforts. A detailed discussion of each of these functions will take place in separate part for each, her a brief discussion is given about what each function includes.

Planning. Planning is the conscious determination of future course of action to achieve the desired results. This includes what one wants to achieve, when to achieve, and how to achieve. Therefore, planning includes determination of objectives, setting rules and procedures, determining projects, setting policies and strategies , budgeting etc. All these determine what an organization wants to do and how it can be done.

Organizing. Organising is the process of dividing work into convenient tasks or duties, grouping of such duties in the form of positions , grouping of various positions into departments and sections, assigning duties to individual positions , and delegating authority to each position so that the work is carried out as planned. Organising function can be viewed as a bridge connecting the conceptual idea developed in creating and planning to the specific means for accomplishing these ideas. Organising function contributes to the efficiency of the organization by ensuring that all necessary activities will be performed and objectives are achieved.

Staffing. Staffing involves manning the various positions created by the organizing process. It includes preparing inventory of personnel available and identifying the gap between manpower required and available , identifying the sources from where people will be selected, selecting people training and developing them, fixing financial compensation , appraising them periodically, etc. There is a controversy whether staffing function is to be performed by all managers in the organization or it is to be handled by personnel department which looks after the personal matters enumerated above. The controversy can be settled because staffing function is too complicated and time-consuming. To make it convenient, some processes of staffing are completed by personnel department. In doing so, it facilitates the performance of staffing function by mangers in the organization. For example,

Managers are required to appraise the performance of their subordinates. Personnel department can facilitate this function by prescribing and supplying the proforma for this appraisal so that there is uniformity in appraisal system throughout the organization. Similar support can be provided by personnel department in other aspects of staffing.

Directing. When people are available in the organization, they must know what they are expected to do in the organization. Superior managers fulfil this requirement by communicating to subordinates about their expected behaviour. Once subordinates are oriented, the superiors have continous responsibility of guiding and leading them for better work performance and motivating them to work with zeal and enthusiasm. Thus directing includes communicating, motivating and leading.

Controlling. Controlling involves identification of actual results, comparison of actual results with expected results as set by planning process, identification of deviation between the two, if any, and taking of corrective action so that actual results match with expected results. It brings to light all bottlenecks in work performance and operates as straight pointer to the needs of the situation.

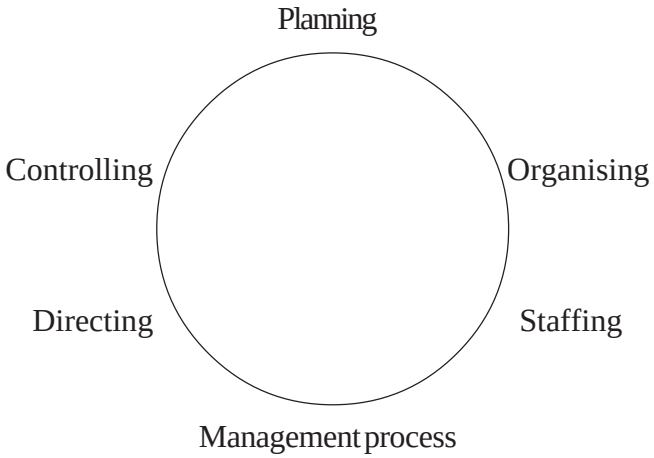
3.3 Nature of Management Functions

Nature of management functions can be identified in terms of their being universal, their iterative characteristics, sequential arrangement and relative importance.

Management functions are universal in the sense that a manager has to perform all these functions in the organization irrespective of his level or type of organization. Acting in their managerial capacity, chief executives, departmental heads, foremen, supervisors etc., all do the same thing. Similarly, whether it is business organization or non –business organization, the managerial functions are involved.

Management functions have iterative quality, that is, they are contained within each other. For example, planning, organizing, directing and controlling may occur within staffing function. Similarly organizing may involve planning, directing and controlling. We hear planning and controlling of organizational design (a part of organizing process). Thus all management functions can be thought of as sub –functions of each other.

Although management process suggests as a sequential arrangement of functions , it is not always possible in the performance of managerial functions strictly in a sequence. Sequential concept may be true for initiating managerial functions in a new organization to begin with. For an on-going organization, it is not necessary to insist on a special time sequence for the various functions of management process. In this case, management process can be seen as a circular continuous movement as shown in the following figure.



This process may start from any point, not necessarily from planning and end at any point. Moreover, several functions may be performed at the same time. For example, while giving

direction through communication to subordinate, a superior manager also appraises (staffing function) his subordinate as how carefully he is grasping the ideas.

Since there are many managerial functions, often a question arises : which management function is important so that managers devote more time to that. This question is quite vital but it cannot be pointed out categorily that a particular management function is more important than others. In fact, no function is more important but the mix of the functions varies from task to task and from level to level of management. Therefore, the relative importance of management functions can be identified in the context of management levels. This analysis will bring the clue for training and developing the managers at various levels for the performance of specific managerial functions.

3.4 Effective Management

The basic objective of management functions and techniques is to make one an effective manager. The organizations require effective managers because these bear costs for employing them. However, the basic question is: Who is an effective manager? From this point of view, one must identify the various characteristics of effective managers so that attempts are made to correlate the various functions of management for achieving effectiveness.

Truly speaking, the concept and criteria of effectiveness are quite debatable points in management. Effectiveness is not one-dimensional concept that can be measured and predicted from a set of clear-cut criteria. However, managerial effectiveness can be mostly defines in terms of organizational goal-achieving behaviour. For example, Guion states that the success of an executive lies largely in meeting major organization goals through the coordinated efforts depend upon the kind of influence the executive has upon those whose work behaviour touches…. The executive's own behaviour contributes to the achievement of organizational goals only by its influence on the perceptions, attitudes, and motives of other people in the organization and on their subsequent behaviour.

3.4.1 Effectiveness and Efficiency

Often confusion is created between two terms: effectiveness and efficiency, though both these terms have fairly clear meanings. The term efficiency is used in engineering way and it refers to the relationship between input and output. Thus efficiency denotes how much inputs

have been used to produce certain amount of outputs. Generally this is also taken as effectiveness. This can be true only when outputs meet the objectives for which this are meant. For example, if we take two workers both producing 100 articles in a day with specified quality and without wastage, we can say both are equally effective. In this case both are using same amount of inputs for the same amount of outputs and outputs conform to the objectives. However, the situation would be different if the first worker produces 100 items in a day without wastage and the second produces 120 items in a day but with high level of wastage and defective quality. In this case, technically speaking, the second worker is more efficient but the first worker is more effective though producing at lower rate. Similar is the case with managerial effectiveness, though a manager's productivity is unlikely to be measured so precisely.

3.4.2 Effective Manager

An effective manager is one who is positive in his personality, that is, what type of person he is, his managerial process, and results of his managerial process, although all these are interdependent.

SKILLS REQUIRED AT DIFFERENT MANAGERIAL LEVELS :

1. **Technical skill : It refers to the understanding and proficiency in using a specific activity involving a process, procedure or technique. It usually consists of specialized knowledge required to accomplish the mechanics demanded in performing a particualr job.**
2. **Human Skill : It refers to the ability to work with others and get others in the team to work,winning co-operation from all. It involves being able to communicate the ideas pertaining to what to do, how, within what constraints, using what resources and within what stipulated time schedule. The manager should also be able to preview the attitudes of his/ her force, and what adjustments / changes are required to be brought in in these views so as to optimize results.**
3. **Conceptual Skill : It involves knowing the way and having the ability to visualize the " big picture". This requires imagination, knowledge, mental capacity to conceive abstract ideas.**

1. ***The Person***. The basic question in this context is: What types of persons are most likely to become effective managers, and what types fail? There are various such studies to

suggest the possible personal qualities of a successful manager. Jurgensen has described the following characteristics of a successful manager.

Most descriptive of Effective manager	***least descriptive of effective manager***
Decisive	Amiable
Aggressive	Confirming
Self-starting	Neat
Productivity	Reserved
Well-informed	Agreeable
Determined	Conservative
Energetic	Kindly
Creative	Mannerly
Intelligent	Cheerful
Responsible	Formal
Enterprising	Courteous
Clear-thinking	Modest

The above descriptions suggest that the various qualities contribute to the effectiveness directly and hence important. However, least descriptive qualities are also necessary because these may contribute indirectly to the effectiveness.

2. *The Process.* Managerial effectiveness depends upon the managerial process involved in managing the affairs of the organization. In this category, there is a long list, because it is not just possible to specify here the behaviour of manager as related to his various functions. However, the following are some of the important behaviour of effective managers :

1. They manage work instead of people.
2. They plan and organize effectively.
3. They set goal realistically.
4. They derive decision by group consensus but accept responsibility for them.
5. They delegate frequently and effectively.
6. They rely on others for help in solving problems.

7. They communicate effectively.
8. They are stimulus to action.
9. They coordinate effectively.
10. They co-operate with others.
11. They show consistent and dependable behaviour.
12. They win gracefully.
13. They express hostility tactfully.

3. *The Results.* Effective managers and effective managing will lead inevitably to good things, that is, the achievement of goals for which they are working in the organization. Thus what will the outcome depends upon the type of organization they are working for. There may be some conflict about the organizational goals and their measurement criteria, but here it is sufficient to say that managerial actions and behaviours must contribute to the realization of organizational goals.

3.5 Functions of various Management Levels

The relative importance of management functions differs at various levels f management. People of an organization are arranged in a hierarchy and they all have the relationship of superior- subordinate, except the person at the top most position who is superior alone and person at the lowest level who is subordinate alone. Thus, there will be as many levels in the organization as the number of superiors n a line of command. From this point of view some of the levels, can be merged into one on the basis of nature of function performed and authority enjoyed. However, there is no unanimity over the broad category of management levels. For example, Keith Davis has classified various levels if management as trusteeship management, departmental management, middle management and supervisory management. Litterer has a different type of classification when he classifies the management level into institutional (trusteeship) level, general management (facilitating) level, and departmental management (integrating) level. The last category includes foremen and other supervisory personnel. Brech has classified management levels into three categories : top management, middle management, and supervisory level. Infact, this classification is more suitable from analysis point of view,

hence taken for further discussion. Various positions of an organization can be put under three levels as shown in Fig.3.3.

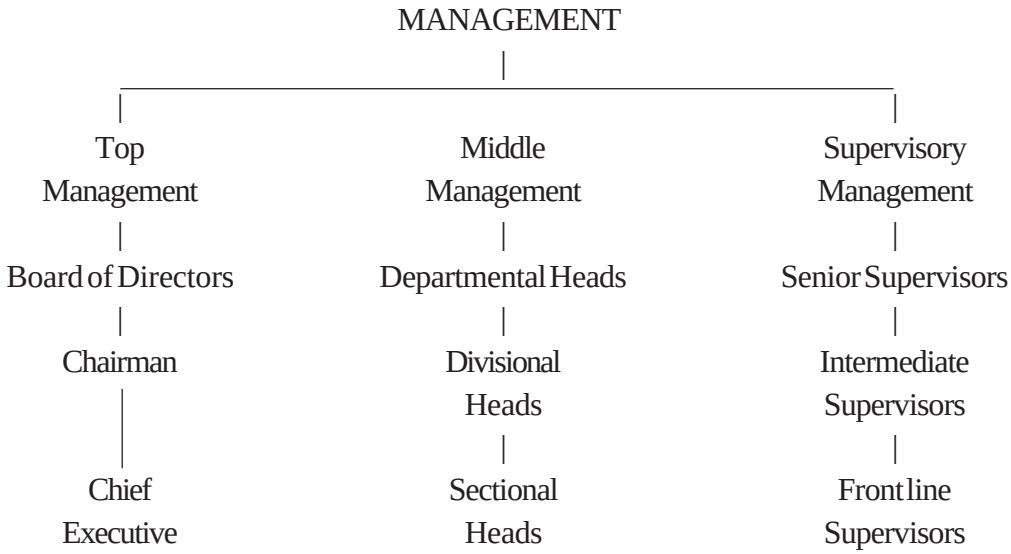


Fig 3.3. Levels of management

3.5.1 Top Management

Top management of an organization consists of board of directors, chairman and chief executive officer. Generally, chairman and chief executive officer positions are combined into one. At other times, chairman remains part–time in the organization. At top management level, environment of the organization is evaluated and basic goals of the organization are established to fit the environmental appraisal, resources available at the disposal of the organization, and needs of the organizational members. Top management integrates the functions of the whole organization. It is responsible for overall management and performs all such functions which are necessary for this. These functions may be grouped into three categories: overall management, overall operations and overall relationships. Overall management includes determination of organizational goals and objectives, overall planning, organizing, staffing, directing, and controlling. Through this function, it tries to integrate the organization with the environment, balance interests of various groups, and is responsible for overall results. In overall operation, it translates organizational plans into action, creates environment for work performance, and coordinates departmental heads. In overall relationships, it requires maintaining relationship with elements in organization's environment like government, trade associations, suppliers, financial institutes, etc. Within the top level management, functions of board of directors and

chief executive differ because board is constituted by persons taking from outside the organization also while chief executive is a regular employee of the organization.

Functions of Board of Directors

A Board is elected by the owners (shareholders) and is responsible to them as they are agent for managing the affairs of the organization. Board has authority to manage a subject to the limitations imposed by the Memorandum of Association and Articles of Association of the company as well as provisions of the Companies Act. There are numerous areas of responsibility which are generally recognized as constituting the functions and power of the board of directors. These responsibilities and functions may differ on the basis of board compositions and its relationships with the company so far as management is concerned. Some companies emphasize only on the legal aspects of board functions while in many cases, the board really participates in the management of the company. Various functions of boards of directors can be divided into six categories : i) trusteeship function, implying that board must use the property of the company; (ii) determination of basic objectives and policies of the organization ; (iii) selection of top executives and determination of overall organization structure; (iv) approval of financial matters like approval of budget, appropriation of corporate earnings , etc., (v) checks and controls over top managers; and (vi) legal functions as provided under the provisions of the Companies Act which includes liabilities towards outsiders , towards the company and criminal liabilities.

Functions of Chief Executive

Chief executive is a person whose responsibility is to make major decisions for the organization as a whole because he is responsible for overall management. He has to perform dual role. On the one hand, he is chief liaison officer between board and other personnel of the organization and provides information about what board has decided in terms of organizational goals, policies, etc.; on the other hand, he is the chief executive officer to execute these policies and programmes into action. Thus a chief executive has to perform the following functions.

1. ***Formulation of Long-term Plans*** is responsible for formulation of long-term plans and making strategic decisions. He is involved in formulating long-term plans by making decisions about these plans and also by taking initiative and providing relevant information to the board in order to arrive at such decisions. In formulating long-term plans, he can take the help of planning staff and other personnel of the organization.

2. ***Guidance and Direction***. Chief executive provides guidance and direction to various functionaries in the organization which include the following :

(i) Explaining and interpreting policies, programmes formulated by the board of directors

(ii) Executing plans by giving appropriate orders to his subordinates

(iii) rectifying or modifying programmes set up by departmental managers to achieve organizational goals.

3. ***Integration***. Chief executive integrates the efforts by various departmental heads reporting to him. He performs the following integrating functions: (i) integrating various departmental heads by prescribing organizational relationships; (ii) prescribing and defining authority and responsibility of various departments; (iii) creating conducive environment in the organization for efficient functioning ; and (iv) providing effective leadership in the organization.

4. ***Staffing***. Chief executive performs staffing function by appointing senior personnel in the organization. He is responsible for fixing pay structure, transfer, promotion , discharge , and demotion of personnel particularly at higher levels. In doing so, he may take the help of committees but final authority of making decisions lies with him.

5. ***Review and Control***. Chief executive, being responsible for overall performance of the organization tries to ensure that actual work is going on according to plans. If there is any discrepancy, he takes immediate actions to overcome the problems. In this regard , he performs the following functions :

(i) Holding meetings of the various functionaries to consult them on organizational matters and to review functions performed;

(ii) Suggesting and effecting corrective action in the case of discrepancy; and

(iii) preparing and presenting progress and control reports for perusal of board of directors;

(iv) Informing board of directors about the functioning of the organization in general, and of senior managers so as to take suitable course of action.

6. Public Relations. Chief executive is responsible to integrate his organization with the external environment. He has to maintain relations with various agencies in the society. These may be government, trade associations, trade unions , financial institutions, etc.

3.5.2 Middle Management

Middle management stands between top management and supervisory management level. The number of level. The number of levels within the middle management depends on the size of the organization in terms of number of employees. Since there are many level. At the upper middle management level, the basic divisions of the organization are levels within middle management, often it is classified into upper middle level and lower middle determined and

overall programmes of a division or department are established. Lower middle management is primarily concerned with carrying out functions for achieving specific goals.

While working in the middle, middle level management has to face pressures from three sides: (i) top management forces it to act in accordance with the policies, direction and guidance set up by top management, (ii) lower management puts pressure over middle management for accepting and accommodating its ideas and views; and (iii) middle level managers themselves are interrelated and they expect greater cooperation and working facilities. Since there is no uniformity about the number of levels in middle management, there cannot be uniformity in their functions. However, some generalizations can be drawn and functions of middle management can be identified as follows :

(i) Performance of various functions of the organization so that top management gets enough time for integrating overall functioning of the organization.

(ii) Cooperation among middle management itself and also with top management and supervisor so that organization functions without any problems.

(iii) Integration of various parts of a department in whose context management is taking action.

(iv) Training and development of employees for better functioning and filling future vacancies arising in the organization.

(v) Development and inculcation of feelings among individuals working within the department for subordination of individual goals to organizational goals.

(vi) Management of the department in such a way that it contributes to the functioning of other departments for achieving organizational goals.

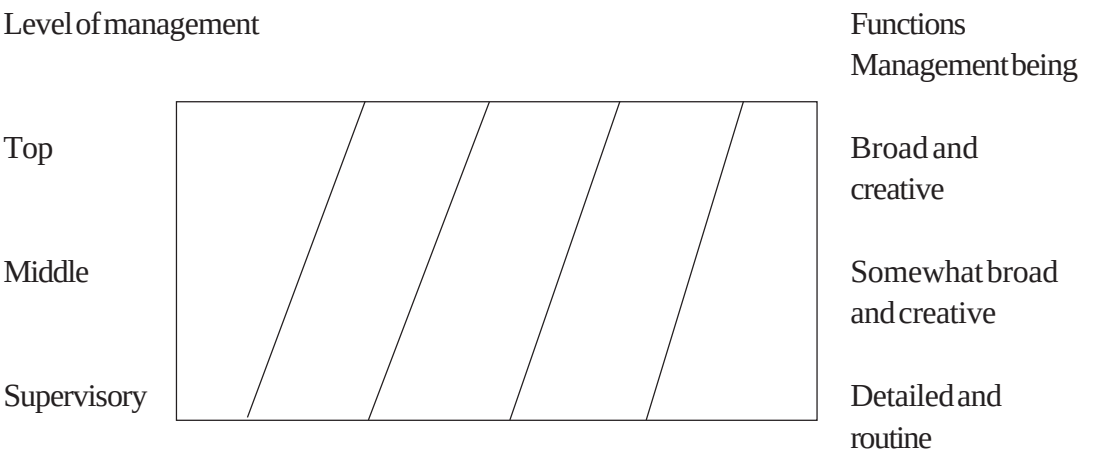
3.5.3 Supervisory Management

Supervisory management level is above the operatives and below the middle management in an organization. This level can be classified into three categories, particularly in a large –sized organization: senior supervisors, intermediate supervisors, and front-line supervisors. Supervisory management is concerned with efficiency in using resources of the organization. It is an executor of policies and procedures making a series of decisions with well defined and specified premises. Generally a supervisor is called a marginal man in the organization. He is concerned with explaining the views of management to workers and the views of workers to management. Because of this reason, the job of a supervisor becomes more complex than other levels of management. Management treats him the man of workers while workers treat him the man of management.

Supervisor is directly related with workers. Therefore, the job of a supervisor differs from other levels of management, though the performs the job of management like planning, organizing, staffing, directing, and controlling. In doing so, a supervisor specifically performs the following functions :

1. Planning the activities of his section ,classifying jobs to workers;
2. Guiding workers about procedure;
3. Managing and arranging necessary materials, tools, etc., for the workers;
4. Ensuring maintenance of machineries, etc.;
5. Providing on the job training to workers;
6. Supervision and control of functioning of workers;
7. Solving problems of workers relating to job;
8. Communicating the problems of workers which are not solve at his level;
9. Providing feedback to management about the nature of work environment in his section;
10. Maintaining discipline among workers, developing in them right type of approach, and maintaining good human relations.

Various functions performed by different levels of management suggest that managers at every level have to perform all five functions. However, the relative importance of a function may differ from level to level. For example, planning is the most crucial function may at the top level while routine and direct control becomes most important at supervisory level. Thus the relative importance of various functions at different levels of management can be presented in this diagram :



It can be observed from the diagram that top management functions are broad and creative. Therefore, at this level, planning functions becomes the most important. Since top management sets objectives and standards through planning process, it is interested to exercise control to ensure that actual results achieved are in line with plan. At the supervisory level, the functions are detailed and routine. The level is directly concerned with handling operatives. Therefore, directing and controlling functions become more important. Middle management falls in between. Staffing function is relatively less important at all levels because many of staffing functions are handled by personnel department in most of the organization. Similarly, once the organization structure is set up, tasks are allocated, and authority is defined, organizing function proceeds on routine basis requiring less managerial time.

Effective Supervision

Effectiveness of a supervisor is judged on the basis of how he is contributing to his organization by his work. Thus, he and his effectiveness can be measured in terms of his qualities, his supervisory process, and the result of his actions. Following are some of the elements of effective supervisory practices :

Leadership. Leadership is a process of influencing the activities of an individual or group for goal-achievement in a given situation. Through this process, individual or group contributes willingly to the goal achievement. Effective supervisors perform functions related to leadership instead of doing the same work as the subordinates do. This style of supervision leads to higher morale and more productivity. The leadership will be described later in detail.

Closeness of Supervision. The degree of closeness of supervision My vary from highly close-supervision to highly free supervision. Successful supervisors follow the style of less close supervision. A closed supervision is defined as frequently checking up on subordinates, providing them frequent and detailed instructions, and limiting their freedom to perform the work in their own way. Normally close supervision causes low morale and motivation because it blocks the gratification of some strongly felt needs of subordinates. Less close supervision, on the other hand, produces motivation and morale which are essential for high productivity. Supervisory practices can be improved by changing the style which suits the subordinates in a given situation.

Employee-orientation or Human relation. Taking into account both employees and work being performed by them, there can be two styles: employees-oriented and production-oriented. The employee oriented style stresses the relationship aspects of employee's jobs. It emphasizes that every individual is important and takes interest in every one, accepting their individuality and personal needs. Production-oriented style emphasizes production and

technical aspects of the jobs and employees are taken as tools for accomplishing the jobs. Effective supervisors follow employee-oriented style and take more personal interest in their men, understand their problems, punish them less frequently, when mistakes occur. Thus effective supervision is employee-oriented which creates a feeling in the minds of subordinates that their interests are taken into consideration in organisational practices. High producing workers are also of this opinion that they prefer employee-oriented technique because supervisors take personal interest in them which motivates the workers. In this atmosphere, the various problems being faced by workers can be discussed with the supervisors concerned in order to find out their optimal solution.

Group cohesiveness. Effective supervision relates to group cohesiveness. Group cohesiveness is characterized by the group situation in which all members work together for a common goal, or where every one is ready to take responsibility for group chores. Groups with high cohesiveness produce more as compared to groups with less cohesiveness. The reason for this phenomenon is that the belongingness to high-producing group enhances the members regard for dignity of their own job. The amount of dignity assigned by group members to their own jobs is highly associated with group cohesiveness. An effective supervisor attempts for maintaining group cohesiveness by infusing confidence and trust in employees.

Delegation. Though delegation of authority is applicable to all types of superior-subordinate relationships and all levels of management, it becomes, important at the supervisory level because supervisory level is considered to be the last level of delegation authority. Appropriate delegation leads to high productivity in the organization. Effective supervision Implies adequate delegation. A supervisor should not make any decision which is subordinates can make. This not only develops confidence in the subordinates but also motivates them for better performance, besides saving a supervisors time to concentrate for other work.

Other factors. There are certain other factors, besides the above, which go to make the supervision effective. For example, supervisors who can influence their superiors and satisfy the needs of their subordinates for promotion, recognition, and work centered benefits are considered better by their subordinates. They inspire higher morale in work groups and more satisfaction to the employees. They also perform functions like on-the-job training, informing the subordinates their duties and relevant organizational matters, and present model behaviour for their subordinates.

3.6 Exercises

1. Management process is considered to consist of certain functions. List these functions in a logical order.

2. Describe management process. How can it be used to accomplish results in the organization ?

3. How will you classify the levels of management ? Briefly describe the functions of different levels of management.

4. "The job of a supervisor is more difficult than that of the higher level managers' Explain . What are the major jobs of a supervisor ?

5. "Supervision primarily deals with instructing , guiding and inspiring human beings towards greater level of performance." Amplify this statement.

6. What is meant by supervision ? What are the requisites of effective supervision ?

Unit 4 □ Coordination : 'The Essence of Management'

Structure

4.1 What is coordination

Some authors consider coordination as a separate function of management. However, it is more accurate to say that coordination is an essence of management rather than one of its functions. Some managers even feel that coordination is one word that best suggests the sum total of managerial functions. Some others believe that the term coordination is better descriptive of managers functions than management itself. The reasons for treating as the essence of management may be as follows :

1. The concept of essence relates to intrinsic nature of an object. Coordination, being synchronization of efforts of human beings in an organization., is intrinsic to management to management also tries to synchronize group efforts for achieving organizational objectives. For realizing organizational goals, it is necessary that each effort is purposeful, constructive, and contributes to the predetermined results. Each such efforts should tend to help others for the group in achieving the composite effort deemed essential for goal accomplishment. Therefore, managers through there various functions try to achieve this synchronization so that each effort contributes positively to another efforts.
2. A management function is different from its essence. A function is a composite of duties closely related in harmonious character and in operational similarity, which for the purpose of execution has to perform some important and some less significant function. Thus a function has some objectives and to arrive at that objective, some more and some less important activities are to be performed. This is true for various management

functions of planning, organizing, staffing, directing, and controlling. Each of them has some objectives as well as various sub functions. In fact, various managerial functions taken individually serve a particular purpose in achieving total managerial goals, that is, getting things done by others. For example, planning element of management decides what is to be done. Similarly, organizing element decides who will do. Coordination, on the other hand involves the integration of human efforts for achieving the goals which is not a particular function but the basic objective of all managerial functions.

3. When various managerial functions are performed properly and adequate consideration is given to their interdependence, the result is integrated, well-balanced composite effort by the group. The coordination is achieved automatically. When there is poor execution of various functions by various departments or individuals, the problems of coordination arise and special coordination efforts are required. Probably this is the reason that coordination has been recognized as a management function by classical authors and by authors of modern era. In classical school of management, coordination has been treated as a central problem of management because authors were not sure about the interdependence or various individuals and proper execution of various management functions. In the system approach of management, execution of management functions proceeds on integrative basis and problem of coordination does not arise but it comes automatic process. Therefore, all management functions try to achieve integration of efforts and coordination becomes essence of management rather than function of management.

4.2 Features of Coordination

Coordination is an integration or synchronization of group efforts in the organization to achieve its activities. Haimann defines coordination as follows :

"Coordination is the orderly synchonising of efforts of the subordinates to provide the proper amount, timing, and quality of execution so that their unified efforts led to stated objective, namely the common purpose of the enterprise."

In an organization, every individual is related with others and its functions effects others. Since all individuals ultimately contribute to the same end result, their contribution will be maximum when there is positive effect of one's effort over others. If this is not done the efforts of some will be counter productive for others. From this point of view, coordination has the following features :

1. Coordination is relevant for group efforts and not individual efforts. It involves the orderly pattern of group efforts because an individual who is working in isolation does not affect functioning of others and no need for coordination arises.
2. Coordination is a continuous and dynamic process. It is a continuous phenomenon because it is achieved through the performance of functions. It is dynamic because functions themselves are dynamic and may change over the period of time. In every organization, some sort of coordination exist; however, management may make special efforts to achieve coordination of higher degree.
3. Coordination emphasis unity of efforts which is the heart of coordination. This involves the fixation of time and manner of performance of various functions in the organization and makes the individual efforts integrated with the total process.
4. Higher is the degree of integration in the performance of various functions by various persons in the organization, higher is the degree of coordination and higher is the possibility of achievement of organizational objectives.
5. Coordination is the responsibility of every manager in the organization because he tries t synchronize the efforts of his subordinates with others. However, when this does not work, there is need for special coordinators.

4.3 Coordination and Cooperation

Coordination should not be confused with cooperation, for two terms denote quite different meanings. The term coordination is related with the synchronization of efforts which have amount, time, direction attributes. For managers it is a means of viewing in true perspective of work of a particular unit or department of which they may be In-charge. Cooperation is basically a motto; a collective action of one person with another or other person towards a common goal. The basic motto behind cooperation is "Each for all and all for each". Thus, basic differences between coordination and cooperation can be defined as follows :

1. Coordination is basically achieved through the performance of various activities. In some cases, special efforts may be required for achieving coordination. Cooperation is basically motto and spirit. The motto of cooperation leads to the development of cooperative system in which physical, biological, personal, and social elements are present. It is based on the assumption that every member of cooperative system will work in the general interest of the system as a whole and not for his interest.

2. Cooperation leads to building of an institution, for example, cooperative society, etc. In fact, Barnard has visualized every organization as cooperative social system. Coordination being a process is required in all such institution and organization.
3. The basic principles of coordination consist of direct contact, continuity of efforts and reciprocal relation among persons whose effort are to be coordinated. On the other hand, basic principles of cooperation include (1) voluntary association, (2) democratic process in performance of activities, (3) common welfare, and (4) a spirit of dedication and service with absolute honesty and unquestionable integrity.
4. In a given situation, cooperation may exist without coordination. The case of various cooperation societies and organizations based on the motto of cooperation is in point. In such organization, emphasizes on the collective actions of members foe certain common goals and any organization may be cooperative. However, it is not necessary that coordination exists an all cases.
5. The basic objective of coordination is the synchronization of efforts of individuals in a work group so that no effort goes in waste. On the other hand, the basic objective of cooperation is to protect the interest of members of a cooperative group specially from the threats presented by conflicting groups.

4.4 Need for Coordination

Performance of various managerial functions in an integrated way ensures fair degree of coordination among individuals and departments. However, problems of coordination arise because of the presence of constant change, weak , or passive leadership , and complexities inherit in large scale organization. In a large organization, there are three types of complexities which require special efforts of coordination: large number of personnel, functional differentiation, and specialization.

Large number of personnel. The increasing number of persons involved in ever large organization complicates the problems of coordination. Each individual is unique, acting to serve his own needs as well as those of the organizations. Each has his own habits of work, his own background, approaches to situations, and relationships with others. Moreover, the individual does not always act rationally. His behaviour is neither always well understood nor completely predictable. Therefore, it is not necessary that human beings perform their actions

without regard to others and synchronization in efforts may be lacking. Further, problems of coordination of a quite different character arise out of the preserveness of human beings in organizational settings. Individuals join the organization as its members to fulfill their needs. Many times, these needs may be different from group needs and goals. In such a case, organizational and individual goals are not fully achieved. More is the number of individuals in an organization, the higher will be the degree of such incompatibility. It is imperative for the organizational efficiency that both these goals are brought to a level of conformity, and management tries to integrate individual and group goals through coordination.

Functional Differentiation. Functions of an organization are frequently divided into departments, divisions, sections, and the like. Coordination is, therefore, necessary to link the functions together and assure their contribution to the total result. Coordination problems arise because domains become solidified, with barriers between them become rigid. Each unit tries to perform its mission in isolation from the others. Sometimes this happens because functions are grouped illogically, or managers take the expedience rather than the logical route. For example, conflict between sales and production department arises because of this reason. The sales department has a fundamental interest in selling as much as possible; left to it, it may even sell the twice of what production department can produce. On the other hand, it is possible that sales may drop because of market conditions or poor salesmanship , or both. In this case, productions departments may produce far more than can be sold, for it has an economic interest of utilizing the production capacity. In such a case, it is clear that there are many divergent interests in the activities of these two departments. This problem has to be handled through some means, otherwise organizational resources may go in waste. There may be several such cases in a large organization.

Specialisation. There is high degree of specialization in modern organizations. Sepecialisation arises out of the complexities of modern technology as well as from the diversity of tasks and persons needed to them. Specialisation is reflected in the use of specialists of various types. It is the nature of training of specialists that they are made to feel that they are the best judge of the scope, nature, and kind of work they perform. Specialists think that they are qualified to judge each other according to professional criteria, but outsiders cannot have a adequate basis for such judgements. If the specialists are allowed to work without coordination, the results can be costly. Therefore, some mechanism is required to coordinate the efforts of various specialists in the organization.

4.5 Techniques for Effective Coordination

The basic objective of all managerial functions is to get things done by coordinated efforts. Thus every management functions should lead to coordination. However, conflicts frequently arise since it is virtually impossible to achieve a mechanically perfect system of clear-cut jurisdictions. Therefore, managers have to achieve coordination by making some special efforts. Some of these efforts may be in the following directions :

Coordination by Chain of Command. In an organization , the chain of command is the most important method of coordination., particularly vertical coordination. Vertical coordination is required to harmonize the work allocated to several levels in the organization. It ensures that the various levels do not act out of accord with each other or with policies and objectives of the organization. The concepts of unity of efforts , timing and orderly efforts apply to all levels and all units of the organization. A manager can achieve the vertical coordination by using his authority. Because of his organizational position, position, he can issue orders and instructions to his subordinates. This process can go down the organization. He can define the authority of his subordinates , their functions, and timing of performance of these functions. However, role of chain of command is limited even to achieve vertical coordination.

Coordination by leadership. If coordination cannot be achieved by mere exercise of authority , managers can use their leadership to bring coordination among these subordinates. Leadership is the process of inducing subordinates to cooperate willingly. Leadership brings individual motivation and persuades the group to have identify of interests and outlook in group efforts. Thus many conflicting situations can be overcome by inducing people to work in harmony by exercising leadership.

Coordination by Committees. Committee is a body of persons entrusted with discharge of some functions collectively as a group. The role of a committee is significant in achieving horizontal coordination. Coordinating horizontally is a matter of relating the efforts of functional, divisional, or territorial units to each other. Committee ensures that problems which arise out of relationships among various units can be solved by group decisions. The core of group decision – making, so far as coordination is concerned, lies in the opportunities for free and open discussion and interchange of ideas, problems, proposals and solutions. Improved understanding of organization-wide matters leads to better coordination.

Staff Meetings. Periodic staff meetings can be highly effective in promoting coordination through better communication. Usually, it is desirable for a regular time to be set aside for

meetings. These meetings generally contribute in the following ways to achieve coordination : (i) to give everyone present a sense of the unity and inter connectedness of the work of the organization as a whole; (ii) to learn from the superior manager about new problems and developments which affect their work ; (iii) to solicit and enlist the thought and cooperation of staff members in the solution of problems ; (iv) to provide an opportunity for subordinates to bring up questions which the superior manager should know about and which may affect the operations of parallel divisions of the organization.; and (v) to provide a forum in which friction points or areas of inadequate coordination are brought into the open.

Special Coordinators. Generally, in big organizations special coordinators are appointed. They normally work in staff capacity to facilitate the working of main managers. A coordination cell may also be created. The basic responsibility of the cell is to collect the relevant information and to send this to various heads of sections or departments so that interdepartmental work and relationship is coordinated. In some cases, a particular person is appointed to coordinate the work of a particular nature. For example, in a particular project , along with various functionaries , a project coordinator can also be appointed. His basic function is to coordinate various activities of the project and to keep information about the development of the project.

Self Coordination. The basic principle of self coordination is modification of functioning of a department in such a way that each department coordinates with other departments. Each department or section or individual affects other and is also affected by others. Therefore, if those departments, sections or individuals apply a method of working which facilitates others, self coordination is achieved. This can be done by better horizontal communication. However, mere communication does not work unless there is a proper organizational climate in which each one sees the integration of his goals with organizational goals and also the benefits of his departments with others.

4.6 Exercises

1. What do you mean by coordination ? How is it different from cooperation and control?
2. In what sense is coordination called the essence of management ?
3. How can coordination be used as an instrument of effective management action ?
4. Discuss the various techniques through which coordination can be achieved.

Unit 5 □ Management Roles and Functions in the Hospital

Structure

5.1 Introduction

This is a description of the various roles and functions of the hospitals administrator, and activities associated with them. Description of each function or role leads to a key

element under that role. At the end of each such description, the key element is highlighted.

Mintzberg's Management Roles

Identifying the Roles Managers Play

Which roles do you play most often?

As a manager, you probably fulfill many different roles every day.

For instance, as well as leading your team, you might find yourself resolving a conflict, negotiating new contracts, representing your department at a board meeting, or approving a request for a new computer system.

Put simply, you're constantly switching roles as tasks, situations, and expectations change.

Management expert and professor, Henry Mintzberg, recognized this. He argued that there are ten primary roles or behaviors that can be used to categorize a manager's different functions.

Let us examine these roles, and we'll see how you can use your understanding of them to improve your management skills.

The Roles

Mintzberg published his Ten Management Roles in his book, "Mintzberg on Management: Inside our Strange World of Organizations," in 1990.

The ten roles are :

Figurehead.

Leader.

Liaison.

Monitor.

Disseminator.

Spokesperson.

Entrepreneur.

Disturbance Handler.

Resource Allocator.

Negotiator.

The 10 roles are then divided up into three categories, as follows :

Category	Roles	
Interpersonal	Figurehead	
	Leader	
	Liaison	
	Monitor	
Informational	Disseminator	
	Spokesperson	
	Entrepreneur	
Decisional	Disturbance	Handler
	Resource	Allocator
	Negotiator	

Let's look at each of the ten roles in greater detail.

Interpersonal Category

The roles in this category involve providing information and ideas.

Figurehead – As a manager, you have social, ceremonial and legal responsibilities. You're expected to be a source of inspiration. People look up to you as a person with authority, and as a figurehead.

Leader – This is where you provide leadership for your team, your department or perhaps your entire organization; and it's where you manage the performance and responsibilities of everyone in the group.

Liaison – Managers must communicate with internal and external contacts. You need to be able to network effectively on behalf of your organization.

Informational Category

The roles in this category involve processing information.

Monitor – In this role, you regularly seek out information related to your organization and industry, looking for relevant changes in the environment. You also monitor your team, in terms of both their productivity, and their well-being.

Disseminator – This is where you communicate potentially useful information to your colleagues and your team.

Spokesperson – Managers represent and speak for their organization. In this role you're responsible for transmitting information about your organization and its goals to the people outside it.

Decisional Category

The roles in this category involve using information.

Entrepreneur – As a manager, you create and control change within the organization. This means solving problems, generating new ideas, and implementing them.

Disturbance Handler – When an organization or team hits an unexpected roadblock, it's the manager who must take charge. You also need to help mediate disputes within it.

Resource Allocator – You'll also need to determine where organizational resources are best applied. This involves allocating funding, as well as assigning staff and other organizational resources.

Negotiator – You may be needed to take part in, and direct, important negotiations within your team, department, or organization.

Applying the Model

You can use Mintzberg's 10 Management Roles model as a frame of reference when you're thinking about developing your own skills and knowledge. (This includes developing yourself in areas that you consciously or unconsciously shy away from.)

First, examine how much time you currently spend on each role. Do you spend most of your day leading? Managing conflict? Disseminating information? This will help you decide which areas to work on first.

Next, get a piece of paper and write out all ten roles. Score yourself from 1-5 on each one, with 1 being "Very skilled" to 5 being "Not skilled at all."

Once you've identified your weak areas, use the following resources to start improving your abilities in each role.

Figurehead

Figureheads represent their teams. If you need to improve or build confidence in this area, start with your image, behavior, and reputation . Cultivate humility and empathy , learn how to set a good example at work , and think about how to be a good role model.

Leader

This is the role you probably spend most of your time fulfilling. To improve here, start by taking our quiz, How Good Are Your Leadership Skills? This will give you a thorough understanding of your current abilities.

Next, learn how to be an authentic leader , so your team will respect you. Also, focus on improving your emotional intelligence – this is an important skill for being an effective leader.

Liaison

To improve your liaison skills, work on your professional networking techniques. You may also like to take our Bite-Sized Training course on Networking Skills.

Monitor

To improve here, learn how to gather information effectively and overcome information overload . Also, use effective reading strategies , so that you can process material quickly and thoroughly, and learn how to keep up-to-date with industry news.

Disseminator

To be a good disseminator you need to know how to share information and outside views effectively, which means that good communication skills are vital.

Learn how to share organizational information with Team Briefings . Next, focus on improving your writing skills . You might also want to take our communication skills quiz , to find out where else you can improve.

Spokesperson

To be effective in this role, make sure that you know how to represent your organization at a conference . You may also want to read our articles on delivering great presentations and working with the media (if applicable to your role).

Entrepreneur

To improve here, build on your change management skills, and learn what not to do when implementing change in your organization. You'll also need to work on your problem solving and creativity skills, so that you can come up with new ideas, and implement them successfully.

Disturbance Handler

In this role, you need to excel at conflict resolution and know how to handle team conflict. It's also helpful to be able to manage emotion in your team.

Resource Allocator

To improve as a resource allocator, learn how to manage a budget, cut costs, and prioritize , so that you can make the best use of your resources. You can also use VRIO Analysis to learn how to get the best results from the resources available to you.

Negotiator

Improve your negotiation skills by learning about Win-Win Negotiation and Distributive Bargaining .

You might also want to read our article on role-playing – this technique can help you prepare for difficult negotiations.

Key Points

Mintzberg's 10 Management Roles model sets out the essential roles that managers play. These are:

Figurehead.

Leader.

Liaison.

Monitor.

Disseminator.

Spokesperson.

Entrepreneur.

Disturbance Handler.

Resource Allocator.

Negotiator.

You can apply Mintzberg's 10 Management Roles model by using it as a frame of reference when you want to develop your management skills. Work on the roles that you fulfill most often as a priority, but remember that you won't necessarily fulfill every role as part of your job.

5.1.1 Working with Peoples

The administrator has no direct clinical responsibility for any patients, that firmly on the members of the medical staff who have the clinical freedom to decide who shall be treated for what, by what means and for how long. Because doctors are responsible in this way, they are in a unique position to influence the work and development of the hospital. The physician's "management" of a case has an effect far beyond the clinic or ward situation, on the work of the other staff, and in the functioning of other departments remote from his sphere of action.

Thus, the clinicians to a very great extent call the tune for all the services which contribute to patient care- not only for nursing, pathology, radiology, and pharmacy, physiotherapy, and the rest of the professions supplementary to medicine, but also for the cook who makes the salt-free diet, the technician who maintains the dialysis machine, the ward boy who fetches the oxygen cylinder or the nurse who sets up as lV line.

Dictum: balance the goals of the hospitals by working with patient care teams where physician is the kingpin who in turns works with others in rendering patient care. Understand workers, their motivation and aspirations, and knit them together as a team.

5.1.2 The Enabling Role

One of the prime roles of the administrator is to enable the doctors, nurses and patient-care team to do their job. He "enables", "sees" to and "ensures". All this is part of his enabling job, but not the whole of it. He must concern himself also with creating and maintaining the nonmaterial conditions in which the professional staff can do their work best- morale, atmosphere, the sprit of the place are as much of his business as the water supply and electricity.

Dictum : Ensure the provision of necessary physical facilities and ensure that the supportive services are available in the right amount, of the right quality, and at the right time and place.

5.1.3 Hospital Administration and Staff

Running any hospital calls for a great deal of fact and ingenuity. This is because there are many types of staff who are specialists in their own sphere and departments, which function more or less as autonomous units.

Workers at the operational level, e.g. nursing personnel, feel that more than one authority controls them- firstly the head of the clinical service, secondly the head of the nursing department and thirdly the administration. This multiplicity of reporting and regulating authority is a source of constant trouble.

Dictum : Understand the staff and understand variations in styles of administration.

5.1.4 Staff Motivation

Expensive facilities and equipment do not necessarily make for a good hospital, it is the people who operate them that make the hospital go. This function is one of the most challenging functions of a hospital administrator. The staff needs to be motivated to give their best at all times even in trying situations. Many discouraging factors and stress situations, in which hospitals abound, tend easily to lead to erosion in motivation.

Dictum: develop measures to keep up motivation of all categories of staff, and be constantly on the look-out for cases of dissatisfaction and conflict.

5.1.5 Facilitating Decision Making

A great part of the job of a hospital administrator concerns with decision making. There are several kinds of decision making in a hospital. The most characteristic are the technical decisions about the treatment of patients, with which he is not directly associated, but which influence overall decision making, with which he is concerned.

Whether he recognizes it or not, the clinician, no less than his colleagues who run the X-ray or pathology departments, is also a manager. The most common decision about which patient to admit and for how long should he be kept in hospital can be taken only by individual physicians. To them these may seem to be purely clinical decisions, but these are also management decisions. To admit Mr. A other than Mr. B or to keep Mrs. C in hospital a few days longer, or to send Ms. D home early to free a bed for someone else, all these are decisions which influence use of resources.

Within a particular specialty the chief of that specialty exercises a sort of coordinating function. However, between specialties, there is some element of confusion. Various department heads may find themselves in a competitive relationship. Although each chief is entitled for help from the common services, and has a right to get it, this does not happen automatically.

Dictum: Provide appropriate inputs to decision making at the clinical departmental level, and coordinate decision making at the interdepartmental level.

5.1.6 Management of Resources

All decision making is limited by the human and material resources the hospitals has. The variety and quantum of the pressures and constraints on hospital administration is best seen when it comes to deciding between competing claims for manpower and financial resources. How does one compare the need for a new lift to replace a very old one with that for a set of

ventilators for the ICU? Or the requirement of two data entry operators for the computer section with extra technician in the laboratory for a new oncology programme? The cost of some of them could be met from capital account, of others from revenue surplus and some mat involve development expenditure requiring a decision of the board. The competition between them is equal. But who decide this?

Decisions of this kind which together affect resources- decision to spend money, involving a choice among alternatives even where such choices are unrecognized must be made by the administrator. The hospitals administrator as an expert in the art of getting things done does not arbitrate on this or that, but assimilates, reconciles, and synthesizes all the views of those who put up competing demands. Nevertheless, in making decisions, at times, he may have to succumb to what is expedient.

Dictum: His judgment may not necessarily be superior to that of the experts who propose the case, but his position is the most appropriate one from which to make it.

5.1.7 Negotiating

The administrator spends considerable time negotiating both with agencies outside the hospital and with staff members within, especially regarding their working arrangements and conflict resolution. This is not to be confused with negotiating with worker's union which is a collective bargaining process. Administrators must negotiate with third party payers (insurance, companies, employers) regulatory agencies, planning groups, equipment vendors and so on. There are also elements of negotiation in the hiring of personnel and salary determination.

Ideally, the administrator should strive for a positive problem-solving situation. This implies moving away from a win-lose (I win you lose, or vice versa) situation to a win-win) end result.

Dictum: Steer closer to "creative problem solving" situation, rather than turning to a "choice" situation. Emotions do play apart in negotiating session, but guard against them.

5.1.8 Containing costs

Being in charge of the "business" side of hospitals management, a hospital administrator is responsible for the conduct of all the "business" aspects. Although a hospital is not a primarily business institution, business matters are vital to its survival even though they may not be the reason for its existence.

With phenomenal rise in hospital costs, the administrator has to devote considerable time and energy to monitor and contain costs. The medical staff knows very little or nothing about

the economics of hospital care. Therefore, it is necessary to make cost-conscious, to reduce expenditure without jeopardizing patient care. The hospital administrator achieve this through presenting them with different types of costing data, and seeking their cooperation in containing costs.

The administrator puts into practice his knowledge and skills in financial management to practical use in forecasting financial results as precisely as possible. If the budgeting has not been carried out correctly, fund allotted for specific activities can only be diverted to other activities at the peril of smooth running of the hospital.

Dictum : Exercise control over financial matters through costing, cost-control, budgeting and judicious investment of hospital funds.

5.1.9 Dealing with New Technology

Hospital practice has become more and more dependent on high technology which can become rapidly outdated as the technological advance continues. Medical staff are subjected to sales pressure from manufacturers of newer items, and they may tend to seek what is new without regard to cost because of the glamour attached with newer sophisticated equipment.

Dictum: Strike a judicious balance between new technology and the hospital's needs, cater for training and retraining to catch up with new technologies, innovations and improvements. Organize such training at formal, informal, institutional and individual levels.

5.1.10 Establishing Managerial Climate

One of the key responsibilities of the hospital administrator is that of establishing a 'managerial climate". Hospitals have their own "personalities" people do. This personality springs from value held by those running the hospital and the physicians who work in it, and governed by the sensibilities and impression of those who come in contract with the hospital. Administrators and other staff between both play a major role in the development of these values. Traditional and past history and bear upon the values held by the people.

Dictum: Administrative personnel must be compatible with each other and with the organization. Where a change in managerial climate is called for, be prepared to recognize the need and be capable of meeting it. Provide the main lead in the direction.

5.1.11 Management Development

The administrator can not manage the institution single handedly by himself. There is ample need to strive for better management in a hospital, which has few trained managers. Rapid

changes are occurring which necessitate upgrading the knowledge, skills and attitudes in subordinate administrative positions. Therefore, a part of the educational activities has to be directed to training and retraining of the administrative personnel, and even medical staff, in supervisory and managerial positions. Management development is a continuing activity. Personnel are encouraged to attend various programme of courses and workshops to improve their managerial and leadership skills.

Dictum: The quality of patient care depends upon the quality of the hospital's human resources, which in turn is determined by the quality of the leadership at various levels. Facilities this most critical input by planned leadership development at different levels.

5.1.12 Evaluation

The ability to evaluate people, programmes and the overall effectiveness of the hospital is one of the competencies the administrator has to develop. Evaluation includes evaluation of employee-clientele relationship and interpersonal behaviour. The judging ability of the administrator at times incorporates "intuition".

Dictum: Continuous, ongoing self evaluation is a means of quality assurance.

5.1.13 Fact-Finding and Investigation

Whereas the administrator makes the decisions mostly based upon his knowledge and experience, some will be made only after much fact-finding and analysis. Managerial style is an important element in fact finding and investigation. Situations where consensus is important would call for attention to the group decision-making process, as opposed to situations calling for immediate decisions that cannot be delayed.

Dictum: Fact finding and investment call for caution so that the workers sensibilities are not offended.

5.1.14 Social Commitment

The hospital administrator is a part of the society in which the hospital functions. His vision therefore must be restricted to the hospital in isolation. He must be aware that he is a part of the wider health care system and serves the larger society through the hospital.

Dictum: Balance the conflicting requirement of looking after the business interests of the hospital with the social obligations towards society.

5.2 Skills for Effective Managers

A question is often asked whether the effective manager in one situation or institution culture can also prove to be as effective in another situation or culture. If the skills, qualities and abilities of effective managers are all so very well documented, are there any differences in these qualities, skills and abilities at various levels of the organization? There are numerous example of some managers vitalizing a badly run institution with a poor public image to a very successful one. There are also other examples of some successful managers having been removed from important managerial position either on change of ownership of the institution or of their failure to work under a different organizational culture.

After a lot of research, it has now been established that successful management rests on three basic skills- technical, human and conceptual. These three skills are not absolute and mutually exclusive, but interrelated.

5.2.1 Technical Skill

Technical skill is the understanding of proficiency in specific type of activities involving methods, processes or techniques, e.g. those of an engineer or a doctor. It implies specialized knowledge in that trade and proficiency in the use of techniques and tools of the trade, and which can be easily observed and assessed.

5.2.2 Human Skill

All managers achieve the organizational objectives through the efforts of others in the organization. Human skill is the skill in dealing with people (rather than things or objects). It involves ability and judgement in working with and through people, including an understanding of motivation. This skill is demonstrated in the way the individual perceives his superiors, equals and subordinates, and requires awareness of their attitudes, beliefs and feelings. It also involves the ability to effectively communicate with others so as to influence their behaviour.

5.2.3 Conceptual skill

Conceptual kill involves the ability to understand complexities of the whole organization and how changes in any one part of the organization affect others. This knowledge permits the managers to act according to the objectives of the total organization rather than only on the basis of needs of the problem at hand. The success of decision depends on the conceptual skill of

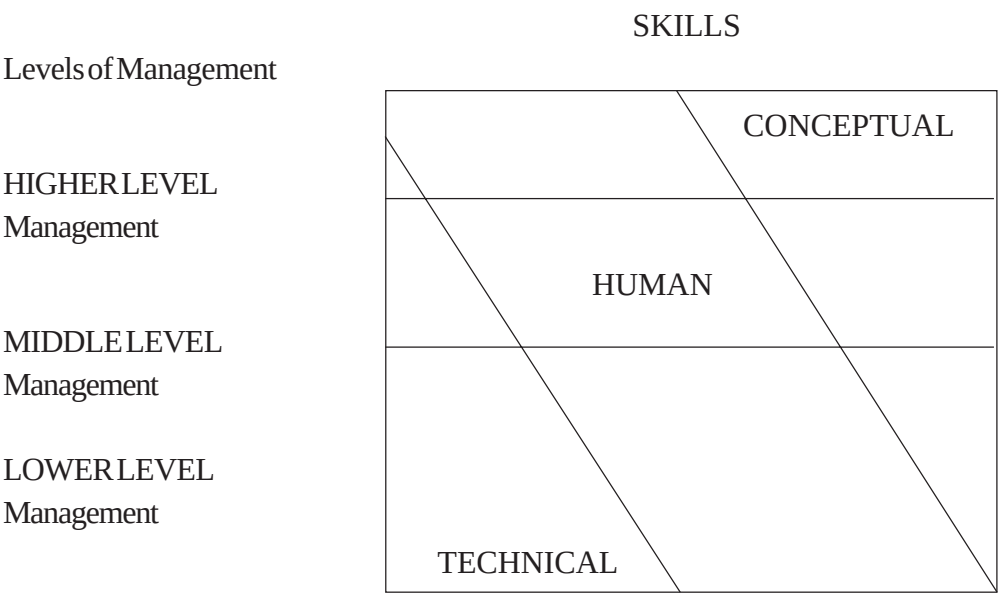
managers who make the decision. The attitudes and values of top manager make up an organization personality and distinguish good organizations from others.

5.2.4 Importance of the Three Skills

The mix of these skills varies as an individual advances in management from supervisory to top management position. At the lower levels of every organization, technical skills are the most important. As the manager advances from lower to higher levels in the organization, less technical skills tend to be needed. Although it is important at the lower levels as well as the highest level, human skill assumes paramount importance at the middle management level. At the higher level, conceptual skill assumes more importance in policy decisions, strategy formulation and planning action. The chief administrator at the highest level may lack technical skills and human skills, and still be effective. But if he has poor conceptual skill, it is bound to land the organization into problems.

While the amount of technical and conceptual skill needed at different levels of management varies, the common denominator that appears to be crucial at all level is the human skill.

MANAGEMENT SKILLS



5.3 Departmentation

Departmentation is the process of dividing the work of organization into various units or departments. The terms used to denote the departments that result from departmentation vary

a great deal. In business organizations, such terms as division, department and section are used ; in government, these are called branch, department, bureau, and section; in military, regiment, battalion, group, and company are used. Moreover, the terminology may vary in different types of organizations or in organizations of the same nature. The process of departmentation may, however, be the same.

5.3.1 Need and Importance of Departmentation

The basic need of departmentation arises because of the limitation on the number of subordinates that can be directly managed by a superior. If there is no departmentation, this limit would seriously put limitations on the size of the organizations. Grouping of activities and personnel into departments makes it possible to expand an organization to an indefinite degree. Besides, departmentation helps in increasing the efficiency of organization in the following ways.

5.3.2 Bases of Departmentation

The activities necessary to achieve the organizational objectives are a basic consideration in organizing. The nature of these activities differs considerably. However, the bases of departmentation have general applicability and can be applied in many different situations. The bases more commonly used are : (i) functions, (ii) territory, etc.

5.3.3 Functions

Functional departmentation is the most widely used basis for organization activities and is present in almost every organization at some level. Functional departmentation may begin at different levels of the management hierarchy.

5.3.4 Territory

Territorial departmentation is especially useful to large-scale enterprise or enterprises whose activities are physically or geographically spread such as, banking, insurance, transportation and distribution network throughout a territory, etc. Here, all the activities in a given area of operations is divided into zones, divisions, sections and branches.

5.4 Exercises

1. What is Departmentisation? What are the types of Departmentisation?
2. What are the Social Responsibilities of a Manager
3. How does departmentation facilitate decision making.

Model Questions

Long Questions

1. "Managing is decision-making". Do you agree? Give reasons for your answer.
2. What are the functions of management? How are the functions related to different levels of management?
3. What is planning? Discuss the chief characteristics of planning as a function of management.
4. Explain the basic steps of planning.
5. Discuss the various skills required at various managerial levels.
6. Discuss Mintzberg's Management Roles.

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