

OBM752-HOSPITAL MANAGEMENT(VII SEM)
UNIT I

OVERVIEW OF HOSPITAL ADMINISTRATION

Distinction between Hospital and Industry:

What is Hospital Management?

Hospital management includes overseeing and facilitating work related to physicians, nurses and other healthcare professional so as to ensure the smooth functioning of a hospital. The responsibilities of a hospital manager are more or less similar to that of a healthcare manager except the specialities in which they are fulfilled. Hospital managers must have extraordinary decision making skills and be able to handle stress as they work in a highly unpredictable environment.

Hospital managers engage with frontline physicians while healthcare managers are confined only to the administration and business. Hospital managers are concerned with the interpersonal expertise, leadership training and communication skills required to manage a healthcare facility whereas healthcare managers are more focussed on their knowhow and experience in critical analytics. In fact, as hospitals look to other industries for solutions to their challenges, like adopting 'lean' management approaches, we have the advantage of applying what we've learned in the manufacturing, distribution, retail, and customer service sectors. Certainly our approach to legal defensibility remains the same. (And is more important than ever as the OFCCP seeks to confirm its jurisdiction over hospitals).Beyond these, however, healthcare IS different in many respects:

1. **Complexity** – Hospitals tend to have very complex organizational structures compared to their overall size. A 400-bed hospital might have over 1,000 different job titles.
2. **Highly trained professionals** – A large portion of the workforce- physicians, nurses, allied health and many technical positions, are highly trained and have a high level of autonomy. Many have performance criteria defined by the profession and by state and national testing and licensing bodies.

3. **A fragmented organization structure** – An auto manufacturer designs the entire workforce around production of the car. Hospitals, only recently, have begun to take a service line or patient-centered approach to organizational structure, built around the patient experience. Historically, a hospital is built around relatively independent departments, each with a great deal of autonomy.
4. **De-centralized and disparate hiring processes** – This autonomy often fosters a decentralized and inconsistent approach to recruiting and hiring. Nursing has its approach, other departments do something else, and physician hiring is informally controlled by the C-suite and the VPMA. Inconsistency between hospitals in a system, or even hiring managers within the same hospital, make standardization difficult and create unnecessary legal risk.
5. **Customer Service is no longer a 'nice to have'** – Every company wants to improve customer service but with the new **HCAHPS** requirements, patient satisfaction scores are a critical success metric for hospitals.
6. **The nature of the Services** – Poor quality in a manufacturing plant means a poor product and a weakened competitive advantage. Poor quality in a hospital means harm to patients and the hospital's ability to fulfill its mission.

Accordingly, we advocate a unique approach to selection:

1. **Healthcare-specific solutions** – Basic, off the shelf personality tests that might be fine for other industries don't work in healthcare. Nurses, physicians, and other care providers are unique and assessments must incorporate an understanding of the work and the competencies that lead to success.
2. **A multi-level approach** – Creating a patient and family focused environment means you can't just improve the level of customer service provided by the nursing staff. Even housekeeping impacts the patient experience, and if you don't hire better managers, hiring better front line workers is futile.

3. **Consider the 'future-state'** – Healthcare is changing – rapidly. Our traditional better performers may not be what we need moving forward. It takes a thorough understanding of the new challenges and of the vision of the organization, in order to build the workforce for the future.

Hospital systems or chains continue to grow their market share relative to independent hospitals. This trend generates concerns among health care industry observers as historical performance suggests chains charge more for health care services than the independents while providing reduced contributions to their community. This study empirically assesses key performance measures of 67 acute-care hospitals in Virginia by testing if there are differences between chains and independents regarding total patient revenues, revenues per admission, profitability and community support, including charity care, bad debt, taxes paid and Medicaid participation. Implications to industry policy-makers as well as to hospital executives and marketing managers are then presented.

Healthcare suffers a number of serious consequences when its productivity grows at a slower rate than other industries, the most serious being higher relative costs for healthcare services. The situation is an inevitable and ineradicable part of a developed economy.

For example, as technological advancements increase productivity in the computer, and eHR, manufacturing industry, wages for computer industry labor likewise increase. However, the total cost per computer produced actually declines. But in healthcare (where technological advancements do not currently have the same impact on productivity), wage increases that would be consistent with other sectors of the economy yield a problem: the cost per unit of healthcare produced increases.

Challenges in Hospital Administration:

There's no doubt a hospital administrator's job is difficult and demanding, and it's only getting tougher. As competition and expenses increase, hospital executives must prepare administrators to effectively lead during a time of transformational change in our healthcare system. Here are five challenges they must overcome in order to successfully improve patient care while maintaining fiscal responsibility.

Compete for healthcare professionals

There is a real shortage of healthcare professionals, and it's hurting the profitability

of hospitals as they pay more for every employee they hire. From 2008 and 2018, healthcare employment will grow by 23 percent, compared to only 9 percent in all other employment sectors, according to the Bureau of Labor Statistics. During that time, hospitals will be forced to compete for:

- Registered nurses (expected to grow 22.2 percent)
- Licensed practice and licensed vocational nurses (expected to grow by 20.7 percent)
- Home health aides (expected to grow by 50 percent)
- Nursing aids, orderlies and attendants (expected to grow by 18.8 percent)
- Physicians and surgeons (expected to grow by 21.8 percent)

With this in mind, hospital administrators must put a plan in place to address the shortage and compete for the best employees. As they compete, they must be skilled at recruiting, hiring and retaining qualified healthcare professionals. Hospital administrators need to build strong relationships with schools that offer healthcare-related degrees in their local communities and across the nation. Additionally, they must make working at their hospital attractive, which means thinking beyond competitive pay and benefits to ensuring each individual employee feels connected to the hospital and has a passion for working for the organization.

Specialize for growth

With the rapid growth of specialty hospitals, physician-run outpatient surgery centers and diagnostic centers, traditional hospitals are facing increased competition. To compete for patients, hospital administrators must be prepared to set their hospitals apart through a specialized care strategy. Benchmarking best practices is essential; hospital administrators must take time to investigate other specialty healthcare providers in their local communities, identify areas of opportunity and put a strategic plan in place for building renowned specialty practices. During this process, they typically take numerous factors into consideration, including local demographics and competitors' areas of specialization. With a specialization strategy solidified, hospital administrators must focus their efforts on recruiting specialized personnel and building a local reputation for excellence for the practice area.

Prepare for the future

As America's 78 million baby boomers come of age, hospitals are feeling the pressure to expand to meet growing demand. At the same time, hospitals are facing changes in the way they are paid. Reimbursements are shifting from a fee-for-

service model to a model that is based on outcomes and overall quality of care.

When patient satisfaction plays a role in the way hospitals are paid, you can bet hospital administrators are making it a priority. Therefore, hospitals are conducting extensive market research to ensure their expansion efforts are aligned with what consumers expect. For example, with the knowledge that women make most healthcare decisions in a family, one hospital decided to build an 18,000-square-foot imaging center for women with a spa-like atmosphere and robes. One children's rehabilitation hospital built a massive facility that comes complete with therapeutic gardens, play areas and even an all-grades school for inpatients. Other hospitals are converting semi-private rooms into private rooms, and there is a great deal of emphasis on making them safe, comfortable and cozy.

Having modern facilities with up-to-date medical equipment is crucial for hospitals that are competing for patients. With this in mind, hospital administrators must be prepared to balance current financial strain while positioning for the future.

Improve patient care through technology

There's not a corner or crevice of healthcare that is not being affected somehow by technology. Medical providers throughout the country, for instance, are spending millions of dollars on electronic medical record systems that allow physicians and hospitals to seamlessly share patient information

Ensuring that EMRs are effectively implemented within the healthcare organization is a critical role of healthcare administrators. However, technology is not exclusive to EMRs. Healthcare administrators need broad-based skills to integrate information and make evidence-based decisions. From electronic communication to order entry systems to the most advanced imaging technology, even the best technology is no good unless it's applied to improving organizational and patient outcomes.

Hospital administrators are responsible for making sure hospitals operate efficiently and provide quality medical care to patients. As a result, they must keep up with advances in medicine, technology and government regulations and policy changes.

Managing Medicare and Medicaid

With record numbers of unemployed people across the nation, the number of uninsured and underinsured Americans continues to grow. Now, more than ever, healthcare administrators are challenged with providing healthcare services to these patients while maintaining fiscal responsibility.

Couple this problem with the caps on government reimbursements for Medicare and Medicaid patients, and hospital administrators have, arguably, the biggest hurdle ahead of them — providing healthcare services to an aging population that relies on Medicare for their healthcare needs.

Healthcare administrators must find ways to offset these expenses, while expanding their healthcare services in areas where they can serve more patients.

Hospital Planning:

One of the greatest challenges facing the nation is how to make the healthcare system more affordable while maintaining and improving its quality. Although, many people believe costs cannot be reduced without rationing care, the evidence is clear that healthcare costs can be significantly reduced while improving quality, such as through prevention of illnesses; avoiding unnecessary and potentially harmful tests, interventions, and medications; eliminating harmful and expensive infections and medication errors; and educating patients with chronic disease about how to manage their conditions and prevent the need for costly hospitalisations. However, there are also many barriers that have prevented these opportunities for reducing costs and improving quality from being realised.

For example:

- Patients (and healthcare providers who are trying to advise them) cannot get the data on quality and costs they need to choose the highest-quality, highest-value providers and services
- Doctors, nurses, and other healthcare professionals typically do not have the kind of training or experience needed to redesign care processes in order to improve quality and reduce costs
- Health plans and government programs fail to pay for many high-value services and often financially penalise physicians, hospitals, and other healthcare providers for reducing infections, errors, complications, and unnecessary services
- The fragmented structure of healthcare providers and the lack of efficient methods of sharing information among them makes it difficult to coordinate care for patients
- Health plan benefits are often not structured in ways that enable and encourage consumers to improve their health, adhere to treatment plans, etc. Clearly, if healthcare reform efforts are to succeed, multi-faceted approaches will be needed to overcome all of these barriers in a coordinated way.

These approaches will, by necessity, be different in different parts of the country, the significant differences across the country in the structure of health care and in the specific types of cost and quality problems in each community make it unlikely that any one-size-fits-all national solution will work. Moreover, since all of the healthcare stakeholders in a community – consumers, physicians, hospitals,

health plans, businesses, government, etc., will be affected in significant ways, they all need to be involved in planning and implementing changes. In many communities there is considerable distrust between different stakeholder groups, so a neutral facilitator will likely be needed to help design “win-win” solutions.

A growing number of communities are recognising that Regional Health Improvement Collaborative (RHIC) are an ideal mechanism for developing coordinated, multi-stakeholder solutions to their healthcare cost and quality problems. A RHIC does not deliver healthcare services directly or pay for such services; rather, it provides a neutral, trusted mechanism through which the community can plan, facilitate, and coordinate the many different activities required for successful transformation of its healthcare system. Regional Health Improvement Collaborative has three key characteristics:

- They are non-profit organisations based in a specific geographic region of the country (i.e., a metropolitan region or state)
- They are governed by a multi-stakeholder board composed of healthcare providers (both physicians and hospitals), payers (health insurance plans and government health coverage programs), purchasers of health care (employers, unions, retirement funds, and government), and consumers
- They help the stakeholders in their community identify opportunities for improving healthcare quality and value, and facilitate planning and implementation of strategies for addressing those opportunities.

In 2010, there were more than 40 Regional Health Improvement Collaborative in the country. Many were formed relatively recently, but some have been in existence for 10-15 years, or longer. There has been a dramatic growth in the number of Regional Health Improvement Collaborative in recent years, partly due to the rapidly growing concern about healthcare costs and quality across the country, and partly due to proactive efforts by the Robert Wood Johnson Foundation (through the Aligning Forces for Quality program) and the U.S.

Department of Health and Human Services (through the Chartered Value Exchange program) to foster the creation of such entities. The leading Collaborative are members of the Network for Regional Healthcare Improvement (NRHI), which is the national association of Regional Health Improvement Collaborative.

Strategic Planning and Coordination:

Finally, in addition to the previous four roles, an increasingly important role for Regional Health Improvement Collaborative will likely be to provide the critical planning, coordinating, and support roles that will ensure these many inter-related changes happen successfully and in a coordinated way. The structure of a Regional Health Improvement Collaborative is designed specifically to help build consensus

among all healthcare stakeholders on the changes needed in their community, and then to provide support and coordinate the implementation of those changes. The Structure of Regional Health Improvement Collaborative to be successful, the roles described earlier need to be performed with the full support and trust of all of the key stakeholders in health care:

- Healthcare providers, i.e., physicians, medical practices, hospitals, and health systems
 - Healthcare payers, i.e., health insurance plans and public programs such as Medicaid
 - Healthcare purchasers, i.e., employers who purchase health insurance for employees
 - Healthcare consumers and organisations representing consumer interests
- Regional Health Improvement Collaborative ensures the support and trust of these stakeholders by actively engaging them in the governance of the Collaborative organisation, as well as in the design and operation of individual programs. Indeed, a key difference between Regional Health Improvement Collaborative and organisations such as Medicare Quality Improvement Organisations (QIOs), business health coalitions, regional health information exchanges, consumer health coalitions, medical societies, hospital associations, and others that work on quality improvement is that the Collaborative are governed by individuals and organisations from all four of the key stakeholder groups.

This is why Collaborative are referred to as “multi-stakeholder” rather than merely “multi-member” organisations. Other differences between Regional Health Improvement Collaborative and other organisations is that Collaborative establish their direction through consensus among their members and implement their efforts through voluntary

Some regions have two or more Regional Health Improvement Collaborative. In these communities, one of the organisations typically takes responsibility for collecting and reporting on various measures of healthcare quality and/or cost, while another carries out initiatives designed to help healthcare providers improve performance on those measures. As a result of this diversity, communities which do not have a Regional Health Improvement Collaborative but want to form one have a variety of models from which to choose. Since a common element of all Collaborative is their multi-stakeholder structure, the most important first step in establishing a Collaborative is for leaders from each stakeholder group to seek out leaders from other stakeholder groups and reach agreement that the interests of their communities would be served best by having all stakeholders working collaboratively toward improving healthcare quality and reducing costs

Equipment Planning:

Healthcare Equipment Planning is a specialised process and requires not only a clear understanding of the clinical need but also an intricate knowledge of budgeting, architectural design and building process. Effective project planning can only be achieved by a successful team process. This cohesive team generally consists of user groups, project managers, architects and other associated healthcare planners such as equipment planners, whose responsibility is to balance the requirements of the clinical users and the clients against available healthcare technology, budgetary targets and the realities of the design and construction process. Equipment planners are highly qualified equipment managers who are generally part of an equipment management group responsible for the overall management of the FF&E process.

The ultimate objective is to ensure all products selected are fit for purpose, within budget and, procured, delivered and commissioned in accordance with projects build programme. Equipment is generally categorised into groups to assist with identifying who is to be responsible for the overall management of the relevant FF&FE. A common format is to simply classify them as groups 1, 2 and 3. Depending on the projects requirements, the equipment planner may be required to manage either the medical only or both the medical and non-medical equipment. This requirement may cover the full spectrum of FF&FE, irrespective of who has the overall responsibility for it. To bring the best information on healthcare equipment and related management to the project team, an equipment planner should ideally be engaged, no later than the project's design phase. Some value can also be added by having an equipment planner involved in the master planning phase. The equipment planner can provide clinical consultancy on medical equipment as well as providing a more accurate preliminary FF&FE budget.

The objectives and outcomes of the equipment planning methodology are to:

Undertake current FF&FE inventory process (if required)

Ascertain types and complexity of medical equipment technology intended to be used to meet the project requirements

Establish and finalise FF&E Schedules Develop budget information for all agreed FF&FE

Provide expert assistance with the selection of fit for purpose FF&E Provided support and assistance to both the architectural and engineering teams to ensure all selected equipment can be effectively placed and operated within the building design and fit Manage or assist with the procurement and delivery process of new items

Assist with the process and planning of any FF&FE that needs to be relocated from an existing facility Manage the delivery, installation and sign off of new equipment

Assist with the management of the selected transferrable FF&FE.

Equipment Planning Process

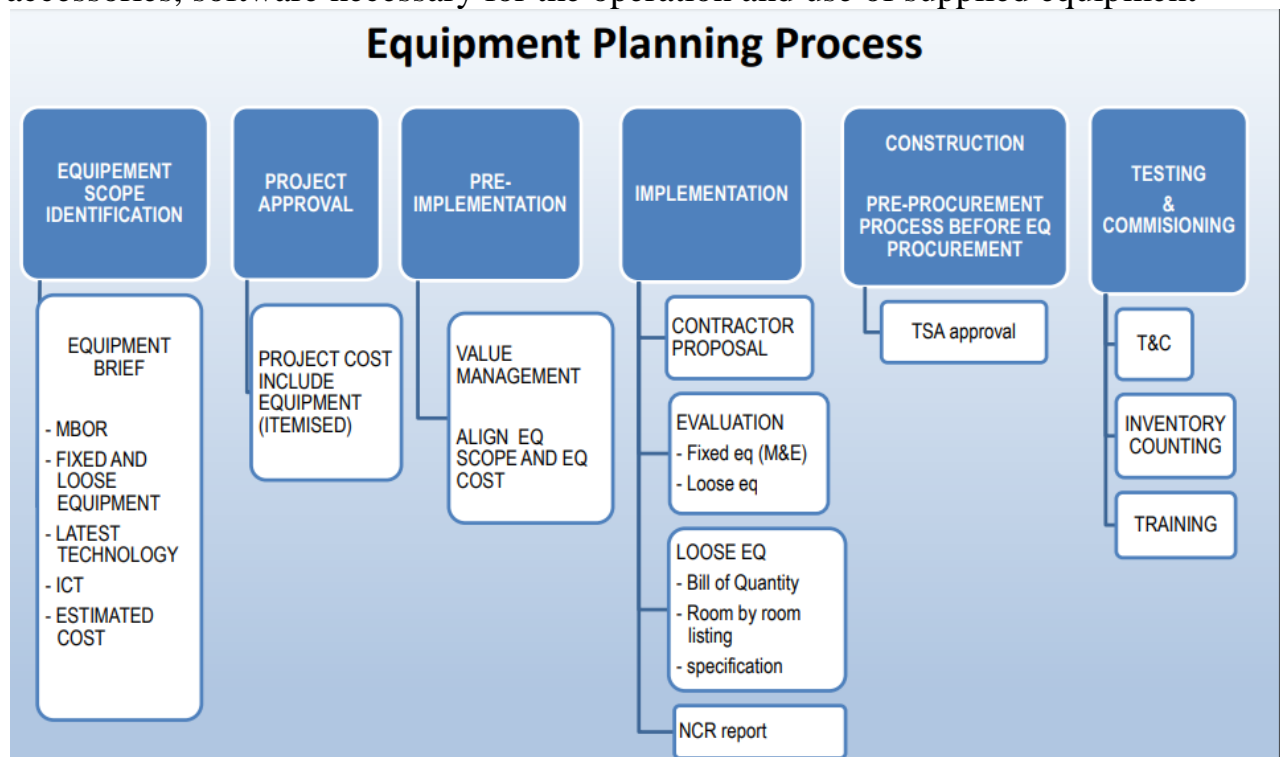
1. Equipping health facilities need detail planning and coordination, clinical needs and the equipment requirements are met with the design and function
2. Medical equipment is a vital component in healthcare delivery
3. Integration of clinical experience, design knowledge and experience with medical equipment
4. Equipment is a major part of project planning process
5. Usually 40% of total project cost i. 20% - M&E related equipment ii. 20% - medical equipment

Responsibility

1. Hospital / Clinic managers / End-users - To determine all the items of equipment necessary
2. Architects - built-in equipment
3. Engineers - M&E, ICT related equipment (fixed building equipment)
4. Equipment Planners - determine medical and non-medical equipment
5. Medical Planner - determine space required in clinical areas

Equipment Classification

Equipment shall include both loose medical and non-medical equipment, medical furniture, consumables, as well as vehicle Shall be supplied complete with accessories, software necessary for the operation and use of supplied equipment



Issues & Challenges

1. Approvals – licenses (imaging, radiotherapy)
2. Policy – local brands / imported brands / preferred brands
3. Managing a comprehensive strategy to procure equipment within given budget
Evolving technology ♣ Escalating cost medical equipment ♣
4. Organization commitment, coordination, control and accountability
5. Identification, relocation and installation Group II equipment – timing, warranty, realistic – obsolete

A healthcare merger provides the perfect opportunity to take inventory of a hospital system's medical equipment. With the proper equipment management strategy, you can successfully organize capital equipment from multiple facilities to optimize efficiency and productivity. Below are seven things to remember to do during a healthcare system merger.

1) Discard any permanently broken equipment right away

Maintaining a safe working environment is paramount during a healthcare merger. One of the best steps you can take to foster a safe environment for staff and patients is to discard any medical equipment that is broken beyond repair. Keeping broken equipment in storage is a risky idea because new staff may inadvertently attempt to use the damaged equipment to care for patients. A growing number of hospitals are utilizing recycling companies that specialize in retrieval and handling of obsolete or broken equipment.

2) Compare equipment servicing rates for each facility involved

A healthcare merger can quickly cause the number of equipment service contracts for a hospital system to double or triple. In addition to being expensive, a host of equipment servicing contracts can be challenging to track and manage.

You can address this issue by comparing the service quality and rates charged by each servicing company. You can then condense your list of service companies into one manageable list of service providers that offers the best combination of quality and affordability. Be sure to remember that not all service contracts are created equal and that coverages may vary:

3) Introduce capital equipment planning software

Equipment planning software is a welcome addition to in-house hospital teams who are attempting to manage a large inventory of capital medical equipment. Capital planning software is designed to help hospitals save money and reduce the amount of time spent on equipment procurement. In fact, you can reduce the

amount of time spent by as much as 76% by introducing industry-leading capital equipment planning software. Here are some of the many ways that equipment planning software can help you standardize procurement and maximize efficiency:

- It provides a centralized location for the purchasing records of all hospitals involved in the merger
- You can prepare purchasing reports quickly and effortlessly
- Your in-house purchasing team can easily view equipment purchases
- You can more easily predict future equipment needs

4) Meet with in-house biomedical technicians from each facility

In-house biomedical engineers and technicians are invaluable resources during a healthcare merger. As a result of their regular exposure to hospital equipment, they have firsthand knowledge of equipment models and manufacturers that are the most dependable as well as those that are the most problematic. By meeting with lead maintenance personnel, you can gain valuable insight into the equipment that is costing more to maintain than it is worth.

5) Meet with clinical personnel from each hospital

Input from clinical personnel is just as important as feedback from biomedical engineers. Doctors, nurses and other clinical staff can provide valuable insight into the functionality and capabilities of the medical equipment being procured. Make sure to schedule a meeting to request their feedback on the brands and products that are necessary for quality patient care. For instance, they can offer input regarding the following:

- Medical equipment that is absolutely essential for daily operation (patient monitors, for instance)
- Equipment that has been instrumental in helping doctors make high-stakes clinical decisions
- Products that are not being used because they do not produce reliable results

6) Identify the top three equipment vendors from each facility

Most hospital procurement departments have a short list of equipment vendors with whom they love working. These vendors tend to be those who are organized, responsive, and proactive in their relationship with the hospital. As you move forward with the healthcare merger, it is important to keep these vendors in the loop as each phase of the merger unfolds. Additionally, you can position your hospital system to receive price breaks and a host of other benefits that larger hospital systems receive.

7) Request a volume discount from those key suppliers

Once you have identified your top medical equipment vendors, it is time to schedule a meeting to negotiate your pricing structure. Most vendors will be

willing to offer discounted rates when they hear the news of your merger. After all, the potential for larger and more frequent purchases is imminent. Be sure to be prepared with a carefully calculated estimate of the potential increase in purchases before you arrive at your meeting.

The Bottom Line During a Healthcare Merger

An organized approach to managing medical equipment is critical to maintaining smooth operations during a hospital merger. Removing broken equipment, coordinating with hospital personnel, and negotiating with key suppliers are all effective ways to promote safety and reduce costs following a merger. Most importantly, by following the seven steps above, you can help ensure that the quality of patient care is optimized as a hospital merger unfolds.

Functional Planning:

Functional planning covers the following activities.

1. Determining approximate section wise workload. Available empirical evidence and historical data tempered with experience will lead to anticipated workload.
2. Determining services to be provided (for inpatients/ outpatients, for other departments, smaller hospitals and private practitioners).
3. Determining area and space requirement to accommodate equipment, furniture and personnel in technical, administrative and auxiliary functions.
4. Dividing the area into functional units, viz. haematology, biochemistry, microbiology, histopathology, urinalysis, etc.
5. Determining the number of work stations in each functional unit/division and deciding the linear bench space allotted for each work station.
6. Determining the major equipment and appliances in each unit. This is generally classified into:
 - i. Technical equipment peculiar to certain work stations
 - ii. Other equipment and appliances e.g. (refrigerators, hot air ovens, centrifuges) that can be jointly used by different work stations or units.

7. Determining the functional location of each section in relation to one another, from the point of view of flow of work and technical work considerations.
8. Identifying the electrical and plumbing requirements for each area/work station. Independent electric circuits are required for electronic equipment items. Location of sinks and wash areas are vital for efficient performance of work stations.
9. Considering utilities, viz. lighting, ventilation (forced or normal exhaust, air-conditioning and air hygiene) and isolation of equipment or work stations.
10. Working out the most suitable laboratory space unit, which is a standard module for work areas. A standard module facilitates rearrangement of work units with least disruption and minimal structural changes

Facilities shall be provided to accommodate the following administrative functions, according to the Operational Policies:

- General and/or individual office accommodation for appropriate clerical, administrative, medical and nursing personnel; where possible, open-plan workstations shall be considered
- Storage of office equipment, stationery and supplies
- Meetings and conferences as required
- Staff and support areas including Staff Rooms and toilets.
- Administrative and Clerical staff shall have access to toilets and dining facilities, which may be shared with other hospital staff.

Before what is often considered the commencement of a project is a predevelopment phase where the needs and bases of a new facility are studied. This phase allows for a thorough consideration of what the new facility is to accomplish, and allows for a detailed discussion of what the facility should encompass.

Undertaking this predevelopment work seamlessly ties into our working methodology of engaging our clients and other stakeholders in a process that seeks to create a solid basis for every decision that is to follow in the project development. This process is a cornerstone of our practice.

We deliver functional programming services or other predevelopment services such as producing feasibility reports or assisting in securing project funding. This

work is sometimes an undertaking independent of the project development, commencing prior to our clients seeking an architect to develop a new facility. We have been brought onto other functional planning teams working to develop larger, multi-faceted facilities at the request of our clients to lend specific knowledge and insight around issues that many functional planning firms may not be familiar with. In other cases, where the new facility may be in an area of our expertise, we are engaged to develop the entire functional plan.

As stand-alone assignments, we have developed functional plans for number of community health centres, women's shelters, multi-function service agencies, shelters for homeless people, and for a portion of a large hospital. We have also produced functional plans for a wide range of other project types on which we were previously retained as project architect.

Functional analysis of hospital sectors

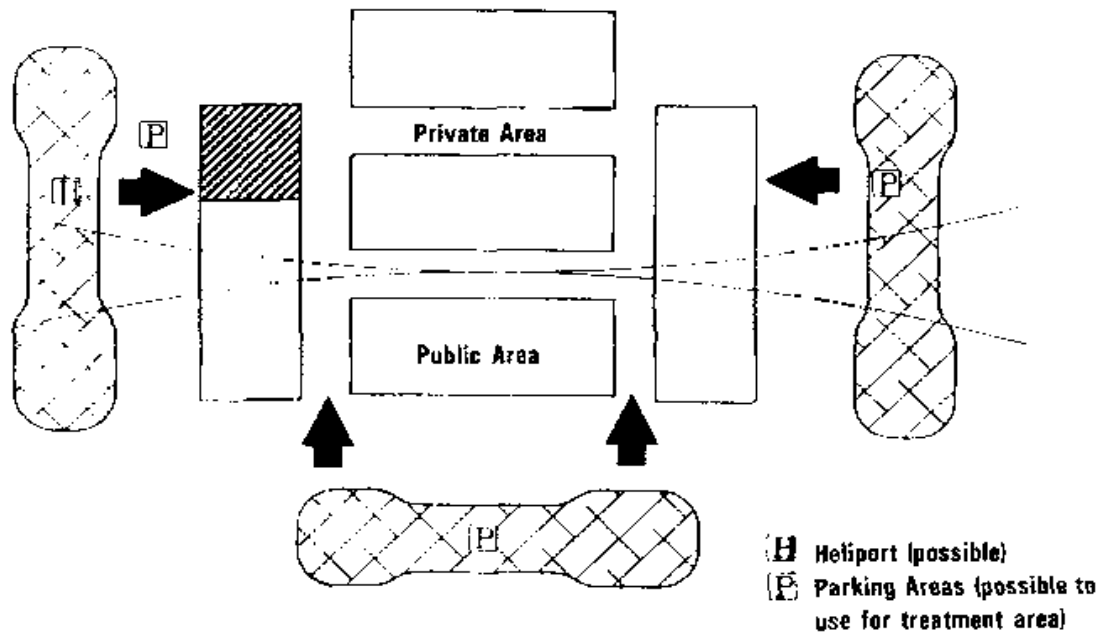
For the analysis of hospital design from the functional standpoint, it is necessary to refer to external aspects relating to site selection, the size of the site, public services, environmental restrictions, and adjacent roadways and their connection with the urban network. It is also necessary to deal with general zoning, that is, with private and public interrelationships, primary and secondary circulation, and the general and private accesses to the basic areas into which a hospital is subdivided. Finally, private zoning must be considered, that is, the internal operation of each of the five aforementioned sectors.

Mitigation measures in hospital planning

As noted in the previous chapter, in the design of hospitals the standards that regulate selection of the site for construction refer specifically to the following:

Dimensions of the site: The area a hospital is to occupy calculated in accordance with the number of beds and the hospital's degree of complexity. It should be possible for the hospital to occupy 50% of the site, with the remaining space as free area for isolation, gardens and parking (Figure 11). The free area should provide the possibility of locating a heliport near the access to emergency services. This heliport should be planned jointly with responsible authorities who can issue guidelines and standards for its location, size, signal equipment, area of influence, etc. Access from the heliport to the emergency service should be free from any obstacle or architectural barrier that could prevent the arrival of stretchers, medical equipment, gas supplies, etc., in emergency situations. The specifications for roadways from the building up to the heliport should comply with standards for weather-resistant finishes and slip-proof, durable surfaces easily identifiable in

daytime or nighttime, etc., so as to ensure safe and easy access. It is considered that once these requirements have been met, the standard will be further enhanced, thereby constituting an advance in achieving adequate delivery of hospital services in disaster situations



Functional Zones

For larger facilities where a single unit is not sufficient to accommodate all functions, the following services may be provided as smaller individual units: Executive Offices (may include Meeting/Boardroom, Pantry, Waiting and Reception area) Nursing Administration and Patient Services Unit

- Clinical Administration and Medical Services Unit
- Accounts and Finance Unit
- Human Resources and Payroll Unit (Occupational Safety and Health staff may be included;
- Medical and Nursing personnel may be accommodated in separate units) Information Technology and Communications, offices and training rooms
- Facilities Management Unit
- Education and Development Unit.

Functional Relationships

External Administration facilities should be provided, where possible, in reasonable proximity to the main entrance of the facility but not necessarily on the ground floor. Internal If several discrete units are provided, it is recommended to locate the Executive suite and the Finance Unit adjacent to each other

Environmental Considerations

Natural Light

Maximize provision of natural light to areas where staff workstations/offices are located.

Privacy

Privacy must be considered where confidential conversations are likely to take place. Acoustic privacy will be required in offices, meeting and interview rooms.

Acoustics

Acoustic performance shall be high within the Unit, particularly conference and meeting rooms. Reverberation times and sound levels shall be designed to meet the function of each space.

UNIT II

HUMAN RESOURCE MANAGEMENT IN HOSPITAL

Introduction :

In terms of the growth rate, the healthcare industry in India is moving ahead neck to neck with the pharmaceutical industry and the software industry. Till date, approximately 12% of the scope offered by the healthcare industry in India has been tapped. The healthcare industry in India is reckoned to be the engine of the economy in the years to come. Growing at an enviable rate of 15% every year, the healthcare industry in India is estimated to be a \$40 million by 2012. There are vast differences in medical expenses in western countries and that of India; India has become one of the favorites for healthcare treatments. Due to the progressive nature of the healthcare sector in India, several foreign companies are intending to invest in the country. Existing healthcare organizations are expanding by opening hospitals in new service areas and new organizations entering with state of art equipments, latest technology and marketing strategies. Consequently, competition in the healthcare sector is on the rise. Increased incomes and awareness levels are driving the customers to seek quality healthcare.

Human resource management refers to the practices and policies needed to carry out the personnel aspects of management.

These include:

Analyzing jobs; Planning manpower needs and recruiting competent people; Selecting best people; Appraising performance and potential on ongoing basis; Socializing, training and developing people; Managing compensation; Communicating; Building employee commitment and so on so forth.

Staffing and Recruitment

Staffing includes human resources planning and forecasting, recruiting, and selecting employees. Human resources planning and forecasting is the process that a firm uses to ensure that it has the right amount and the right kind of people to deliver a particular level of output or services in the future. Recruiting is the process used to form a pool of job candidates for a particular job. Selection is the process of making a “hire” or “no hire” decision regarding each job applicant for a job.

Induction

Induction is the process of welcoming, indoctrination and socialization of new

employee to his job and organization. In words of Michael Armstrong, “Induction is the process of receiving and welcoming employee when he first joins a company and giving him basic information he needs to settle down quickly and happily and start work.”

Training

In the opinion of Edwin B. Flippo, “Training is the act of increasing the knowledge and skills of an employee for doing a particular job.” Training in any process by which the attitudes, skills and abilities of employees to perform specific jobs are improved, (Michael J. Jucious). Training is the process of systematically developing expertise in individuals for the purpose of improving performance. (Barrett & O’Connell (2001) Stavrou-Costea (2005) found that organizational productivity was related to training and development practices, employee relations practices, and efficiency and flexibility challenges. Adequate training enables the generation of a work force that is multi skilled, adaptable to rapid changes and has wide conceptual knowledge of the production system (Pfeffer 1998).

Performance Appraisal

According to Flippo, “Performance Appraisal is the systematic, periodic and an impartial rating of an employee’s excellence in matters pertaining to his present job and his potential for a better job.” Performance Appraisal is the process of evaluating how well employees perform their jobs when compared to a set of standards, and then communicating that information to those employees. (Mathis & Jackson (2003). A comprehensive and accepted evaluation system can provide valuable feedback to employees and assist managers in making decisions regarding the individual employee (Cleveland, Murphy & Williams 1989).

Benefits

It includes pensions, health insurance, supplemental unemployment insurance, wellness programs, child care etc. Employers use benefits to attract and retain productive workforce. (Lucero & Allen (1994)

Promotion

The promoted employees feel valued by the organization, and understand that the organization is willing to invest in them in the long term (Pfeffer 1994).

1.7 Career Planning Ganesh Shermon has stated in his article "Culture and Work Ethos: An Experience in Organizational Building" (IJTD, Vol. XXIX, No.4, Oct.-Dec., 1999), that companies should cultivate and nurture individual growth along with their corporate growth. HR has an important role to play in order to identify what employees want from their career and then evaluate alternatives and design

appropriate career paths for them. He says productivity gain comes from improved co-ordination as a result of increased employee involvement analysis, planning and designing of career paths.

Job Satisfaction

Job satisfaction in the broadest: sense simply refers to a person's general attitude toward the job or toward specific dimensions of the job (Hodson, 1991). Locke defined job satisfaction as, "A pleasurable or positive emotional state resulting from the appraisal of one's job or job experience.

NATURE OF HUMAN RESOURCE MANAGEMENT:

It is rather difficult to express the true nature of human resource management. Human resource management is concerned with the management of people at work. It reflects a new philosophy, a new approach and a new outlook. The human factor plays such an important role in the field of management that some people consider human resource management and management as one and the same thing. As Appley observes: "Management is the development of people and not the direction of things". Human resource Management in hospitals assumes significance in an era of stiff and global competition, though we do not right now have global brands in hospitals it may not be too long since now to have such collaborations. The efficiency of any organization manufacturing or service, lies in its employees, as they are the ones who help the organization to realize its goals. The onus of the management now lies in making the employees ready for any kind of challenging roles in the organization to face the onslaught of competition. It is here that HRM assumes greater significance as it helps in Selection, Training, Placement, Control, and Compensation of the employees.

CHARACTERISTICS OF HRM:

Human oriented: Human resource management, as the same suggests, is concerned with the management of human resource of an organization consisting of all individuals engaged in any of the organizational activities at any level. It deals with human relationship within an organization. It is the process of bringing people and organization together to achieve their goals. Development oriented: Human resource management lays stress on development of employee's potential, capacity, interest and their personality. It helps the employees to get maximum satisfaction out of their work. Persuasive in nature: Human resource management is very wide in its nature. It is concerned with the management of human resource of an organization consisting of all individuals engaged in any of the organization's activities at any level. Again, human resource management is pervasive in nature

as people are the necessary ingredients in any organization. The human resource of an organization consists of all individuals at all levels. It has wide coverage. It is not confined to industry alone. It equally applies to all types of organizations - government, non-government, educational, social, religious, etc. Moreover, it is not confined to personnel functions alone but to all the functional areas, i.e., production, marketing, finance, etc. in factories, and nursing, medical, Paramedical, housekeeping, maintenance, etc. in hospitals. Continuous process: Human resource management is a continuing and never ending process. It flows like a river continuously and is not stationary like a pool or pond. It cannot be switched on and off like an electric bulb. It is a constant function of an organization whether be it an industry or a hospital.

PRINCIPLES OF HRM:

Human resource management of an organization represents one of its largest investments. Therefore, it is of utmost importance to deal with its human resources sympathetically and tactfully. Peter Drucker in his book, *Practice of Management* (Heinemann, 1959), wrote, "An effective management must direct the vision and effort of all managers towards a common goal". His concept of a visionary goal-directed leadership is fundamental to human resource management. While Douglas McGregor advocated management by integration and self-control, he believed that a management philosophy needed to be built up, based on attitudes and beliefs about people and the managerial role of achieving integration.

Thus human resource management is an approach to the management of people based on the following fundamental principles: Human resource management is concerned with integration by getting all the members of the organization involved so that they may work together with a sense of common purpose. Human resource policies of the organization should be fair to all. They should make a major contribution to the achievement of an organization's objectives as well as provide conducive atmosphere of working to the employees so that their output is maximum. Human resources are the most important assets and their tactful management is the key to success of an organization. The culture and values of an organization exert enormous influence on the organization. Therefore, organizational values and culture should be accepted and acted upon by one and all in the organization. If the aforesaid fundamental principles are followed in letter and spirit, human resource management will tap of reservoir of untapped resources, develop a culture in which utmost emphasis will be placed on harmonious superior-subordinate relationship, and will create an overall climate in which the organization and its human resources will be able to do their best for each other.

FUNCTIONS OF HRM:

Human resource management is a staff function. Human resource management advises line managers throughout the organization. Further-more, personnel requirements of the organization may vary from time to time. However, it is the first and foremost duty of the human resource manager to see that square pegs are not fitted into round holes. The following are the functions of the human resource department in trying to keep the organization going smoothly and efficiently by supplying with the right type of personnel in the right position, when they are needed. Policy Formulation Staff Function Procurement Development Integration Maintenance Personnel Control Information System Line Function Compensation Records and Research and Directing and Controlling

Policy formulations:

One of the important functions of the human resource management is to prepare new policies and revise the existing ones in the light of the experience gained in the area of human resource management. However, those organizations, which do not formulate policies for human resource management, may find that they are not meeting either their personnel requirements or their overall goals effectively. To be meaningful, human resource policy formulation must consider both the strategic plan and the external environment of the organization.

Staff function:

Line managers come across various problems in their day-to-day management, which can be solved satisfactorily with the advice of the personnel or human resource department. These problems may relate to employee's grievances in connection with distribution of overtime work, promotion, transfer, disciplinary action, etc. Advice given to them from time to time should be objective and legal, otherwise it will spoil human relations at work.

Line functions:

Line functions consist of procurement, development, compensation, integration, and maintenance of the human resource of the organization to achieve the organizational goals. Candidates are usually selected through newspapers, professional journals, employment agencies, words of mouth and campus visit to colleges and universities. Selection involves various techniques such as short-listing the application forms, interviews, tests, reference checks, etc. Orientation is

designed to help the selected candidates fit smoothly into the organization. Newcomers are introduced to their colleagues, acquainted with their behavioral expectations. Training aims to increase employee's ability to contribute to organizational effectiveness. It is designed to improve their skills in the present job and their behavioral expectations. Training aims to increase employee's ability to contribute to organizational effectiveness. It is designed to improve their skills in the present job and to prepare them for promotion. Performance appraisal is done to let an employee know about his performance. Low performance may prompt corrective action such as additional training or demotion, and high performance may merit a reward such as raise in salary or promotion. The employee's supervisor does the appraisal, but the human resource department is responsible to establish the policies that guide performance appraisals. Promotion and separation are other major aspects of human resource management.

Control function:

'Personnel' is not just a benevolent helper, like other staff groups, it is often assigned authority laden control roles that line managers may view as restrictive. Two important control roles which find place in management literature are auditing and stabilization. "Auditing refers to the monitoring by the human resource department of the performance of line and other staff departments to ensure that they conform to established.

Management functions:

Like other functional departments, human resource department also performs managerial functions like planning, organizing, directing and controlling in respect of human resource department. Through planning, managers constantly shape and reshape their organizations. They decide in what direction they want their organisations to go and accordingly, make the plans and decisions to get there. By organizing, managers shape relationship with organizational structures and thereby lead employees into the organization's structures effectively, otherwise the process of preparing people to work efficiently may collapse. A sensible strategic plan and sensible organizational structure result in the fulfillment of organizational goals.

SIGNIFICANCE OF HUMAN RESOURCE MANAGEMENT

Importance of human factor, the only animate resource in the accomplishment of organizational goals, has been growing rapidly. As Drucker

remarked, “the resources capable of enlargement can only be human resources. All other resources stand under the laws of mechanics. They can be better or worse utilized, but they can never have an output greater than the sum of the inputs. Man alone, of all the resources available to man can grow and develop11”.

IMPORTANCE OF HUMAN RESOURCE MANAGEMENT

The importance of human resource management can be amplified from the following points of view: For the organization ‘Procurement’ of employees and resources is also highlighted by the ‘Porter’s Value Chain Analysis’. Provision of persons to perform a variety of organizational tasks is one of the ‘Support Activities’ mentioned by Porter that help keep the primary activities (Inbound logistics, Process technology, outbound logistics, Sales and distribution, Customer relations) running. Recruitment, selection, placement, training and promotion policies, developing right attitudes and required skills among employees through training, refresher courses, workshops and performance appraisals, are all part of the HRM in a healthy organization. Developing a high morale among workers by introduction of incentive schemes, workers’ participation in management, appropriate grievance handling mechanisms and redressal policies and procedures are a continuous exercise in an organization. Developing of healthy industrial relations by employee welfare measures like provision of subsidized food, medical facilities, educational facilities, recreational facilities, etc are a vital to the success of HRM. Appropriate planning management and execution of the above reduces losses that arise due to unnecessary strikes and lockouts.

For the employees:

Enhancement of quality of work life through various welfare measures. Enhancing the dignity of labor through worker’s participation in management and providing them an appropriate role and importance in the process of organizational growth. Raising workers morale by providing those opportunities, which lead to job satisfaction, and personal and career development.

For the society :

A happy employee is always a picture of a healthy and prosperous organization, this has been highlighted in many advertisements of many organizations in India, only to bring forth and reinforce the positive and glorifying image of the organization in the minds of the people in the society. Employees are

part of the society and any loss to them is a loss to the society. Maintenance of good industrial relations lead to reduced strikes and lockouts. Increasing productivity levels by workers' participation and involvement to achieve motivation is an important factor. Better utilization of human resource through proper recruitment, selection, placement and training is no doubt an essential ingredient. Planning strategies for appropriate manpower availability for successful organizational performance

PROFILE OF HRD MANAGER:

Service Motto :

Human resource managers should always keep in mind that they are working in health care organizations, which render the highest and noblest form of service to the society at large through a team of dedicated and committed personnel. Being entirely people oriented institutions, people form the axle of health care institutions and their developments become the prime concern of the human resource managers. Therefore, they should develop team spirit amongst their personnel who have diverse social, educational, ethnic and economic backgrounds. By keeping management, philosophy and organizational goals in their minds, they should frame recruitment policy, salary structures, appraisal system, training programs, channels of human resource development, motivation, communication policy, grievance redressed procedures, etc. Their aims should be to employ and retain dedicated and committed personnel not only at top level but at all levels and at all costs. They should see to it that there is proper distribution of personnel in all departments of the hospital. There should neither be shortage of neither skilled nor managerial personnel in one department.

Employee relations :

However, troublesome employees should be handled rather tactfully and carefully. The goal should be to clarify and firmly warn them of their unbecoming and unwanted behavior and lay down clearly what is expected of them. The sooner they fall in line with, the better it would be for both the employees and the organization. Human resource managers should remember that employees whether of industries or of health care institutions are progressive in their outlook besides being well organized through their trade unions.

Thus human resource management has become a challenging profession ever than before. Therefore, human resource managers are not only required to have thorough knowledge of the human resource management but also

of psychology of human behavior and prevalent labor laws of the land because at times they may have to take a tough stand and advise their management accordingly.

HOSPITAL MANPOWER:

Providing assistance in selecting, hiring, training, retaining and promoting the right clinical and support staff who remain loyal to the hospital since healthcare ethics substantially influences patient outcomes.

Guiding the hospital staff on the prudent use of hospital infrastructure and financial resources to meet its social commitments and obligations to the patients and the society at large. This must be scrupulously done without compromising on the hospital margins and retaining the profits of stockholders and owners. Decisions on the utilization of hospital reserves for maintaining the manpower is done considering the parameters and framework of the defined hospital budget.

Maintaining adequate staff levels in the hospital based on patient needs and seasonal changes. Consultants also aid in making contingency plans to handle staff absenteeism and attrition by collaborating with medical staffing agencies to find immediate replacements so that patient care is not adversely affected.

Helping in determining and assessing the training and credentials needs of the staff. This is essential as many of the clinical staff including nurses, physicians, radiologists, technicians and mental health counsellors must fulfill continuing education requirements to renew their licenses periodically. Consultants also coordinate with professionals to arrange in-house medical, service and behavioural training sessions and workshops for the hospital staff to keep them abreast of the latest medical advancements and attain higher service-levels.

Fixing the remuneration, incentives, benefits and developing suitable performance evaluation methods for the hospital staff in line with the current industry standards and competitor rates for retaining them.

Thus Consultants help in managing hospital manpower requirements to build patient-centric services and relationships. This, in turn, boosts the hospital's public image increasing its revenues for making the healthcare practice successful

UNIT III

RECRUITMENT AND TRAINING

Different Departments of Hospital:

Departments in Hospital

There are several departments are found in hospitals namely Outpatient department (OPD), Inpatient Service (IP), Medical Department, Nursing Department, Paramedical Department, Physical Medicine and Rehabilitation Department, Operation Theatre Complex (OT), Pharmacy Department, Radiology Department (X-ray), Dietary Department, Non-professional Services (Business Management), Medical Record Department (MRD) and Personnel Department.

Outpatient Department (OPD)

Most hospitals now have an OPD. The advantage of OPD is that much of the investigative unit and curative work can be done there without admitting the client, thus curtailing medical expenses.

The scope of OPD includes the following:

1. Consultation, investigation, procedures, specialty services.
2. Preventive and promotive health care: Clinics, which include: diabetic, antenatal, postnasal and under five.
3. Rehabilitation services (physiotherapy, occupational therapy etc)
4. Health education
5. Counseling

Inpatient Service (IP)

If OPD is the show window of the hospital, the IP is the heart of the hospital. The IP service provides lodging, diet and medical care. Conveniently, it can be divided into:

Wards and rooms

Nurses station

Dietary services

Sanitary facilities and other requirements

Ward can be Intensive Care Wards (ICU)

Nursing Department

The nursing department is the organizational structure through which nurses provide nursing care for clients under the jurisdiction of the institution. The

nursing department consists of nursing service and nursing education. The primary purpose of the nursing service is to provide comprehensive, safe, effective and well-organized nursing care through the personnel of the department. The personnel consists of nursing superintendent, assistant nursing superintendents, head nurses and staff nurses. All of these are registered nurses, other personnel who function in the nursing service department may include the auxiliary personnel nurse aids and domestics who handle the non-nursing services.

The nursing education section has the responsibility of preparing nursing students to become professional nurses. Uplifting the standard of nursing by inservice education and refresher courses etc., are included in the functions of this department. The personnel consists of principal or director of nursing education, the associate professors, assistant professors, tutors and clinical instructors.

Paramedical Departments

Paramedical departments are adjunctive to the practice of medicine in the maintenance or restoration of health and normal functioning. They include

Pathology Department

The following laboratories are usually found in the pathology department:

1. Bacteriology laboratory: This laboratory studies about the bacteria and their toxins.
2. Biochemistry : this is concerned with the chemistry of living organisms and of vital process.
3. Haematology laboratory : it is responsible for making haemoglobin determinations, coagulation time studies, red and white cell counts and special blood pathology studies for anaemia and leukaemia etc.
4. Parasitology laboratory: it studies the presence of parasites, the cyst and ovas of the parasites that are found in the faeces.
5. Serology laboratory: it does blood agglutination tests, Wassermann tests, V.D.R.L. etc.
6. Blood bank: it has the responsibility for collecting and processing all blood used in the hospital for transfusions. It makes studies on newborn infants who may have haemolytic diseases and does antibody studies on the prenatal client.
7. Histopathology department: it prepares tissues for gross and microscopic studies.

Physical Medicine and Rehabilitation Department

This department deals with clients who have functional disabilities resulting from disease conditions/injuries. This department can have physiotherapy, occupational therapy, speech therapy and vocational training. This department will be under the direction of a well – qualified physician who has special training in the field of physical medicine and rehabilitation. His staff should include therapists with

qualification in the various specialties.

Recruitment:

Recruitment is a process of finding and attracting the potential resources for filling up the vacant positions in an organization. It sources the candidates with the abilities and attitude, which are required for achieving the objectives of an organization.

Recruitment process is a process of identifying the jobs vacancy, analyzing the job requirements, reviewing applications, screening, shortlisting and selecting the right candidate.

To increase the efficiency of hiring, it is recommended that the HR team of an organization follows the five best practices (as shown in the following image). These five practices ensure successful recruitment without any interruptions. In addition, these practices also ensure consistency and compliance in the recruitment process.

Recruitment process is the first step in creating a powerful resource base. The process undergoes a systematic procedure starting from sourcing the resources to arranging and conducting interviews and finally selecting the right candidates

Recruiting and hiring in Healthcare industry has become a hot topic for many recruiters. Recruiters and HR managers are struggling on a daily basis to recruit highly-qualified healthcare professionals all over the world. Likely, many healthcare organizations have realized the importance of this problem. They have started using some innovative solutions in order to improve hiring in the healthcare industry.

Changes in Healthcare Industry

Healthcare industry is one of the biggest service industries in the world, and its growth won't stop any times soon. Consequently, recruiting and hiring in healthcare industry has been experience big **changes in recruiting**.

Ongoing changes and advancements in the world of healthcare, have resulted in a complete transformation of how the industry works, operates, treats its customers, hires and manages people. All the technological changes and demands continue to have a big impact on the healthcare industry.

Evolvement of mobile technology, health applications and electronic medical records have not only resulted in the consumer-centric economy, but also the candidate-centric economy.

Hiring in Healthcare Industry

With the changes in technology, demand for new and more advanced skills has also increased. To be able to keep up with the new trends and make the patients happy, highly-qualified healthcare professionals are also needed

Healthcare Recruiting and Hiring Challenges

The good news is that people have started realizing the seriousness of these problems of healthcare recruiting and hiring, and they are now coming up with some innovative healthcare recruitment strategies.

Many big healthcare players have started using [recruiting software](#) and technology to help them [find qualified job candidates](#), attract them and hire.

Lack of Talent

Undoubtedly, the biggest and most challenging problems when in healthcare recruiting and hiring is the lack of talented people. Healthcare industry has been missing skilled and highly-qualified candidates for years now, and the problem continues to increase

Recruiting Software as a healthcare recruiting and hiring solution

Recruiting software, which may include both [applicant tracking system](#) and recruitment marketing platforms, offer solutions many healthcare recruiters appreciate when looking for highly-skilled healthcare professionals and hiring in the healthcare industry.

Recruitment process

We have developed a simple and robust recruitment process to attract the right candidates, with the right skills which match your specification.

Stage 1: Assessing your requirements

We arrange an informal meeting with you to discuss your requirements in detail, answer any questions, and explain our approach.

Stage 2: Resourcing proposal

Based on your specification, we will respond quickly with a detailed resourcing proposal. This document will describe our proposed approach, the recruitment plan, the timescales involved and precise costs for the recruitment.

Stage 3: Candidate sourcing and screening

We use a wide variety of candidate attraction initiatives, from local to international confidential professional networks which we can access to 'headhunt' for senior roles, through to social media advertising campaigns and attending global conferences, open days and career fairs.

We realise that a CV or resumé is only part of the story. Our teams undertake in-depth interviews, supplemented by reference checks, to ensure that only candidates who fully meet the requirements are progressed.

Stage 4: Shortlisting and interviews

Once we have identified a pool of potential candidates, we work with you to prepare a shortlist of credible individuals for interview who match your organisation's specific recruitment needs.

We'll coordinate all aspects associated with the interviews including full screening, arranging travel for international candidates, and interview venues if required.

Stage 5: Candidate selection

Once you have selected the appropriate candidate(s), we'll handle the full placement process. We'll inform candidates of the outcome and provide appropriate feedback, where applicable.

If a candidate has been recruited internationally we will support them with travel arrangements, accommodation and induction.

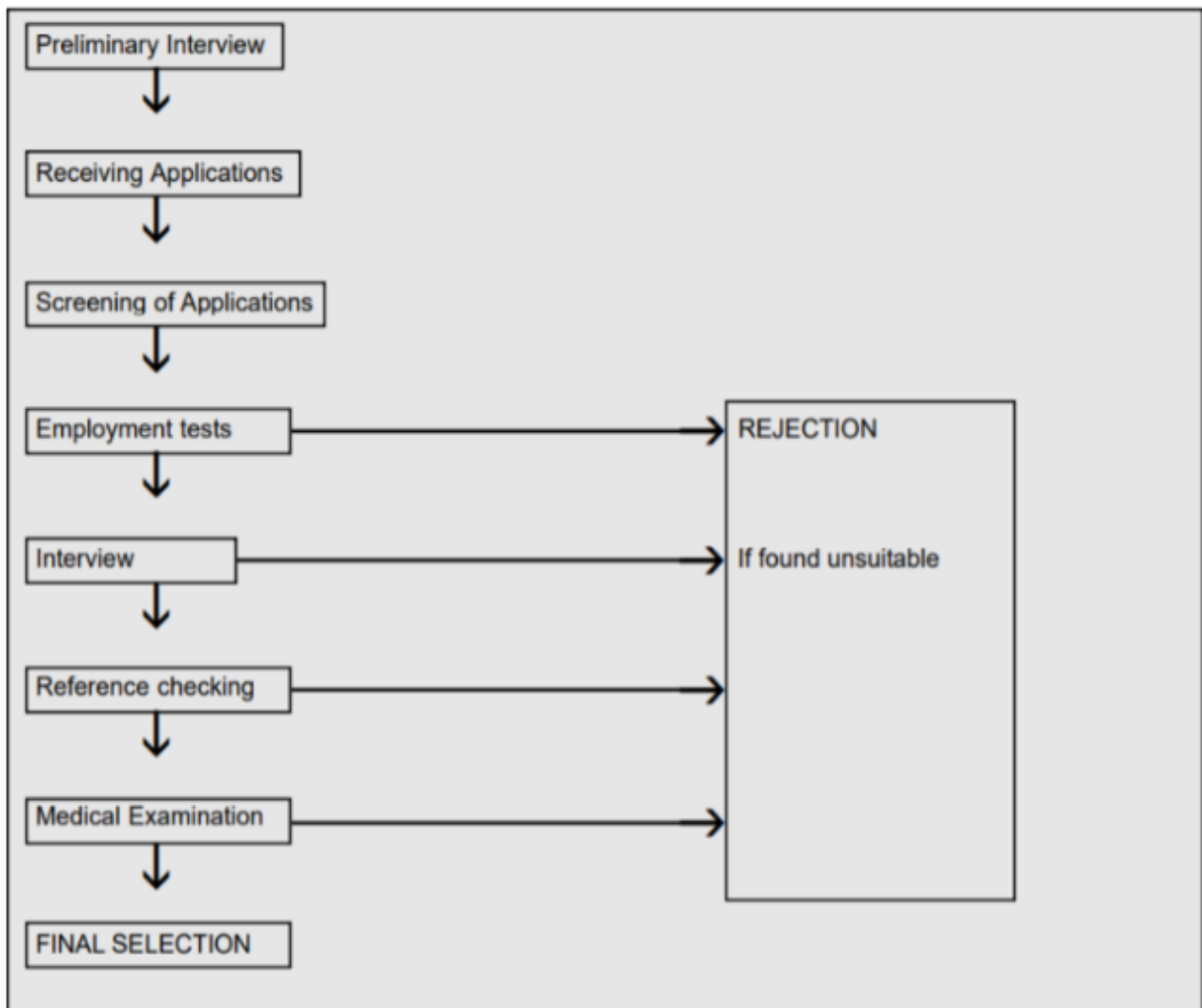
Stage 6: Post placement review

The final stage of the process is one of the most important. Once the candidate is in place we offer support to ensure that they settle in quickly to their new role, and we review the whole process with you to refine any elements for future requirements.

Selection:

The selection process can be defined as the process of selection and shortlisting of the right candidates with the necessary qualifications and skill set to fill the vacancies in an organisation. The selection process varies from industry to industry, company to company and even amongst departments of the same company.

Training Guidelines



Training Guidelines:

If you're in charge of a medical practice or clinic, do you understand the importance of making sure all employees are comprehensively trained?

It's possible that you don't, but the benefits of a well-trained staff including front and back employees can mean big benefits for the entire practice.

Importance of Training

Despite a busy and fast paced work environment, medical facilities need continuous training for employees – particularly nurses – due to the following important reasons:

Employee Improvement

Training solidifies employees' existing skills and helps them improve in lacking areas. An effective training program spots individual areas of improvement in order to address them properly. This enables every staff member to be independently effective when it comes to performing their roles without relying on fellow employees who are more experienced with specific tasks. This builds the nurse's confidence, improves overall performance and encourages cooperation, as well as creativity to bring new ideas into the workplace.

Safety and Consistency

Aside from this, training also includes information about personal and patient safety practices. It reinforces consistency in hospital policies when all medical staff are aware of rules and updates for the hospital, and the healthcare industry in general.

Employee Satisfaction

In a previous post, we reported that the feeling of being poorly educated is one of the reasons why nurses leave. Training keeps employees satisfied, as it leads to collaboration and cooperation among staff members. It makes everyone feel that they are valued and their contributions are acknowledged.

Some of the ways thoroughly training employees can benefit a practice include:

Trained employees are going to be more efficient. Also, if you work to cross-train your staff, you won't face gaps if an employee is out of work or leaves the practice.

Medical settings are regulated by standards that include OSHA and HIPAA, so it's not just advisable for medical offices to invest in employee training and development. Governmental laws and regulations also mandate it.

Well-trained staff members are going to translate to a better customer service experience, which will help keep patients loyal and can also serve as a way to attract new patients.

Training and education are critical to the success of any safe patient handling program, especially training on proper patient handling equipment use and ongoing education about the benefits of safe patient handling. By educating all staff, including physicians, about your safe patient handling program, hospitals can reduce instances of a clinician asking or expecting colleagues to move patients in an unsafe way.

Profile: SOMC Keeps Caregivers Competent on Equipment Use Portsmouth, Ohio

Southern Ohio Medical Center (SOMC) includes safe patient handling as a core element of its annual “D-Day” testing regimen. Nurses review mechanical equipment use with staff ergonomists during orientation and as part of their annual competencies.

Profile: AnMed Health Features Staff Talent to Motivate Safety Anderson, South Carolina

AnMed Health employees take pride in writing, producing, and "starring" in worker safety training videos. Employees respond better when they see familiar faces; they find this form of training efficient and effective.

Training can range from onsite demonstrations of equipment use and maintenance to broader safe patient handling education programs and national conferences. The following are some ideas for a comprehensive approach to safe patient handling education and training:

- **Make sure that all relevant workers are trained on using the mechanical lift equipment.** Caregivers should feel comfortable using the equipment. If the caregiver uses the equipment correctly and efficiently, patients will feel more comfortable too.
- **Refresh, remind, and require ongoing training.** Programs tend to be less successful over time if they do not receive adequate attention. Including safe patient handling procedures and policies in annual competency sessions is one way to remind workers of the program's importance and promote equipment proficiency. In *[Safe Patient Handling and Mobility: Interprofessional National Standards](#)*, the American Nurses Association recommends that hospitals establish systems for education, training, and maintaining competencies.

- **Consider mentors and peer education champions.** In addition to monitoring new employees, nurse managers and other "safety champions" can serve as mentors and peer coaches in every unit, reminding their colleagues how and when to use safe patient handling procedures and equipment.
- **Train caregivers to check each patient's mobility every time.** Every patient has unique characteristics and mobility capabilities. It is important to assess these regularly, and to communicate each patient's level of mobility and need for assistance to all relevant caregivers.
- **Engage patients and their families.** Patients may not understand the need for mechanical equipment at first. You can engage them in safe handling by explaining to them and their families that it is for their safety as well as the workers' safety. OSHA has developed a [patient education poster](#)* that hospitals can use to promote the use of safe patient handling equipment.

Read more about safe patient handling education and training:

- In 2010, the National Institute for Occupational Safety and Health created a Web-based training presentation and CD-ROM titled "[Safe Patient Handling Training for Schools of Nursing](#)." This material, developed by cooperative effort among the National Institute for Occupational Safety and Health, the Veterans Health Administration, and the American Nurses Association, helps instructors design training programs that encourage the use of safe approaches to handling patients and contribute to the prevention of musculoskeletal disorders.
- The Minnesota Hospital Association (MHA) created a [Tool Kit for Hospital Staff](#) on safe patient handling that includes a number of educational materials for families and patients and a "[Safe Patient Moving SuperUser Training](#)*" presentation. Hospitals can download the MHA [Road Map to a Comprehensive Safe Patient Handling Program](#)* and use the materials provided for their own training, as long as they cite MHA

The training approaches most commonly researched include:

- university courses about formal quality improvement approaches
- teaching quality improvement as one component of other modules or interspersed throughout a curriculum
- using practical projects to develop skills
- online modules, distance learning and printed resources
- professional development workshops
- simulations and role play

– collaboratives and on-the-job training

Methods of Training:

Employees to be trained All hospital personnel, including senior medical doctors, should be convinced of the need for a comprehensive health-care waste management policy and the related training, and of its value for the health and safety of all. This should ensure their collaboration in the implementation of such a policy.

Separate training activities should be designed for, and targeted to, four main categories of personnel:

- hospital managers and administrative staff responsible for implementing regulations on health-care waste management;
- medical doctors;
- nurses and assistant nurses;
- cleaners, porters, auxiliary staff, and waste handlers.

Since action is needed at management level, by those producing the waste as well as by the waste handlers, training of all of these categories of personnel is equally important. Medical doctors may be educated through senior staff workshops and general hospital staff through formal seminars. The training of waste managers and regulators, however, could take place outside the hospitals, at public health schools or in university departments.

Training responsibility

The Infection Control Officer (ICO) should be given responsibility for all training related to the segregation, collection, storage, and disposal of health-care waste. He or she should ensure that staff at all levels are aware both of the hospital waste management plan and policy and of their own responsibilities and obligations in this regard. A record should be kept of all training sessions, and the content of training programmes should be periodically reviewed and updated where necessary. For similar training of those concerned with smaller sources of healthcare waste, the regional health authority may be able to make centralized arrangements for courses.

Hospital staff should receive necessary technical training in order to perform their task better, improve their work related skill set, increase knowledge about their work, become aware of their future roles and responsibilities related to their task, etc. The nurse-in charge, head of the respective department along with the head of quality and operations department, should be involved in the training process in order to improve the staff's performance in terms of quality, efficiency and accuracy. For instance, well trained nursing staff will not only provide quality patient care but also handle critical situations in a better manner, report least number of needle prick injury, abide by the infection control protocol minimizing hospital acquired infection cases, etc.

Apart from this skill set, it is very important that organisations also empower and develop certain additional skills like communication skills, decision making and management skills, interpersonal skills, etc. This will aid in overall development of the employees. Many healthcare institutes fail to develop this in their employees. Quite often patient and their relatives complain about the nursing staff or billing staff in the hospital being insensitive and arrogant to them. In such situations, the personnel could be very good in their technical or clinical work, but at the end of the day, it holds little value. Patient feedback forms also show many grievances about staff behaviour rather than their clinical work. Hence, it of utmost importance that hospitals focus on this additional skill set viz. communication and soft skills along with job related training. Neatly dressed and well-spoken IPD staff will actually ease the stress of the already troubled patient attendants and relatives.

1. On-the-job Training (OJT) Methods:

This is the most common method of training in which a trainee is placed on a specific job and taught the skills and knowledge necessary to perform it.

On-the-job training methods are as follows:

1. Job rotation:

This training method involves movement of trainee from one job to another gain knowledge and experience from different job assignments. This method helps the trainee understand the problems of other employees.

2. Coaching:

Under this method, the trainee is placed under a particular supervisor who functions as a coach in training and provides feedback to the trainee. Sometimes the trainee may not get an opportunity to express his ideas.

3. Job instructions:

Also known as step-by-step training in which the trainer explains the way of doing the jobs to the trainee and in case of mistakes, corrects the trainee.

4. Committee assignments:

A group of trainees are asked to solve a given organizational problem by discussing the problem. This helps to improve team work.

Evaluation of Training:

Nowadays, people management in health is aimed to professional training and to the development of the human resources focusing on the reflexive and participative education, which is the opposite of the technical-operational training. Within this perspective, to study the learning process in the organizational environment can generate new findings and contribute to changes in practice⁽¹⁾.

The educational process at work transcends the elaboration of Training and Development programs (T&D). In their conception, the real necessities of the institution and individuals must be assessed, prioritizing in clear and well established goals for each program. The main objective is to offer in a systematized way the learning of knowledge, abilities and attitudes that improve technical, ethical and political competences, as well as personal ones, which equip the individual to understand and transform the reality.

The T&D strategies to induce learning integrate the five main learning concepts or objects: information, instruction, training, development and education. Information is an inducted learning design established by the use of organized content that receive a value attribute. Instruction involves instructive proceedings to transmit knowledge. Training is focused to the improvement of performance to the work field. Development refers to the learning opportunities to the personal development of the worker, while education means a continuous formation of the laborer.

The articulation between the learning objects can occur through different combinations, intending to contemplate the simplest and the most complex forms of educational induction, starting from information to education.

T&D can be understood as three coordinated subsystems: evaluation of necessities, planning and executing, and training evaluation, which the last can provide systematized information about the training set and the others refer to the training development⁽⁴⁾.

The training of health professionals tends to generate horizontal information and knowledge, and to improve the sharing of responsibilities, searching to a continuous improvement of healthcare practices in the whole health network⁽⁵⁾.

The improvement in work practices after T&D programs cannot be denied, which is a reflex in individual changes in the professionals, as a rise in knowledge and abilities that may lead to behavioral changes.

Therefore, it is indispensable the need to evaluate the effectiveness and the impact of educational measures in a systematic way.

The educational evaluation and the evaluation of the results of training programs are the less developed aspects in education proposals, and despite the recognized importance of these facts, their effective performance and resource allocation is secondary. This evaluation has a primary role in the improvement of all actions⁽⁶⁾.

The training evaluation allows the identification of factors that restrain or contribute to a better performance of the trained people, suiting the training actions to the organizational needs⁽¹⁾.

In this article, the learning evaluation was adopted to verify how much a learner acquired from the participation in an educational action. This study integrates a research project that its final goal is to propose an evaluation methodology to educational programs in the area of health.

The T&D evaluation process can be performed in four levels of evaluation: reaction or satisfaction – participant’s opinion about the learning conditions; apprenticeship – effectiveness of the training related to the acquisition or development of knowledge; behavior – changes generated by the training in participants’ behavior; and results – practical transformation of participant’s daily work.

METHOD

This is a correlational study that tests variables, checking how much the behavior of a variable influences the alteration of another variable⁽⁷⁾.

In educational actions, the variables can be measured before, during and after a process, but are not controlled as in experimental researches⁽¹⁾. In this study, the variables of learning evaluation were taken before and after the training through numerical grades.

This study was conducted at the University Hospital of São Paulo University (HU-USP), which is a member of the Brazilian Unified Health System (SUS, in Portuguese), composed by 278 beds for secondary healthcare, about 1,800 staff members, and from those, 708 nurses.

The Educational Guidance Service (SEd, in Portuguese) is responsible for coordination, planning, execution and evaluation of the educational programs developed to the nursing professionals. This service is subordinated to the Nursing Department (DE, in Portuguese) of the HU-USP, subdivided in: Surgical Nursing Division (DEC, in Portuguese), composed by the Clinical Surgery unit, Surgical Center unit, Material Center unit and Day Hospital unit; the Clinical Nursing Division (DECLI, in Portuguese), composed by the Medical Clinic unit and Intensive Care and Hemodialysis unit; the Maternal-Infant Nursing Division (DEMI, in Portuguese), composed by the Adjacent Lodging, the Nursery, Pediatrics, the Obstetric Center and the Infant Intensive Care unit and; the External Patients Division (DEPE, in Portuguese), with the Adult Emergency Room, Infant Emergency Room, Ambulatory, Iconology and Endoscopy.

The analyzed documents were all leaning evaluation sheets (n=248), from the do “*Contact Precautionary Care*” training (TPC, in Portuguese), performed by SEd nurses, training instructors and by the researchers of this study. The period of data collection was from June to December 2007.

The learning evaluation, created by the training instructors, was composed by theoretical questions to check the specific understanding from the training session, submitted to content appreciation by the nurse of Hospital Infection Control Commission. It was applied the evaluation form, immediately before and after the program, by the instructors that performed the correction of such forms and the storage of the grades in a databank software called *Statistical Package for the Social Sciences* 17.0 (SPSS©).

The questions applied before and after training were identical, so there would not be any difference in the level of difficulty and to make it possible to compare the development of the trained personnel, through the result showed in their grades.

The data obtained were analyzed through a descriptive and inferential statistics to verify the correlation between the variables. The Shapiro Wilk test was used to check the distribution of variables and guided the choice of the non-parametrical tests used in this study: Wilcoxon and Kruskal Wallis.

To compare the results before and after training and aiming to identify the existence of a significant statistical difference between the two moments, we used the Wilcoxon evaluation. This test involves the measurement of a variable in the individual in two distinct moments; between these moments, the intervention to be evaluated happens so to observe how it will affect the answers; then there is a calculation for each individual, the difference between the initial and final observations⁽⁸⁾.

To confirm the existence of a relationship between the variables, this study used the Kruskal-Wallis test, “that uses sample posts from three or more independent populations”⁽⁹⁾.

In both statistical tests, a level of significance of 95% was adopted

Leadership grooming and Training

Health care organizations are complex environments that require strong, comprehensive, and collaborative leadership. Over the past 15–20 years, awareness of the importance of leadership in health care and of formal leadership training has increased dramatically. Historically, advancement to leadership positions in medicine was based on the candidate’s academic or clinical accomplishments, with no expectation of knowledge in the so-called differentiating competencies, such as finances, team building, communication skills, and emotional intelligence. The concept of leadership has evolved from the top-down, paternalistic model, where the leader is in complete control and demands performance from others, to a more

collaborative approach, where the leader helps his/her team develop a vision and empowers them to accomplish the stated goals.¹ Many have suggested that formal training in the multifaceted components of leadership is necessary and should begin at an early career stage;²⁻⁴ yet still today, the number of comprehensive leadership training opportunities, at any career level, is limited.

The historical definition of leadership in the dictionary¹⁷ was “the position or function of a leader, a person who guides or directs a group”, with synonyms¹⁸ that included “administration”, “management”, and “control”. This definition has evolved over time, and today, we recognize different styles of leadership, each with their own definitions. In health care, three of these types are prevalent and most identified:¹⁹

- Transactional leaders, who work within the boundaries and the existing standards of the organization. They are usually not risk takers, but focus on efficiency, control, stability, and predictability.
- Transformational leaders, who raise one another to higher levels of motivation, making changes and shaping the future.
- Servant leaders, who focus on the service aspect first as they have a natural tendency to help others.²⁰

Each of these types has its place in health care, but transformational and servant leaders are more likely to help the institution advance, while transactional leaders are most qualified to maintain the status quo.

Today’s leaders require two general types of behaviors: “task” behaviors and “relationship” behaviors. Task behaviors allow the individual to accomplish his/her goals and enable leaders to guide others in achieving their objectives. Relationship behaviors involve the ability to interact with peers and subordinates in a way that all feel comfortable with themselves, with each other, and their specific setting.¹⁹ A leader may be more task oriented in certain situations and more relationship oriented in others. Therefore, individuals are, by necessity, becoming more aware of their own leadership styles and the way they communicate, usually through feedback from others. Physicians, for example, are not usually trained to concentrate on leadership or think about their own behavioral style.²¹ By the nature of their profession, they tend to focus on outcomes rather than the processes involved in achieving those outcomes. Yet, leadership is an intrinsic part of the practice of medicine, even in the interactions with patients and their families. Gabel²² examined how all physicians take on leadership roles at some time in their careers, whether formally or informally. He discussed the characteristics of formal

and informal leaders and concluded that it is important to expand the scope of leadership training so that both types of leaders are included.

Different health care leaders may arrive at their positions via different personal paths. Rogers¹⁹ published an analysis of the communication and leadership styles of health care leaders in each major area within an academic health center, that is, medicine, nursing, and administration. She studied the importance of linking leadership styles to individual professions. She concluded that physicians, nurses, and administrators must have an increased awareness of self and individual leadership style and that each of these health care leaders must be engaged in practices of reflection.

In nursing, reaching a leadership role is often an expectation or at least an aspiration for a large number of individuals. It should therefore be no surprise that the nursing profession has embraced leadership training earlier than others in health care.^{23,24} Likewise, hospital administrators are usually “big picture” leaders, having come up through the administrative ranks. They likely have managerial experience, so the transition to leadership is fairly natural, as long as they are able to also have vision in addition to their managerial skills. One cannot, however, assume that these individuals possess all the traits that will make them effective leaders in a large and complex health care system: the development of integrated leadership processes throughout health care delivery systems is needed.²³

For physicians, the transition to becoming true modern leaders is a major accomplishment,²⁵ often requiring a move outside their comfort zone. In fact, many cringe at the thought of having to be a leader.²³ Senior physicians, in particular, do not always have a system’s perspective, which is an important competency for a health care leader. Arroliga et al state that failure to train our healthcare leaders could have a long-term negative impact on society. He argues that the traditional means of selecting leaders (by virtue of age, productivity or other academic skills) was inadequate, as these individuals simply emulated their predecessors, but had no formal development of the personal and professional qualities and skills required by a leader

Promotion:

The dominant approach to quality assessment of health care organizations is based on the definition of standards for the activities. Several organizations have developed standards mainly directed at hospitals but also some for the primary health care sector. Analysis of the standards reveals that they are relevant in focus

and cover hospital services sufficiently except the issue of health promotion and patient education.^{14,15}

This problem was taken up in the European HPH Network and a working group was established in May 2001 to develop a set of standards for health promotion in hospitals.

The International Society for Quality in Health Care has developed guidelines for quality standards described in the ALPHA programme.¹⁶ The working group decided to follow these guidelines in order to develop a set of standards to fill out the gap in the existing standards. However no decision was made about the assessment of the compliance to the standards by the hospitals in the International Network of Health Promoting Hospitals.

The five core standards describe the responsibility of the management to set a framework for health promotion and the demands on the organization and the staff in order to meet the patients' needs for health promotion.¹⁷ This implies the identification of patients' needs, patient education and advice (in order to empower the patient to correct risk factors), programmes for interventions and rehabilitation, cooperation with other sectors in health care to ensure continuity of care, and a special focus on facilitating a healthy workplace

There are many kinds of hospital marketing promotion (i.e.HMP) , for example: free medical consultation, referral by friends and relatives, free clinic treatments, mass mailings of clinic schedules to potential customers, TV & newspaper exposure, and education in public health and hygiene. Which kind of marketing promotion works best in bringing customers, building up good image, and improving word-of-mouth, really depends on the type of consumer targeted, and is a subject of great concern for hospital managers who want to improve their hospital's competitiveness and profitability. However, few scholarly studies are existed dealing with consumer preferences on marketing practices and which practices work best. This paper seeks to be one such study by investigating the effectiveness of hospital marketing practices based on the population in the area of Chiayi, Taiwan. In doing so, this paper would provide valuable information for decision makers at hospitals throughout Taiwan.

Transfer.:

Decision to transfer:

The decision to transfer the patient shall be taken by a senior consultant level doctor after discussing with patient's relatives about the benefits and risks involved. The decision of transfer shall only be taken if benefits of transferring the patient outweigh the risks involved in transferring. A written [informed consent](#) shall be taken from patient/family before the transfer

Communication with receiving facility:

The facility where the patient is being transferred shall be informed prior to shifting. It is always preferable that the consultant doctor of the transferring facility speaks to the consultant doctor of the receiving facility. Complete information on patient's clinical condition, treatment being given, reasons for transfer, mode of transfer and timeline of transfer, shall be shared with the receiving facility in a written document.

Pre-transfer stabilisation and preparation:

Patients should be properly stabilized and prepared before transferring to prevent any adverse event or deterioration in patient's clinical condition during transfer. The patient should be adequately resuscitated and stabilised to the maximum extent possible. Following points can be used as a checklist for pre-transfer stabilization

1. **Airway** – If compromise in airway is suspected during transfer of patient, endotracheal tube intubation shall be done.
2. **Breathing** – Arterial blood gas values should be optimized and breathing should be adequately controlled. In patients suspected of pneumothorax, chest drain shall be inserted.
3. **Circulation** – Control for external haemorrhage. Ensure that cross matched blood is available during transport, if required. Haemorrhagic shock shall be adequately treated
4. **Neurological status** – In case of patients with head injury their Glasgow coma scale should be adequately monitored and documented.

Patient shall also be protected from cold by provision of blankets during transfer.

Mode of transfer

Mode of transferring the patient shall be selected as per the clinical condition of the patient. Following guidelines shall be taken into consideration.

1. Patients with non-life threatening condition can be transported in a Basic Life-Support Ambulance.
2. Patients with life-threatening conditions or patients who may endotracheal intubation, cardiac monitoring, defibrillation, administration of intravenous fluids

or vasopressors, during transfer, shall be transported using Advances Life-Support Ambulance

3. Patients on life support system, i.e. ventilator can be transported in a mobile ICU ambulance, if available

4. In some extreme cases, where patients clinical condition is critical and time is a big factor, use of air ambulance shall be considered, if available. However, feasibility of air transfer shall be ascertained with respect to environment, and patient's condition. If the patient, due to his/her condition can undergo sudden decompensation during air transfer, the same shall be avoided

UNIT IV SUPPORTIVE SERVICES

MEDICAL RECORDS DEPARTMENT:

Introduction

The hospital is built and maintained for the benefit of the patient, and failure to maintain complete and accurate records means failure in duty to the patient and in many ways to the family, the community and general public. Medical records are of vital importance clinically for immediate diagnosis and treatment and for future welfare of the patient, and in some cases become the deciding factor between life and death. Medical records are of importance to the hospital for evaluation of its services, improving its efficiency through lowered mortality and morbidity, and better patient care. Morale of the staff with concrete evidence of a job well done is enhanced. Records serve as a resource for education, training and post-graduate study for physicians and others.

The records are the basis for successful research. Clinical research often has its origin in the laboratory, but is never completed until proved through application to patients. To be effective, it requires scientifically recorded observations as reflected in the medical record. The same may be said for epidemiological work. The value of complete and accurate records for legal purposes is well established. The basic principles involved in obtaining adequate medical records and maintaining a smoothly functioning medical record department are similar in all hospital regardless of size.

Large teaching hospital supporting training programs for interns, residents and nurses usually find it necessary to elaborate on the basic records to fit their needs. It should not be assumed that medical records are of lesser value because the hospital is small. The primary reason for record keeping is to improve the care of the patient. There can be no disagreement that the patient in a 30-bed hospital is just as important as one in a 1000-bed teaching hospital. In all cases the record should be complete to the extent that it presents a comprehensive picture of the patient's illness, together with the physical findings and special reports, such as x-ray and laboratory. Such a record substantiates the diagnosis, warrants the treatment and justifies the end result. Three of the basic principles of medical records are that they must be accurately written, properly filed and easily accessible. Otherwise they become simply an expensive nuisance. Service to the professional staff is the primary function of the Department of Medical

DEFINITION AND FUNCTION:

1. The medical record is a document which contains statements by trained observers of conditions found and results of treatment. It indicates whether or not

the efforts of the physicians supplemented by hospital facilities are in accordance with reasonable expectations of present day scientific medicine. Medical records provide material for analysis of the immediate results of hospital service, the reason therefore, and the quality and quantity of work done.

2. The functions and responsibility of this department include:

Planning, development, installation, and continued direction of a medical records system, which includes not only the patients' original clinical records but also the primary and secondary records and indexes related thereto in the central record room and in each of the clinical services, adjunct departments and outpatient department for the hospital.

ORGANIZATION AND ADMINISTRATION:

- 1) The medical record department shall be under the supervision of a competent, qualified person, and preferably, a trained medical record librarian who is responsible to the administrator.
- 2) Records of patients are the property of the hospital and shall not be taken from the hospital property except under subpoena.
- 3) All hospital records shall be preserved either as original records or microfilmed in accordance with the needs of the hospital and the legal statute of limitations.

PROCEDURES:

1. Accurate and complete medical records, sufficient to justify the diagnosis and to establish the basis upon which treatment was given shall be written for all patients.
2. There shall be written policies, procedures, and rules for the completion of the record, the nomenclature to be used, the use of records including the release of information for the guidance of the medical record librarian and hospital personnel.
3. A member or committee of members appointed by the medical staff shall be responsible for the maintenance of complete and up - to - date medical records and the review and analysis of the clinic all experience in the hospital.
4. Medical records shall be filed in an accessible manner in the hospital.
5. Proper indexes shall be maintained in order that medical records may be available for all purposes.
6. Records of operations, obstetrics, anesthetics, roentgenograms, and clinical and pathological laboratory findings shall be properly classified to permit ready reference.

7. Records for inpatients and outpatients shall be correlated.
8. Medical records shall be regarded as privileged communication as specified in statutes and regulations of the state and local community.
9. Each case of communicable disease, poisoning, epidemic outbreak or other unusual occurrence which threatens the welfare, safety or health of any patient, as well as each case of notifiable disease shall be reported to the local board of health having jurisdiction case of notifiable disease shall be reported to the local board of health having jurisdiction of the patient, or to the state department of health as may be required by state, statute and regulation.
10. Hospital records shall contain data to permit a basis for a complete audit of professional service given, and for gathering statistical information.
11. Proper recording methods and procedures shall be maintained to assure compilation of data for proper administration of services.
12. A summary of hospital services shall be compiled periodically for presentation to medical staff conferences.
13. Vital records shall be maintained and statistics compiled as required by state, statues and regulations.

PHYSICAL FACILITIES:

1. An accessible medical record room should be conveniently located with adequate space, equipment and supplies. Satisfactory safe storage facilities shall be provided in all hospitals.
2. The medical record room should be conveniently located with adequate space, equipment and supplies. Satisfactory safe storage facilities shall be provided in all hospitals.

Characteristics of a good medical record:

1. Complete: It must contain sufficient data written in sequence of events to justify the diagnosis and warrant the treatment.
2. Adequate: Complete progress note written by attending doctor.
3. Accurate: To justify its purpose.
4. Comprehensive: to the point and easily understood.
5. Economical: Should not be an economic burden on the administration to maintain.
14. Properly planned: In sequence, easy to understand and in order.

IMPORTANCE OF MEDICAL RECORD :

Medical records are as necessary for the practice of medicine as medication for the effective treatment.

Medical Record is useful for:

1. Patients:

It is used to identify the patient with the history of his illness, the physical findings and the treatment given to him as a particular individual. M.R. assists patients in obtaining improved continuous medical care. It also serves as evidence in medico-legal cases and in insurance and other claim cases.

2. Hospital Administration

- a) Furnish information on all aspects of patient care, clinical and managerial quality and quantity.
- b) For working out economic aspects of medical care. It serves as a means for analyzing and appraising quality as well as volume of the medical service given by the institution
- c) For evaluation of patient care and proficiency of medical and other staff.
- d) Protect hospital and staff n legal matters.
- e) For budgetary allocation, determining distribution of the medical facilities and rationalization of staff allocation according to the demand of medical care facilities.
- f) Serves as an effective managerial tool for planning future programmes and facilities.

3. Medical and allied education:

- Helping in education and research
- Providing data for self-evaluation
- Providing base for medical audit
- Providing detailed clinical information on past cases which helps in
- Future diagnosis and therapy.

4. Medico-legal purposes:

Any MR may become evidence in accordance with Indian evidence Act.

- _ Insurance and other claims settlements.
- _ Medical certificates such as fitness for employment sickness certificates etc
- _ Workmen's compensation Act: The clinical data recorded by medical practitioner to indicate the extent of injury and the degree of disability of the individual is taken as documentary evidence to settle the claims for payment by certain classes of employers to give their workmen, some compensation for injury arising out of and in the course of his employment under the Workmen's Compensation Act.
- _ Patients Will: Medical record gives the day to day progress of the patient as by the clinician and then indicate whether the patient was of normal mental state or not at the time of making his will.
- _ For the settlement of personal injury suit: The medical record is used to obtain the required data regarding extent of injury, the type, amount and

length of treatment given in order to settle the claim made by an individual for damage sustained as a result of injury which were due to the fault or neglect of another.

- _ The malpractice suit: Medical record protects doctors and the hospital if action for damages be brought against hospital by demonstrating that there was no negligence involved and the treatment was scientific, adequate, proper and prompt. Criminal cases: Medical records play an important role in investigations of murders, assault, rapes and dowry deaths.
 - _ Authorization for operation: Consent is required for operation. In case of children, parent or guardian. In case of persons of unsound mind, the person in whose custody and care the patient has been lawfully committed have to give necessary consent. The consent of the husband is required in the case of a proposed operation on his wife if the operation may or will result in sterility.
5. Research: It provides data base for clinical research, community health. Control of diseases and for managerial research including organization, staffing and future expansion.

Main Components of Medical Records:

1. Social data: It consists of general information regarding patients identification such as name, age, sex, community, religion, residential address, occupation, marital status etc.

Administrative data: It consists of patients OPD registration number, name of the OPD, name of the unit head, X-ray registration number and other investigations reference number. If patient is to be admitted in the hospital, his indoor registration number, date & time of admission, patient

Duties and responsibilities of medical record officer:

1. Overall control on MRD
2. General supervision over the working and organization of the out patient registration section and indoor registrations.
3. Responsible for completion and compilation and disposal of records as necessary.
4. proper preservation of records.
5. Making records available for research, education and medico-legal purpose.
6. Responsible for medico-legal cases such as issues of certificates to police, receiving summons served on institutional doctors and arranged to depute them to the respective courts with records, attending court and arrangement for production of records in the court.
7. Forwarding visceral samples and stomach contents to the chemical analyser, receiving reports from chemical analysis and filing depositions in

the Coroners court.

8. Correspondence regarding medico legal cases with police, coroner of Mumbai etc.
9. Issuing various medical certificates such as accident, insurance, injury, compensation, life insurance etc. to the patients' relatives and L.I.C. India.
10. Preparation of monthly bulletin and administrative reports for the year.
11. To attend complaints of the patients and relatives and report to higher authority as and when required.
12. To give permission for taking dead bodies outside the greater Mumbai.
13. Convener of the meeting of the advisory board of the medical record committee.
14. To prepare agenda for the monthly meeting and distribute it and minutes of the meeting to the concerned.
15. Sanction casual leave for the staff of M.R.D. and make substitute arrangements.
16. Other duties that are entrusted by the authority.

Duties Of Medical Record Technician:

1. Scrutinizing the discharge paper of the patients for completeness.
2. Coding of diagnosis and coding of operations as per W.H.O. classification.
3. Preparation of the diagnostic and operation index.
4. Assisting medical record officer to prepare the yearly administration report.
5. To collect clinical and statistical data from various wards and departments.
6. To prepare daily reports of the activities in the hospital under the supervision of the medical record officer.
7. To prepare monthly bulletin of services given by the hospital under the medical record officers supervision.
8. To furnish the information to short notice questions received from committee section, government, and state government.
9. Preparation of a list of operation and distributing to the concerned wards and O.Ts.
10. Sending intimation to coroner, police station in case of death of the patient in the hospital.
11. To supervise the work of registration assistance and other subordinates.

REGISTERS AND OTHER MEDICAL RECORD MAINTAINED BY HOSPITALS

Hospitals are also to maintain the following registers:

1. O.P.D register
2. Indoor register
3. Operation theatre register

4. Delivery register
5. Birth & Death register
6. Lab register
7. Radiology including imaging register
8. Nurses GOB register & night report.MLC (Medico Legal Case) registers

FORMS:

There are many types of record forms in use today. Forms have frequently been made up to satisfy individual doctors interested in one special branch of medicine. These forms serve the purpose for which they were intended but are not designed for general use. The following clinical record forms have been designed to meet the basic needs of the non-teaching hospital. Many of these forms will serve a dual purpose since an attempt was made to keep to a minimum the number needed.

BRIEF SHEET:

This is called the Brief sheet because it contains in brief pertinent facts concerning the patient's stay in the hospital. This is the form used in admitting the patient and becomes the face sheet of the clinical chart. Sociological and identifying data should be carefully selected and if these facts are fully and accurately obtained on admission of the patient, the record will contain all non medical information needed for the admin office, insurance companies, as well as the information required for Birth and death certificates.

MEDICAL HISTORY FORM:

The History form included in this series has at the top a list items pertaining to family history. These items are of such a nature that they may be obtained and recorded on the form by a clerk, as part of the admission procedure. The remainder of the form, the narrative history of past and present illness, should be written or dictated by the physician attending the patient or by the referring physicians.

PHYSICAL EXAMINATION:

Those who wish to tick their findings may do so on a preprinted form and use a blank space for elaboration of abnormal findings. Others may prefer to write or dictate full physical findings. The latter is preferable.

LABORATORY REPORTS:

These reports are designed as a backer for laboratory and x-ray forms. Laboratory forms may be in duplicate with a carbon inserted to serve both as the request for laboratory work and for the report of findings. The technician's

recording of the findings on the original is reproduced on the duplicate. The original is returned to the nursing station and the copy is retained for the laboratory files. The original (stapled or gummed) is fastened to the backer and any subsequent reports are put on the same backer, until the page is filled. If stapled, a fine wire staple should be used to reduce the bulk and weight of the record.

X-RAY REPORTS:

The same procedure may be followed for x-ray reports as for laboratory reports. It is recommended that laboratory and x-ray forms be purchased with intricate one-time carbon. The slight additional cost of such forms is more than offset by the saving in personnel time consumed in inserting and withdrawing carbons.

OPERATION REPORT:

This form is designed to cover information usually included on the anaesthetic report, such as pre-medication and condition during anesthesia, as well as the usual items of diagnosis, time of operation, name of surgeon and nurse, surgeon's findings and description of operation performed. The surgeon should state whether the operation was major or minor.

TISSUE EXAMINATION:

Tissue removed during an operation an operation or specifically removed for A space for accession number is provided for the laboratory to record its identification number of the specimen.

DOCTOR'S ORDERS:

It is recommended that all treatment and medication ordered by the physician be recorded on a separate form rather than in an order book or on the progress report form. All orders should be written by the attending physician and signed by him. Telephone orders recorded by the nurse must be confirmed by the signature of the doctor when he next visits the hospital.

PROGRESS REPORT:

The attending physician should not be the progress of the patient, unusual trends, infection of surgical wounds, results of medication, and treatment and any abnormal findings not observed on admission. These notes must be dated and signed. A brief and comprehensive note should be made at time of patient's discharge, summarizing the case.

SHORT FORMS:

A short form medical record is acceptable in certain treatment and diagnostic of a minor nature which require less than 48 hours hospitalization. Short forms may be appropriate for such conditions as tonsillectomies, cystoscopies, plaster casts, removal of superficial growths and accident cases held for observation. The short form should at least include identification data, a description of the patient's condition, pertinent physical findings, an account of the treatment given and any other data necessary to justify the diagnosis and treatment. The record should be signed by the physician.

RE-ADMISSIONS:

If a patient is re-admitted within a month's time for the same condition, the previous history and physical examination with an interval note will suffice.

SIGNATURES:

In hospitals without house officers, the attending physicians should separately sign the history and physical examination, operative report, progress notes, drugs and other orders and the summary. Standing orders should be reproduced on the record, and signed by the physician.

In hospitals with house officers, the attending physician should countersign at least the history and physical examination and the summary written by the house officer. Aside from the fact that this is a legal requirement in many states, it is a protection for the individual physician.

CERTIFICATES

The various certificates that are issued by the doctor in his professional capacity are:

1. Admission / Discharge certificate
2. Emergency admission certificate
3. Birth record certificate
4. Medical Termination of Pregnancy certificate
5. Maternity certificate
6. Leave certificate
7. Injury certificate
8. Disability certificate.
9. Medico legal case certificate
10. Unsoundness of mind certificate
11. Vaccination certificate
12. Insurance certificate

Giving a false certificate is a criminal offence.

Death certificates

Death certificates are extremely important documents and while issuing a death certificate certain precautions have to be taken. A doctor should not issue a death certificate unless he has attended the deceased at least once during the seven days preceding death. One should be very sure of the diagnosis before giving a death certificate. In case of a doubt, it is always better to ask for post mortem examination.

A doctor can refuse to give death certificate if

1. He is not sure of the cause of death
2. It is a sudden death
3. There is suspicion of foul play
4. The death is caused by any violent or unnatural cause, drug, medicine or poison
5. There is suspicion of starvation, exposure or neglect.

In such situation one has to report to police authorities before the body is removed for cremation. Signing of a blank death certificate in anticipation of death is not only illegal but is also violation of medical ethics.

INDEXES:

Just as the items in a catalog are alphabetically listed or "indexed", so indexes are kept in hospitals to tell where to locate either the clinical records in the department or various kinds of information contained within those records. There are generally four types of needs to locate records. Each is met by a specific index. Name Index (also known as master index and patient's index): To find the record of a patient by name, a perpetual name index is maintained. This is usually a card index, one card for each patient. The information on the card should be for identifying purposes only. This will include: (a) full name of patient (last name recorded first), (b) registration number, (c) address, (d) date of birth, (e) date of admission, (f) date of discharge. The card should be completed through item (g) at time of admission and held in a "current inpatient file" or "house file".

LEGAL ASPECTS:

Medico-legal problems often concern records department personnel. Policies governing the release of confidential information should be clearly by the administrator. The policy should be formulated on the basis of these principles: As a personal document, the record is used to identify the patient with the history of his illness, the physical findings and the treatment given to this one individual. The information is confidential and may not be released to anyone without the patient's

permission. It is advisable before releasing information (as authorized by the patient) that the attending physician also be notified of the request and that he, too, sign the release for information. If a second physician is called to care for a patient, that physician is regarded as having the patient's permission to review the record. It is giving one physician, information secured by the other but this privilege is reciprocal.

Central Sterilization and Supply Department:

In modern hospitals, due to increasingly sophisticated treatment modalities and emergence of complex diseases (some whose etiology was unconfirmed earlier but is now possible due to modern gadgets), it is necessary to completely disinfect and supply totally sterile material to departments like OT, ICCU/ICU etc., Thus it is vital to have a department whose main responsibility is focused on cleaning, sterilizing and maintaining many lifesaving articles and equipment.

Functions of CSSD:

1. To process and provide sterile equipment and supplies
2. Distribution of sterile and distilled solutions
3. To supervise and provide sterile treatment and procedure trays and packs
4. Processing and Sterilization of rubber gloves, catheters and other similar items
5. Receiving, storing and distribution of sterile equipments not processed or manufactured by the hospital
6. Receiving, maintaining and issuing portable equipments, as well as suction apparatus etc
7. Maintenance and replacement of all equipment and supplies indicated above
8. Finding new products

Location and Area:

Wherever possible the department should be situated in the central part of the building, convenient to lifts and preferably with its own dumb-waiter service to expedite deliveries. The department generally consists of four-six different areas, which may or may not be provided with partitions.

These areas are:

receiving, wash-up, solution and work areas or rooms, sterile supply and storage. In addition, there should be space for built in sterilisers.

Space:

Beds(including bassinets) Sq. ft Basic Sq. ft Comp

75-99 8 13
100-149 7 11
150-199 6 10
200-249 6 9
250-300 5 9
300 up 5 7

Ventilation:

Adequate ventilation is essential in this department, not only from the stand point of comfort and health of the personnel, but also for the efficient operation of the autoclaves. Windows alone are generally not sufficient, exhaust fans are needed in addition to the regular fans. The most desirable method would be air-conditioning.

Distribution and collection:

The distribution and collection of supply in a hospital may prove a big problem owing to lack of physical facilities for holding and transmitting supply to the point of use.

1. **Quota System:** here the predetermined stock level for each user is established and maintained by the C.S.S.D through a regular delivery programme.
2. **Clean for dirty exchange:** Here every article that is given in a dirty state is returned in a corresponding clean one.
3. **Regular complete stock system:** this is a double container issue in which complex needs of a user for a specified time period are placed in a container. This is replaced at the specified periods by a similar container irrespective of whether the items in the original are used or not.
4. **Required issue:** here the demand is placed for and item of and as required basis.

Record keeping:

1. Materials received from stores and vendors stored in their original form until issued
2. Materials which are not expendable, issued from and returned to the department
3. A master stock record should also be maintained
4. Daily, weekly and monthly production records should be available for efficiency rating to assess production standard, cost control and staffing requirement.

C.S.S.D committee:

It is advisable in the interest of good management and planning to appoint a committee consisting of an administrator, a surgeon, an anaesthetist, a pharmacist and a Matron. This committee will prepare a written programme for

the department covering the following subjects:

1. Objectives of the department
2. Functions of the department
3. The departments to be served
4. The services to be rendered, including a list of the major supplies and equipment which will be provided also the estimated quantities of these supplies and equipment
5. A detailed description of how the work will be done, including the specific methods to be used in performing the operations
6. An outline of work stations and workflow methods including all essential processing equipment required to perform the operations
7. An estimate of duties that may be assigned to the department in the future and other anticipated changes
8. The administrative structure and the organization of the department including the estimated number of personnel for the department and their needs.

Patterns of the organizational set-up include:

1. The C.S.S.D forms part of the nursing services with a senior nurse appointed as a supervisor under the matron or director of nursing
2. The C.S.S.D and the operating room is under a trained nurse. This set-up will obviously be the logical one in a hospital having one or two theatres
3. The C.S.S.D forms one division of the O.T. complex and is under a seniornurse who reports to the superintendent or the supervisor of the complex.
4. The C.S.S.D is under a supervisor who is directly responsible to the administrator
5. The C.S.S.D is under a pharmacist with possibly an assistant who is a registered nurse. The pharmacist reports directly to the administrator or through his doctor.

Central supply supervisor:

The supervisor should have the skills to handle his department as well as skills of industrial management. He must have the ability to use modern techniques of time and motion study production, planning and control work simplification. He must have the ability to lead effective changes. He must have good inter-departmental communication. He must be able to maintain efficiency, records and quality of products. He must maintain proper inventory levels of all supplies.

PHARMACY:

The goal of every department of the hospital is to furnish the patient with the best service at the most economical cost. The pharmacy is not an exception

since it is one of the most extensively used therapeutic arms of the institutions. The volume of service is appreciable; in the average hospital, the pharmacy will fill thousands of prescriptions and dispense as many ward orders and requisitions in a single year. Purchase of drugs and the value of the annual inventory run into many thousands of rupees.

POLICIES:

The pharmacist in charge, with the approval and cooperation of the director of the hospital, shall initiate and develop rules and regulations pertaining to the administrative policies of the department. The pharmacist in charge, with the approval and cooperation of the Pharmacy and Therapeutics Committee, shall initiate and develop rules and regulations, subject to administrative approval, pertaining to the professional policies of the department.

FACILITIES:

Adequate pharmaceutical and administrative facilities shall be provided for the pharmacy department, including especially: (a) the necessary equipment for the compounding, dispensing and manufacturing of pharmaceuticals and parenteral preparations, (b) book keeping supplies and related materials and equipment necessary for the proper administration of the department, (c) an adequate library and filing equipment to make information concerning drugs readily available to both pharmacists and physicians, (d) and other proscribed drugs, (e) a refrigerator for the storage of thermo labile product, (f) adequate floor space all pharmacy operations and the storage of pharmaceuticals at a satisfactory location provided with proper lighting and ventilation.

RESPONSIBILITIES:

The pharmacist in charge shall be responsible for : (a) the preparation and sterilization of inject able medication when manufactured in the hospital, (b) the manufacture of pharmaceuticals, (c) the dispensing the drugs, chemicals and pharmaceutical preparations, (d) the filling and labeling of all containers issued to services from which medication is to be administered, (e) necessary inspection and others emergency drugs, (g) the dispensing of all narcotic drugs and alcohol and the maintenance for a perpetual inventory of them.

PHARMACY AND THERAPEUTICS COMMITTEE:

There shall be a Pharmacy and Therapeutics Committee, which shall hold at least two regular meetings annually and such additional meetings as may be required. The members of the committee shall be chosen from several divisions of the medical staff. The pharmacist-in-charge shall be a member of the committee and shall serve as its secretary.

PURCHASE AND SUPPLIES:

The pharmacist's principal function in purchasing is to establish standards and specifications for medication and equipment. He alone is responsible for sub standard or dangerous items reaching the patient. The pharmacist is familiar with the pharmaceutical and chemical manufacturers, their distribution system and discounts system and discounts. He is also familiar with firms which furnish other professional supplies. It is his duty to have in stock at all times an adequate supply of the proper quality. A sound purchasing and control system is essential. This can effect savings up to 20 per cent in purchasing. Good management indicates that the money invested in a pharmaceutical inventory be turned over about four times a year. For example, should the pharmacy inventory amount to Rs. 7,500, the total purchases for the year would be about Rs. 30,000. A purchase record card on each item stocked in the pharmacy is necessary. The purchase when recorded with the date, quantity and price, will reveal when recording the product the need for obtaining larger or smaller quantities.

PHARMACEUTICAL SERVICES IN SMALL HOSPITALS:

Quality of patient care should be the same in all hospitals, regardless of size or type of services. However, many hospitals, particularly those with less than 100 beds, have not yet developed satisfactory solutions to the problem of good

PHYSICAL FACILITIES:

LOCATION:

Where feasible, the pharmacy should be located on the first floor of the hospital and readily accessible to the elevators to ensure adequate and efficient service to the various nursing stations and departments. If the hospital has an outpatient department, the pharmacy, or a branch thereof, should be located so as to be convenient to it. Space should be provided in the outpatient department, if it is nearby, for seating of patients who are waiting for medicine.

FLOOR AREA:

Necessary net area for efficient pharmacy services will vary, of course, with the program and services of the hospital, utilization and workload. Used as a point of departure however, one finds an indicated need for a minimum of 250 square feet for any sized hospitals. From that point, basic estimates range from 10 square feet per bed in the 100 bed hospital; six square feet per bed in the 200-bed institution; and an average of at least five square feet per bed in larger hospitals. Teaching hospitals require considerably large space.

FINISHES AND LIGHTING:

The floors of the pharmacy should be resilient, smooth, easily cleaned and acid resistant. Rubber or asphalt tile and heavy linoleum are considered satisfactory. The sterile solution and manufacturing rooms should have a floor which is smooth and

waterproof, have a nonskid surface and be provided with a drain.

EQUIPMENT:

Equipment lists are generally prepared as guides which will require alteration in adapting to specific problems encountered in the design and services of any individual hospital. Since considerable variance from suggested floor plans may be necessary, it is advisable to consult the pharmacist on the floor plan, location and selection of equipment. Equipment includes a prescription case and drug stock cabinets with proper shelving and drawers for a large assortment of drugs. Sectional drawer cabinets with cupboard bases are manufactured specifically for pharmacies and to fit any area. This type has the advantage of appreciably reducing the area required for the drug stock. It is also readily adapted to future expansion as more storage space is needed.

MANUFACTURING:

Hospitals, tend to do less manufacturing. The kind and the amount of pharmaceutical manufacturing are dependent on several factors; size of the hospital, general policies, scope of its activities and space and equipment; this will be resolved by the responsible authority of the hospital. Equipment such as ointment mills, mixing machines, collapsible tube filters, powder mixers, granulators, tablet compressing machines and filter presses may be considered. Space must be assigned for the routine manufacturing of preparations which can be properly and profitably prepared e.g. stock solution, bulk powders, ointments, and for such facilities as tanks and mechanical mixers, filtering racks, a cradle cabinet for demijohns and adequate open adjustable shelving. The manufacturing room can be located in the basement directly below the pharmacy. A dumb-waiter should connect the two; also, direct access between the pharmacy and bulk stores should be provided. In the smaller hospital, where only one pharmacist is on duty, often without assistance, it is preferable that the manufacturing room be adjacent to the pharmacy.

GENERAL STORAGE:

From an operational standpoint, of course, the ideal area for bulk pharmacy stores would be adjacent to the pharmacy itself. However, this is not often feasible. The second most desirable area is directly beneath the pharmacy with dumb - waiter and spiral stairway connection. If it is necessary for bulk pharmacy stores to be kept in the general stores area, they should be within an enclosure to which only the pharmacy staff has access. This staff must have control of purchasing, storage and utilization of pharmacy supplies for efficiency and economy. Equipment required is open adjustable metal shelving for reserve stock, raw material, empty bottles and packaging containers. A separate locked fireproof room with a drum cradle is necessary for alcohol

FOOD SERVICES:

Food service is one of the most important activities in any hospital. As a therapeutic measure it contributes directly through scientifically prepared nutritious diets, aimed at specific disease conditions. It is a most potent psychological force in patient acceptance of hospital regime and its concomitant contribution to early recovery; it can be a major factor in employee satisfaction and morale; another, it can play a major role as a general public relations measure, bringing returns far beyond its costs. The question often arises as to whether a discussion of food services should be within the realms of management of clinical services. The truth is that it is an equal responsibility of each, a truly medico - administrative area. Since it impinges so heavily on the clinical care of patients, it is appropriate to discuss it under that general heading.

CONTRACT FOOD SERVICES:

An increasing number of hospitals are contracting for food services with outside commercial sources. Results have been reported as ranging from excellent to most unsatisfactory. Like any system there are advantages and disadvantages.

In 1962, the American Hospital Association and the American Dietetic Association approved guiding principles for contractual services, some of the highlights of which include:

1. Hospital dietetic services should be under the direction of a qualified manager, preferably a professionally trained dietitian. If the contract food manager is not a professionally trained dietitian, such competency should be available as full or part - time consultant.
2. As the head of a major department, reporting directly to the appropriate hospital administrative authority, functions, responsibilities, and relationships should be fully documented and clearly understood.
3. As with any type of dietary organization, constant liaison with the medical staff should be maintained.
4. The plan, program, organization, and relationships should be in writing and reviewed periodically.

Responsibilities of the contractor cover all appropriate activities such as nutritional standards, individual patient contract, patient education, systematic employee training and adequate supervision, quality food procurement, sanitation and maintenance, appropriate records and reports.

MENUS:

Preparation of menus is the immediate responsibility of the dietitian and must be undertaken in the light of clinical requirements, economy and practical management procedures. Dietitians usually prefer to prepare them on a two - to three week schedule, using basic outlines and making adjustments on daily

orders as the market and special diets dictate. While menus will vary with requirements, food habits, nutritional adequacy, seasonal availability and funds, standardized recipes can still be established.

The selective menu has gained much favour, although more adaptable in the larger hospital. A successful modification is accomplished through daily visits to patients by the dietitian. This is a most important psychological and public relations gesture to the patient and is of real value to the dietitian for economy purposes, improvement of services and forestalling complaints. The Master Menu Service, published monthly in Hospitals, is an excellent guide and time saver if properly adapted to local needs. Good tested quantity recipes are axiomatic before standardization can be accomplished. Guidance in the conversion and preparation of quantity recipes can be obtained from AD professionals.

FOOD PURCHASING:

Since the dietitian plans the menus, the selection standards, purchasing, and scheduling for delivery of food items must be her immediate responsibility unless there is a food manager. This is particularly important in relation to seasonal fresh vegetables and fruits. Although the use of commercial frozen foods has increased tremendously, some hospitals use slack periods of personnel activity for purpose of any canning or preparation of its own frozen foods that might be undertaken. Staple groceries and other supplies may be bought by the purchasing agent upon requisition by the dietitian.

SANITATION:

It must be emphasized that practices, personnel, and physical facilities for food services offer some of the greatest sanitation problems and hazards with which a hospital is faced. In addition to training, periodic inspection of the entire dietary department must be maintained, to include floors, walls, ceilings, utensils, machinery and equipment, cabinets, sinks, plumbing and grease traps and employee rest rooms and washrooms. Safety programs should include instruction in extinguishing grease and other fires, proper use of equipment guards, reporting of accidents and methods of eliminating slippery floors.

DISHWASHING:

The dishwashing room should be physically separated from the food production and serving activities and from the cafeteria serving line and dining area. Health authorities feel it advisable to divide the dishwashing room by a wall so that activities connected with handling clean and soiled ware may be completely separated. They believe that equal emphasis is needed on improved supervision and techniques as well. If complete separation is not feasible the layout of the room should discourage the same worker from handling both clean and soiled dishes. Wash water should be at least 140 degrees F, and rinse water at least 180 degree F. A lavatory with a foot, knee, or elbow control should be located so that workers may wash their hands, preferable in clear sight of supervisory personnel who will ensure

that they handle clean dishes with clean hands.

LAUNDRY SERVICES:

THE LAUNDRY:

While most patient readily accept the professional services of their doctors and nurses with the minimum amount of criticism, they can and do judge the hospital by the personal care and attention given to them while they are confined to a hospital bed. Criticism of the linen service by both patients and personnel is one of the most frequent complaints heard in the hospitals. The major share of this criticism can be avoided by properly planned linen and laundry services. Such attention to the personal needs and comfort of the patient is as important as the physician's orders for medication or for appetizing food served promptly and with attention to eye - appeal.

Necessary to this service is an adequate supply of clean linen sufficient for the comfort and safety of the patient and the personal appearance and dress of all personnel who have the responsibility for attendance on patients. Pleasant, neatly attired employees in fresh crisp uniforms do much to sell the hospital to the public. Intelligent planning for the linen and laundry services, essential to good hospital care, is not possible without knowledge of the types of services that the hospital contemplates. They must be planned in relationship to the total bed capacity, the allotment of beds to the various services, the diagnostic and therapeutic facilities, the extent of service facilities, including the dietary department, mechanical and other services. Also necessary is a detailed knowledge of plans for a school of nursing and quarters for personnel. The average amount of circulating patient linen has been found to be a minimum of four times the complete complement of that in use at one time. This allows one set to be in use, one set at the laundry, one available for immediate use and one for stand - by and emergency purposes. To this expected daily load of patients linen must be added the daily load from other sources, such as the dietary department, operating room, delivery room, outpatient department, clinics, emergency room, and employees' uniforms.

The amount of bed and room linen for students and other employee residence must be taken into consideration. Some institutions also do personal laundry for employees. Individual items for these various services, while not required in the same ratio as the given for patients' linen, will amount to a sizeable part of the laundry load. The total laundry load is usually expressed in pounds of soiled linen per day. The average figure ordinarily used for general hospitals is from 12 to 18kg of soiled linen per patient each day, plus 25kg for each operation or delivery, and which usually includes both the direct (patient service) and indirect (employee and other) linen usage. For chronic disease hospitals, i.e. tuberculosis and mental diseases, this average will be from 6 to 9 kg per patient per day.

LOCATION:

Present design practice is to centralize the mechanical services of a hospital in one location and in conformity with local building codes and laws. The services grouped are usually boiler and pump room, maintenance shop, laundry and garbage. Such centralization will result in less initial investment for building and equipment. It is a major factor in lowering operating costs and promoting efficient operation. It also has considerable administrative value. The occasional disadvantages, such as excessive heat during the summer and the increased use of supplies owing to infiltration of dirt from the boiler room, where coal is used for fuel, can be corrected by adequate ventilation and screening.

Ideally, all the mechanical services of a hospital should be installed in a separate building located as far as practicable from the patient service areas in order to reduce noise and dirt. However, it is the exceptional community that has sufficient funds to permit the construction of a detached building for housing these services. Most hospitals of less than 100 bed capacity locate these services in the basement and at rear of the main building. Hospitals of more than 100 beds more often can afford expenditures for a separate service wing. Traffic to and from the laundry should be routed to keep entrances into administrative and patient areas at a minimum. Space requirements:

No. of beds	Sq. ft per bed
100	12.5
200	11.5
400	9.00
500	8.00

Special features of a laundry:

Ceiling: It should be moisture proof, sound proof and have a high light reflection factor. The height should not be less than 11 feet from the floor.

Floors: They should be rust-proof, smooth and of concrete or equivalent material, with a sufficient gradient to provide easy flow of water. **Walls:** They should be hard surfaced preferably light tiled and light colored.

Windows: Maximum light and maximum ventilation should be allowed. They should at least open 50% and be easy to maintain.

Lighting: Correct lighting should be used after consultation with an expert.

Workload and Staffing:

The average load is approximately:

Hospital linen= 55%, Hospital Staff= 35%, House hold= 10%

The turnover estimated is approximately 4500 articles per week for every 100 beds.

The expenditure estimated is:

Material= 10%, Labour= 60%, Fuel, Light, Water= 30% 9

pounds of soap required for 1000 articles

18 pounds of soda required for 1000 articles

Equipments and supplies:

Particulars Nos. Size

Washing machine 22 32" * 54"33" * 72"

Hydro-extractors 32 30"26"

Ironing 3 120"

Drying Apparatus 4 10" * 12"

Garments Pressers-rollers 22 36"52"

Hand ironing boards 4 60"

UNIT V

COMMUNICATION AND SAFETY ASPECTS IN HOSPITAL

PURPOSE OF COMMUNICATION IN HOSPITAL:

Communication in a healthcare setting is one of the most important tools we have for providing great patient care and improving patient satisfaction. However, lines of communication can frequently be crossed and lead to lower patient satisfaction scores, illnesses or worse. According to information shared in a recent article from Becker's Hospital Review: *"...more than a quarter of hospital readmissions could be avoided with better communication among healthcare teams and between providers and patients."*

Every patient who comes to a hospital has a team of people involved in providing care throughout their healing process: from doctors and nurses to housekeeping and culinary teams, and even their family and loved ones. With so many parties involved, it's understandable that missteps in communication could occur. At HHS, we take communication and patient care seriously and train our team members to break down these communication barriers to provide excellent patient care.

For hospitals and health care institutions, ensuring that patients receive proper care takes more than performing procedures and making diagnoses. Communication is a crucial component in all steps of the health care process. Whether it be a clinic accurately sharing patient information with another facility, or a group of doctors, nurses, specialists, and other staff at a hospital discussing how to treat current and incoming patients, the need for concise, effective communication is always present in the health field.

Organizations with strong communication policies can enrich their patients' health, while those that don't have effective procedures in place can negatively impact patient well-being. Health care professionals and institutions need to recognize the importance of communication in health care in order to thrive.

PLANNING OF COMMUNICATION:

In health care, the 'care' refers to the 'level of emotional involvement communicators express for one another, ... the demonstration of interest and concern for the other person's well-being' (Kreps & Thornton, 1992:51). In health communication, a number of variables are central to the success of communication. These are empathy, control, trust, self-disclosure and confirmation (Rensburg, 1996:212). In addition, the transfer of messages through verbal and nonverbal communication has particular importance in a health care setting while, from a patient compliance perspective, self efficacy is a key issue in the success of communication. Although most of the literature refers only to the dyadic situation, the underlying principles are applicable to all health communication situations.

Empathy

Empathy is regarded as the most important variable for successful health communication. It affects the communication results in all types of relationships, including that between health professional and client. Empathy is 'the power of identifying oneself mentally with (and so fully comprehending) a person, or object of contemplation' (The Oxford dictionary and thesaurus, 1995:480). It includes being sensitive to the changing emotions that flow in the other person, be it fear or rage, tenderness or confusion.

Empathy is an ability to develop a full understanding of a client's condition and feelings and to relate that understanding to the individual (Kreps & Thornton, 1992:49). Empathy plays an especially important role in effective interpersonal health communication where the emphasis should be on the client who experiences a problem (Rensburg, 1996:212). Empathy may occur at several points within the health communication process. Many qualities are needed by those who wish to show empathy, for example, observational skills, communication skills, perceptual skills, emotional sensitivity and caring. Through empathy, health professionals better understand their clients and their problems, as well as other health professionals in the health care team. Being understood helps clients to cope with the emotions of fear and confusion caused by illness (Rensburg, 1996:213).

Control

Like empathy, control is a part of every communication event and an intrinsic component of human interaction in general. Personal control is the perception that people can influence the way in which circumstances affect their lives. The more personal control a client perceives, the less his or her feelings of powerlessness, even if the control is not directly exerted. People need to see their environments as controllable and predictable. Relational control refers to the perceptions people have about the centre of control in interpersonal relationships, that is, their hierarchy of connection to others. It includes the degree to which people feel able to influence the nature and development of relationships. When individuals within a relationship share relational control, more effective interpersonal communication is the result (Rensburg, 1996:213-214). Illness causes uncertainty and, in turn, uncertainty brings about feelings of loss of control. The result is fear, anger, helplessness and incompetence. To help clients cope, health professionals should strive to restore their sense of control. Some patients are internally orientated and take charge, while others are externally orientated and take a wait-and-see approach in their preferences for control

Self-efficacy

Linked to personal control is the concept of self-efficacy. Self-efficacy is a personal assessment of and belief in the ability to perform a particular type of behaviour under specified conditions to influence existing circumstances (Maibach, 1993:210). For example, while recuperating after a serious illness or when coping with a chronic disease. People's perceptions of their capabilities influence their behaviour, motivation, thought patterns and emotional reactions. In general, people are motivated to engage in behaviours for which they feel highly efficacious. Communication should therefore focus on enhancing people's sense of self-efficacy associated with a particular behaviour. In research, positive feedback instilled a strong sense of efficacy in clients (Bandura, 1986:425). Self-efficacy can also be enhanced with the appropriate use of behavioural modelling (Maibach, 1993:214) (see 5.3.1). High self-efficacy leads to commitment, resourcefulness and perseverance, the qualities needed for most human endeavours. Health communication that strengthens self-efficacy expectations about managing illness

and disease could result in better self-management and eventually better health status and more cost-effective care - precisely what managed health care is aiming at. The perceptions of family, friends and other support structures regarding a patient's ability can be a motivating factor to change health behaviour and adhere to treatment. It is therefore also important to educate the patient's spouse and other close relatives (Taal et al., 1993:64-65,74). Self-efficacy is influenced by previous experiences with the specific behaviour, other people's experiences with the behaviour, verbal persuasion that strengthens a patient's capability to engage in the desired behaviour and feedback from the conditions experienced when anticipating or engaging in the behavior.

Research has also indicated that perceived self-efficacy makes preventative health behaviour possible. 'Unless people believe they can master and adhere to health-promoting habits, they are unlikely to devote the effort necessary to succeed' (Bandura, 1986:438). People who are given personal control over their daily activities are happier, more actively interested and sociable, and physically healthier than those who do not have personal control, as was discovered in research among the elderly (Bandura, 1986:439). People not only need knowledge to regulate their behaviour but also a firm belief in their personal efficacy to change possible future ill health into effective preventative action. People must believe that they have the capability to alter their health habits before they are willing to do so. Communication that explicitly strengthens the belief in capability increases people's determination to modify habits detrimental to their health (Bandura, 1986:439).

Trust:

Trust is the 'firm belief in the reliability or truth or strength' of a person or thing (The Oxford dictionary and thesaurus, 1995:1676). It means that a person will respect another person's needs and desires and behave towards him or her in a responsible and predictable manner (Kreps & Thornton, 1992:49). It also means accepting another person without evaluation or judgement. Through trust, events are seen as predictable and people as basically Sincere, competent and accepting (Rensburg, 1996:215). Because clients and patients feel particularly helpless, vulnerable, insecure and in need of support, trust plays an essential part in

establishing effective relational partnerships in health care. Trust helps to lessen feelings of depersonalisation or dehumanisation. By predictable professional behaviour, clients learn to trust health professionals and rely on their knowledge and integrity. The existence of trust between a health professional and a client has advantages for both. Trust increases a client's sense of security because he or she does not feel alone in the particular situation but that another cares about him or her. This leads to individuals being more open and honest about their attitudes, feelings and values, and more willing to take responsibility and control. Trust also creates a supportive climate that is important for treatment and compliance. All interactions between health professionals and clients have an influence on trust. When communication takes place in ways that create positive reactions, health professionals create trust and credibility

Self-disclosure

Kreps and Thornton (1992:50) refer to self-disclosure as honesty, which is the 'ability to communicate truthfully, frankly and sincerely', where the communication (verbal and non-verbal) includes personal information, thoughts and feelings. It is important, though difficult to elicit, mainly because clients feel vulnerable and uncertain. Where trust is lacking, a client may feel that he or she will be judged as weak, excessive or strange. Other problems that hinder self-disclosure are language problems (clients cannot make themselves understood verbally); intercultural communication problems; and influences from the environment (e.g. a traditional belief system) (Rensburg, 1996:215).

Confirmation

'Confirmation occurs when individuals respond ... in ways that indicate to others that they are acknowledged and understood [It is a] means of communicating that focuses on the ways individuals experience the world and ascribe meaning to events' (Rensburg, 1996:216). When health professionals communicate in confirming ways, they recognise clients as unique individuals with real problems; they validate the client as a person. Clients often experience feelings of depersonalisation, rejection and alienation in health care settings. Unfortunately, time pressures, unacceptable working conditions in some hospitals, strikes, rotating

shifts and even staff shortages contribute to these feelings and hinder the sharing of meaningful communication. Confirming communication shows direct acknowledgement, respect and agreement about the content of communication messages

MODES OF COMMUNICATION:

Although a review of the literature revealed that face-to-face communication is recommended, in practice, written communication remains the most usual means of communication between healthcare professionals. Furthermore, there is a consensus about particular advantages of written communication over face-to-face communication.

Face-to-face communication is essential to get the full conversation. In face-to-face communication, all involved parties can not only hear what is being said but also they can see the body language and facial expressions that provide key information so they can better understand the meaning behind the words. In the past, this type of communication was only possible in person, but as technology advances there are more ways to have these face-to-face conversations . Video conferencing is also a form of face-to-face communication, even though it uses technology to connect the participants. These forms of direct communication may in fact have decreased in the electronic communication age, favoring indirect rather than direct communication . Rapidly delivered e-mail letters with a read confirmation may represent a good proxy to telephone or face-to-face contacts and have the advantage of traceability and consultation by third parties.

Written communication in the larger interpretation remains the most usual, and sometimes the only, means of communication between healthcare professionals . The most frequently used forms of written communication are referral and discharge letters. Referral letters can be subdivided into three types: i.e. requests for a specific assessment or treatment, request for a second opinion and requests for mutual responsibility for the care of a patient . Discharge letters on the other hand generally refer to patients discharged from hospital. However, the term is also used for other settings such as answer letters after a specialist outpatient visit without hospitalisation. This in itself poses a problem of semantics and definitions, as the terminology of discharge letters seems not to have followed the shift towards mainly outpatient care.

Written communication certainly has its advantages. For instance, it can be used for future reference purposes and it can be easily and simultaneously distributed to the required number of caregivers involved in the care process . They

are not only a means of communication but can also serve as a medico-legal value . Moreover, in the current electronic environment, written communication has evolved towards a more immediate medium and may therefore be preferred.

Communicating with hospital staff

Hospitals can be busy places and sometimes staff will not have a lot of time to spend with each patient. To make the most of your time: be open and honest so the people who are looking after you understand what is going on talk about your highest priority worries first. If there is time, you can go on to other questions use brief descriptions of your concern or need. Staff will ask the questions if they need to clarify something if you do not understand what someone is saying, let the person know during the conversation. If you wait until the end, they may have to see their next patient and not have time to re-explain something you may not be able to get answers straightaway.

The person may refer you to someone else or have to get back you. Accept this unless you feel the person is brushing you off or does not get back to you as promised. When communicating with hospital staff, remember you have a right to ask questions if you discover that any of the hospital's information about you is incorrect, speak up as soon as possible do not expect that your health information will be shared with other healthcare professionals, even in the same hospital. Sometimes, another person may want to get information directly from you some staff within the hospital will require different information from you, while others will ask you the same questions. Be prepared to repeat your information at times you have a right to ask about who is examining you and why. Do not hesitate to ask for an explanation of your treatment or investigations.

Telephone communication:

Healthcare providers today face tough challenges, dealing with an increasing volume of patients, a problem aggravated by an aging population. The delivery of better but less expensive healthcare to more people is a primary goal of both providers and government agencies. The crux of achieving this aim is the correct choice of communications and collaboration technologies which enable healthcare providers to create a coherent and unbroken "chain of care", improving patient outcomes at the same time as lowering costs.

Most common communications problems reported by healthcare providers:

- Long waits on calls being answered.

- Missed appointments increasing waiting times and losing practices money.
- Not enough lines for patients calling in and staff calling out.
- No queuing or routing – reception has to handle all calls for nurses, routine enquiries and appointments.
- Patients reach voicemail and are given alternative number out of hours rather than routed.
- No record of abusive calls

When carelessly conducted, telephone communications can lead to diagnostic errors and misunderstandings that culminate in medical malpractice claims and lawsuits. Telephone conversations may be inherently deceptive because reliable communication is incomplete without facial expressions and body language to clarify and qualify what the voice is expressing. Once you offer medical advice on the phone, you can legally become the attending physician of a patient you have never seen. The best way to protect yourself from such potential liability is to practice effective telephone communication: Listen very carefully and pursue questions relevant to the medical problem. Avoid distractions when speaking with the patient, such as checking e-mail or attending to other duties. Obtain as much information as possible about the patient who is calling.

Prescribe or advise by phone only when you know the patient's medical history. Accept a third party's description of a medical condition only when you have confidence in the third party's competence to describe what he or she sees. Ask the patient to repeat the instructions back to you to ensure his or her understanding. Be especially wary of calls concerning abdominal or chest pain, fever of unknown origin, high fever for more than 48 hours, convulsions, vaginal bleeding, head injury, dyspnea, casts that are too tight, visual alterations, or the onset of labor. Be particularly careful that the pharmacist understands all dosages and instructions for drug prescriptions given by phone. Spell out the drug when names are similar, and use individual numbers for dosages, e.g., "five zero" for 50. Include the reason for the use of the drug. Insist that the pharmacist repeat the information to you. Make sure the same is true of hospital nurses taking your orders. Be especially careful if you take a call for another doctor. In several instances, covering doctors have been held completely responsible for damages resulting from a telephone misdiagnosis, while the original physician was exonerated. Provide your covering physician with a brief status report on your acute patients. Prescribe only the amount of patient medication required for the period you are covering another physician. Pain medications and narcotics should be refilled or ordered only in small amounts. Document all phone calls to and from patients and keep the medical record updated. Provide documentation of your coverage period to the absent physician. Be sure to record any hospital telephone

conversations with nurses that pertain to a patient in the patient's hospital medical record.

Follow these telephone loss prevention measures to help you avoid giving inadequate information or experiencing a miscommunication:

- Always see the patient yourself when in doubt.
- Obtain the services of an interpreter if there is a language difficulty.
- Repeat instructions you give on the phone and then ask that they be repeated to you. Allow the caller both time and opportunity to ask questions.
- Make prompt referrals and follow up with the referred provider if the patient's medical problem is outside your specialty.
- Be aware of your surroundings if you are talking with a patient outside of the clinic, such as on a cellphone.
- Speak clearly and enunciate carefully.
- Verify patient compliance through follow-up contact to ensure continuity of care. Be especially diligent when the caller is an unknown patient.
- Remember that drowsiness, fatigue, or distraction on the part of either party is a giant step toward miscommunication. Document, document, and document again.

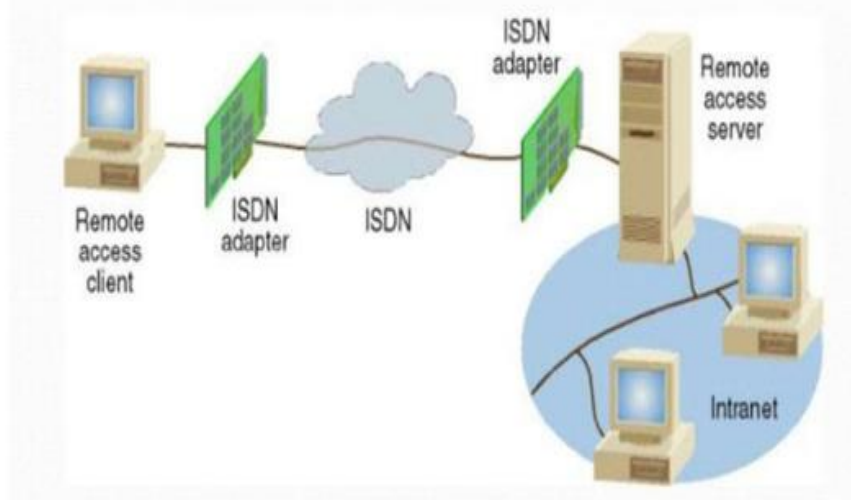
Disagreements about what was said are invariably a major problem when cases are tried. It is of prime importance, therefore, to obtain all of the necessary information on the phone. If you still feel there is any area of ambiguity, we strongly advise that you see the patient. An alternative is to have either a physician in the hospital or a licensed staff member check the patient. The critical point is that you must arrive at an accurate and totally reliable appraisal of the patient's condition either while you are on the phone or within a few minutes thereafter. Use standardized language when at all possible. The information you received, what you advised, and the orders you gave must be immediately recorded to avoid future discrepancies about what was said. This is especially important when the phone call occurs after office hours or on weekends. During office hours, take steps to resolve the caller's questions and problems. The patient's problem should be appropriately addressed and the process should be documented. Office staff should tell the caller when the physician is most likely to return his or her call and follow up to ensure that the caller's questions and problems were resolved.

ISDN: Integrated Services Digital Network

Tele-medicine sub-services backed up by a novel, open-architecture Tele-Working platform, are evaluated. This multimedia platform, developed over the

Hellenic integrated services digital network (ISDN), is based on user terminals (personal computers), networking apparatus, and a central database. The developed product equips the Hellenic PTT Organization (OTE) with a ready-to-be applied novel service that would supply future subscribers (MDs) the means to remotely collaborate in real time, exchange data on- and off-line, enhance their diagnoses, electronically fix, accept, or modify patient visits, 'build' virtual rooms to meet, etc. The platform, especially focused to implement a tele-medicine system, was tested for a period of over nine (9) months through a network of twenty-two (22) nodes situated in remote counties of Hellas

Integrated Services Digital Network



Definition of ISDN

One of these developments is ISDN, which we have recently heard about. ISDN is an abbreviation of "Integrated Services Digital Network". To explain, we can say that ISDN is a network known as State of Art which is formed by the integration of PC techniques. The quality of communication and transmission is so high that it cannot be compared with the telephone lines currently in use. There is little chance of an error on ISDN lines. ISDN provides highly secure, fast and most importantly unlimited communication. This is the most important factor in its low probability of error. ISDN combines all kinds of data from audio to video on a digital platform. It also manages to transmit this over the same line.

ISDN And Integrated

Integrated action is very important for ISDN. This concept previously made it possible to integrate digital networks, more precisely to make all networks function as one network. In later years, the concept of integrated has gained importance with ISDN. Integrated, mainly reflects digital transmission or switching processes. In order to look at the ISDN concept in a healthier way, we must first focus on the quantitative network.

Importance of Quantitative Network

The concept of a quantitative network refers to the type of network created to transmit in multiple defined point ranges. In this process, quantitative switching methods come into play. Quantitative networks are responsible for establishing the connection relationships of power plants or multiplexers quickly and smoothly. ISDN provides the transfer of quantitative signals between the parties. On the other hand, it has the task of integrating the interfaces between the network and the users.

Along with today's developing technologies, many methods are being tried to fulfil many transmissions from audio to video and provide communication. At this point, although the terminal equipment changes every period, the main purpose was the same. To ensure the fastest and safest transmission between the parties.

In the past, establishing a special network for each service was a necessity. Their maintenance and operation focus had to be established. Each of these meant separate costs. Thanks to low-cost technology like ISDN, all these loads have been eliminated.

Benefits of ISDN

ISDN, which is basically a digitally oriented communication technique, does not allow frequent error occurrences like analogue networks. As it is known, the possibility of interference is much higher in analogue type signals. However, ISDN is never exposed to such interference. ISDN first digitized analogue networks as a roadmap. As another step, it has brought together the transmission services of communication materials (telephone, computer, fax, etc.).

ISDN technology has become a necessity for today. In today's world of communication, multimedia applications have gained great importance. This type of process is going through the digitization of existing systems. ISDN-focused power plants fulfil this task in full sense.

The most exciting aspect of ISDN is that it is very open to development. Network technologies reaching global dimensions have reached a level that can respond to even high bandwidth applications. If we need to give an example of ISDN broadband application, we can show the simplest ATM switching technology. We can easily say that it will play an effective role in different multimedia transfers. Today's narrow-band ISDN is a very solid starting step for digitization processes.

ISDN can also be defined as a telecommunications network. ISDN, which has a flexible infrastructure, makes use of telephone cables. Unlike WAN services, it can operate on 4 layers of OSI. These layers can be listed as physical, data line, network and transmission layer.

ISDN Channels

There are various transmission channels in ISDN that are different from each other. It is possible to sort these channels in the form of B, D and H. These channels are used to provide end-to-end digital communication.

Channel B: It is generally used for audio and video information. In addition to being full and bidirectional, it has a bandwidth of 64 kbps. IP-like protocol packets are transmitted in this way.

Channel D: It is used to control calls that take place just before communication to ensure marking or synchronization. Two independent subscribers call before the connection. As soon as the other party accepts the call, the session starts. In this way, the communication network flows over the D channel.

Channel H: There is a much larger bandwidth than channel B. It plays an important role in ensuring a transparent path. The H channel is also divided into 4 different types. A full and bidirectional mode is actively working.

Pros and Cons of ISDN

1. ISDN can move more information more quickly than an analog-based system.

2. Modems, which use analog signals, have pretty much reached their speed limit with the 28.8kbps high speed modems we have today. And, as we all know, you can't use your phone and have your modem turned on.
3. ISDN, however, offers transmission speeds of 64kbps and can carry two "conversations" at the same time (sometimes three, depending on how one wants to count these things). So if you have an ISDN connection, you can order Chinese food and "surf the net" at the same time; and you can do it all at high speed.
4. Additionally, in 90% of the cases the existing telephone lines can be used for ISDN. ISDN technology simply takes the twisted-pair copper cable that we have been receiving phone calls over and converts it into three channels--two B channels to carry "conversations" and one D channel to carry set-up information. So, for most of us ISDN service is already available.
5. The only real down side to ISDN is economic, because ISDN service can be expensive. But if you value your time and your access level, it may very well be worth the money

ISDN

ISDN provides a fully integrated digital service to users. These services fall into 3 categories- bearer services, teleservices and supplementary services – Transfer of information (voice, data and video) between users without the network manipulating the content of that information is provided by the bearer network. There is no need for the network to process the information and therefore does not change the content. Bearer services belong to the first three layers of the OSI model. They are well defined in the ISDN standard. They can be provided using circuit-switched, packet-switched, frame-switched, or cell-switched networks.

Teleservices

In this the network may change or process the contents of the data. These services corresponds to layers 4-7 of the OSI model. Teleservices rely on the facilities of the bearer services and are designed to accommodate complex user needs. The user need not to be aware of the details of the process. Teleservices include telephony, teletex, telefax, videotex, telex and teleconferencing. Though the ISDN defines these services by name yet they have not yet become standards.

Supplementary Service

Additional functionality to the bearer services and teleservices are provided by supplementary services. Reverse charging, call waiting, and message handling are examples of supplementary services which are all familiar with today's telephone company services.

Principle of ISDN:

The ISDN works based on the standards defined by ITU-T (formerly CCITT). The Telecommunication Standardization Sector (ITU-T) coordinates standards for telecommunications on behalf of the International Telecommunication Union (ITU) and is based in Geneva, Switzerland. The various principles of ISDN as per ITU-T recommendation are:

- To support switched and non-switched applications
- To support voice and non-voice applications
- Reliance on 64-kbps connections
- Intelligence in the network
- Layered protocol architecture
- Variety of configurations

Public Address and Piped Music:

When a large gathering of people is to be addressed, the sound must be amplified so that people away from the stage can listen to it comfortably. This type of system is called as Public Address system or P.A. system.

FUNCTIONS OF DIFFERENT BLOCKS Microphone: It converts sound to an equivalent electrical signal. Generally two or three microphones can be connected plus one auxiliary input for tape is also provided.

Simple PA systems are often used in small venues such as school auditoriums, churches, and small bars. PA systems with many speakers are widely used to make announcements in public, institutional and commercial buildings and locations—such as [schools](#), [stadiums](#), and passenger vessels and aircraft. [Intercom](#) systems, installed in many buildings, have both speakers throughout a building, and microphones in many rooms so occupants can respond to announcements. PA and Intercom systems are commonly used as part of an [emergency communication system](#).

The term [sound reinforcement system](#) generally means a PA system used specifically for live music or other performances.^[1] In Britain any PA system is sometimes colloquially referred to as a [Tannoy](#), after the company of that name, now owned by [TC Electronic Group](#), which supplied a great many of the PA systems used previously in Britain

Public address systems consist of input sources (microphones, sound playback devices, etc.), amplifiers, control and monitoring equipment (e.g., LED indicator lights, VU meters, headphones), and loudspeakers. Usual input includes microphones for speech or singing, direct inputs from musical instruments, and a recorded sound playback device. In non-performance applications, there may be a system that operators or automated equipment uses to select from a number of standard prerecorded messages. These input sources feed into preamplifiers and signal routers that direct the audio signal to selected zones of a facility (e.g., only to one section of a school). The preamplified signals then pass into the amplifiers. Depending on local practices, these amplifiers usually amplify the audio signals to 50V, 70V, or 100V speaker line level. Control equipment monitors the amplifiers and speaker lines for faults before it reaches the loudspeakers. This control equipment is also used to separate zones in a PA system. The loudspeaker converts electrical signals into sound.

Hospital PA System for Instant Voice Messaging and Emergency Notifications

- Provide voice paging and instant messaging throughout your facility, regardless of size
- Send emergency notifications quickly and easily from a main console or over the phone
- Enhance safety with automated weather alert messaging and emergency panic button stations
- Easy system expansion, relocation and cost-effective wireless installation
- Add wireless LED message boards, dome lights and alphanumeric paging to improve safety and efficiency

Visiplex offers turnkey wireless, in-house, hospital PA system that is specially designed for medical centers, hospitals, rehab facilities and nursing homes for improved safety and efficiency. Using wireless, indoor/outdoor PA speakers, the

Visiplex hospital PA system can provide overhead voice messaging for daily announcements as well as voice notification alerts during a variety of emergency situations. In the event of an emergency, the system can instantly issue a pre-

recorded or live voice instructions telling staff, patients and visitors what happened and instruct them how to behave.

In addition this wireless PA system system comes with integration capabilities to the current nurse call system, to provide instant, facility-wide text messaging to doctors and nurses pagers, in situation such as Code Red or Blue and for daily personal messaging.

Each Hospital PA paging system offers additional wireless features such as: Text messaging to LED message boards, remote activation of corridor Dome Lights, clock time synchronization, and more.

PA OVER IP

PA over IP refers to PA paging and intercom systems that use an Internet Protocol (IP) network, instead of a central amplifier, to distribute the audio signal to paging locations across a building or campus, or anywhere else in the reach of the IP network, including the Internet. Network-attached amplifiers and intercom units are used to provide the communication function. At the transmission end, a computer application transmits a digital audio stream via the local area network, using audio from the computer's sound card inputs or from stored audio recordings. At the receiving end, either specialized intercom modules (sometimes known as IP speakers) receive these network transmissions and reproduce the analog audio signal. These are small, specialized network appliances addressable by an IP address, just like any other computer on the network

SMALL VENUE SYSTEMS

Small clubs, bars and coffeehouses use a fairly simple set-up, with front of house speaker cabinets (and subwoofers, in some cases) aimed at the audience, and monitor speaker cabinets aimed back at the performers so they can hear their vocals and instruments. In many cases, front of house speakers is elevated, either by mounting them on poles or by "flying" them

from anchors in the ceiling. The Front of House speakers are elevated to prevent the sound from being absorbed by the first few rows of audience members. The subwoofers do not need to be elevated, because deep bass is omnidirectional. In the smallest coffeehouses and bars, the audio mixer may be onstage so that the performers can mix their own sound levels. In larger bars, the audio mixer may be located in or behind the audience seating area, so that an audio engineer can listen to the mix and adjust the sound levels. The adjustments to the monitor speaker mix may be made by a single audio engineer using the main mixing board, or they may be made by a second audio engineer who uses a separate mixing board.

LARGE VENUE SYSTEMS

For popular music concerts, a more powerful and more complicated PA System is used to provide live sound reproduction. In a concert setting, there are typically two complete PA systems: the “main” system and the “monitor” system. Each system consists of a mixing board, sound processing equipment, amplifiers, and speakers. The microphones that are used to pick up vocals and amplifier sounds are routed through both the main and monitor systems. Audio engineers can set different sound levels

for each microphone on the main and monitor systems. For example, a backup vocalist whose voice has a low sound level in the main mix may ask for a much louder sound level through her monitor speaker, so she can hear her singing.

The “main” system (also known as Front of House, commonly abbreviated FOH), which provides the amplified sound for the audience, typically uses a number of powerful amplifiers that drive a range of large, heavy-duty loudspeakers—including low-frequency speaker cabinets called subwoofers, full-range speaker cabinets, and high-range horns. A large club may use amplifiers to provide 3000 to 5000 watts of power to the “main” speakers. An outdoor concert may use 10,000 or more watts.

The monitor system reproduces the sounds of the performance and directs them towards the onstage performers (typically using wedge-shaped monitor speaker cabinets), to help them to hear the instruments and vocals. In British English, the monitor system is referred to as the “foldback”. The monitor system in a large club may provide 500 to 1000 watts of power to several foldback speakers; at an outdoor concert, there may be several thousand watts of power going to the monitor system.

At a concert using live sound reproduction, sound engineers and technicians control the mixing boards for the “main” and “monitor” systems, adjusting tone, levels, and overall volume. Touring productions travel with relocatable large line-array PA systems, sometimes rented from an audio equipment hire company. The sound equipment moves from venue to venue along with various other equipment such as lighting and projection

CCTV:

CCTV cameras in hospitals and GP practices can be useful in helping to deter or monitor crime in public areas, but it's important to understand the confidentiality implications of having a surveillance system in place, as well as the legal obligations.

CCTV surveillance is a very effective tool in hospitals and healthcare facilities, for not only increasing security, but for quality assurance and control. CCTV cameras are useful to both patients and employees, in safeguarding against security breach, preventing dishonest claims, serve as visual and audio evidence in fraud and collusion legal cases and research analysis to improve reaction time and services. With technology advancements, today hospitals have the advantage of flexible video surveillance installations that offer numerous benefits such as space saving storage options with cloud storage, remote control and access and many more.

Monitoring the inside and outside of school premises using CCTV surveillance equipment is becoming a necessary aspect of ensuring the safety and security people, processes and property connected to a school campus. There is also an ever-increasing need to provide and reference video evidence for potential investigations.

A well-maintained system will ensure compliance with security regulations and also ensure you pass CQC inspections with flying colours. The owners, operators and managers of health care premises need evidence that their CCTV systems and processes are effective and will support the efficient running of their business

One should consider the following points when deciding on whether to opt for CCTV surveillance installation in a hospital or medical facility and which CCTV system to go for:

- Has the hospital had numerous heavy insurance claims that are difficult to prove or disprove?
- Have there been any reports of criminal activity on or around the premises?
- What are the most critical areas of the facility that you think are in need of CCTV surveillance? Why?
- Does the facility have any history of break-ins or theft?
- Have there been any disgruntled employees and staff disputes that necessitate audio/visual investigation?
- What is the current security system in place on the facility?
- Is the facility over or under staffed in terms of security personnel?
- Does the facility comprise of a cluster of building units or one main block?
- What is the structural and architectural layout of the facility?
- Is there a parking lot adjacent to or connected to the facility?
- Does the facility have a basement and rooftop terrace?

The Government's Code is intended to be used in conjunction with the [CCTV code of practice](#), which contains detailed information on what CCTV operators must do to comply with data protection law. The document has not yet been updated since the Data Protection Act 2018 came into effect, but until it is revised the same principles can be seen to apply to the new regulations.

Among these:

- CCTV should be installed for a specific purpose, such as the prevention or detection of a crime
- signs should be displayed warning patients and staff surveillance equipment has been installed

- images should not be retained for longer than strictly necessary
- recorded images should only be disclosed in limited and prescribed instances and must comply with the purpose for which the practice or hospital can process images; for example, the prevention and detection of crime
- only relevant parts of any footage should be disclosed and people unrelated to the incident should be blurred out.
Once you decide on which CCTV surveillance system is best suited to your needs, here are some pointers on setup to get you going.
- Place security cameras at all entrance and exit points of the facility and its various buildings so that you can capture visual evidence of everyone entering and leaving the premises.
- Supervise movement in hospital hallways to monitor the flow of activity and people within the facility.
- Position cameras in emergency wards, nurseries, blood banks, elevators and fire escapes.
- Keep an eye on the facility's parking lots, loading and unloading areas, and waste disposal areas.
- Control authorized access to restricted areas with CCTV cameras to only authorized users are granted access.
- Identify sensitive areas like critical care units and medical stores that need to be monitored round the clock from both inside and outside the facility.

Hospital Security Camera Benefits

Safety & Security – Security cameras installed throughout a hospital prevent crime, medical insurance claims, break-ins, and allow security operators to monitor the property for patients in trouble or unauthorized visitors in restricted areas.

Employee Productivity – CCTV cameras present throughout the property helps to improve employee communication between departments or buildings, therefore heightening productivity.

Dishonest claims – False claims can be a big problem for hospitals. Visitors and patients will sometimes falsely claim to have been injured while on hospital property, having detailed visual footage from the hospital's security cameras can help to disprove such claims. This helps to save the hospital from paying out large unwarranted insurance claims.

Employee disputes – When you have clear, detailed proof of video employee disputes can easily be resolved. Incidents in question can solve disputes quickly when using surveillance cameras. c

24hr Real-time Monitoring – Hospital cameras can be monitored or viewed from various different platforms such as PC, Mac, iPhone, and Android. Cameras no longer have to be monitored and view from one single location.

Digital HD Storage – Digital storage from security cameras has many advantages for Hospitals. Cameras systems enable the hospital to store digitally recorded footage onto digital video recorders with large capacity hard-drives. This footage can then be easily accessed by authorized users. Since the video footage is digital, searching for a specific time or date is instant and this allows for more improved searching capabilities.

Visual Evidence – When investigators need help solving an incident or crime, surveillance cameras will provide them with the visual evidence they need. Best of all your surveillance system can backup incidents directly to a USB drive, email or network drive so they may continue the investigation from there police station.

Video Monitoring – With iPad and Tablet supported digital video recorders hospital employees can easily monitor specific areas from anywhere on the local

network. Employees can even monitor their stations and hallways from another building or the floor.

Healthcare Surveillance Risks

Reliance – CCTV cameras are a very important aspect and tool for hospitals but it's crucial for hospitals to maintain a good level of physical security personnel on staff.

Privacy Concerns – Patient privacy is important and should be considered when installing security cameras. Do not install cameras in those areas considered private or in those areas where their privacy may be captured on video.

Camera Tampering – Tampering can be an issue especially when cameras are installed on low-level ceilings or hallways. A tampered with a camera can be damaged or can interrupt video from recording. We suggest you consider other security measures if you notice and interrupted signal or misaligned camera.

Medical Facilities Security Camera Configuration

There are certain factors that should be considered when deciding to install video surveillance cameras in a hospital or healthcare facility:

- Do you currently have security systems in place?
- Are you short staffed or have minimal security personnel?
- Are there multiple buildings at the hospital?
- Do you have an adjacent parking lot or structure?
- Have you experienced past criminal activity on the property?
- Have you had issues with break-ins?

- Have you had employee or visitor disputes that would have needed visual investigation?
- Has there been any insurance claims made against the hospital in the past?
- What areas are most critical and require video surveillance?
Hospital Camera Setup Advice
- Install security cameras so they may monitor and record all exit and entries of the hospital building. It's imperative to capture detailed video of those leaving and entering the premises.
- Hallways should be monitored and recorded as well. All activity from employees, visitors and patients can be visually monitored by guards and staff.
- Cameras should be installed at all fire escapes and in elevators.
- Parking garages and lots should also be monitored. This includes all loading areas.
- Restricted areas should have cameras installed to maintain that only authorized users are granted access.
- Both the exterior and interior of the hospital should have cameras installed.

Security –Fire Safety:

Fire safety is an important norm that needs to be considered during the construction of a hospital. Compared to the general buildings, it is a tough task to evacuate the people from the hospitals. It is unfortunate there are still a few hospitals in which the fire safety is still the words written on the water surface.

The hospital training and learning arm to blame that most of the hospital staff do not have awareness of fire safety and the steps that need to be employed in the face of calamity. And, the highly dependent and immovable patients make it a difficult task to evacuate the hospital building in a rush.

Hospitals and other healthcare facilities need to focus more on the easy and safe evacuation methods. The healthcare practices are responsible for the safety and security of the people inside the hospital and they are expected to adhere to the legally approved fire safety measures.

The Emergency Management Plan (EMP) should be kept current so that it stands the unexpected occurrence of a fire in a hospital. Here are a few fire safety measures of a hospital that are proven to be effective.

- **A Detailed Action Plan** – The fire accidents leave no room for thinking. With a detailed action plan that has answers to all questions and needs will save time for thinking and help you to react instantly in the right way. Involve all the departments of the hospital in the brief of this action plan.
- **Establish the Incident Command Structure** – Communication has vital importance in reducing the damage caused by a fire accident. Establish a functional incident command structure that has groups and subgroups. These groups and subgroups form a tree of communication and follow the instruction of the group leader.
- **Instructions for a Fire Safety Management Team** – Involving the Fire Safety Management team in the [hospital planning](#) and opening the gates of communication with this team well advance will reduce the damage caused by the fire accident. Keep the communication loop always open with the Fire Safety Management team will keep the damage to a minimum.
- **Fire Safety Evacuation Aids** – Hospital evacuation is a challenging task and the fire safety evacuation aids will help you in this regard. There are many types of evacuation aids available in today's market. Equip your hospital with evacuation mats and sheet that could hold the patient firmly while sliding to a safer location.
- **Fire Fighting Equipment in Check** – The firefighting equipment that includes smoke detectors, fire alarms, emergency exit signals, fire extinguishers and other fire fighting equipment should always be in check. Conduct a performance check while doing the fire drills to ensure the responsive in the face of a danger.
- **Mock Drills and Fire Safety Training** – This aspect has vital importance in reducing the damage and saving lives during a fire accident. Ensure all your staff members are undergoing the fire safety training programs and participating in the mock drills. This not only creates a responsive and reliable team in case of a fire but also establishes a safe and secured atmosphere that prevents fire accidents.

An ounce of prevention is worth a pound of cure! List down the hazards that could lead to fire accidents and keep the system aware of the fire hazards and their preventive methods.

With all the oxygen cylinders and electronic equipment, hospitals always carry a high-risk badge for fire accidents. Ensure your whole system is involved in fire prevention by taking measures of fire prevention, ensuring the fire safety equipment is intact and functional, staff who have undergone the fire safety training and are reliable during an emergency.

Architect & Layout Planner:

While planning the layout, care should be taken to design the building such that there is sufficient open space around the building to minimize fire spread possibilities from or to neighboring structures. Also there should be enough space for movement and parking of fire fighting vehicles, ambulances, etc in the premises.

The design & construction of every building structure should incorporate features of prevention of fire & fire loss:

Considering the type & density of occupancy, lobbies, staircases, aisles, etc should be sufficiently wide to ensure easy movement of traffic at all times and at the same time to permit easy and orderly evacuation during emergencies.

- The design of the building structure should be so planned that it allows pressurized exclusion of smoke in case of fire or any smoke leak.
- Adequate emergency rescue aids and suitable refuge area should be incorporated in the design. The critical areas should be well protected with such measures and extra precautionary measures should be implemented in such critical areas, for e.g.: use of fireproof doors.
- Ideally a heavy-duty elevator especially for use of fire fighting personnel only & used in case of emergency only should be incorporated.

In addition to the above the planner also needs to incorporate the following:

- The building should be so designed that it can resist damages due to earthquakes to a fair extent.
- Safe & easy means of access should be provided to and in every place of work /occupancy. This should enable access to all including the disabled to move easily.
- In case of an emergency safe and rapid egress should be provided for all occupants.
- The floor should be so designed that they are free from obstructions, slip-resistant & even. Openings in floors should be securely fenced or covered
- Staircases, ramps & aisles should be provided with substantial handrails and other suitable support means to prevent slipping, wherever necessary.

- Easy access for the servicing and maintenance of plant, machinery and buildings should also be incorporated in a design.
- The "National Building Code of India, 1980 issued by the Indian Standards Institution serves as an excellent references to safety management for infrastructures.
- The Tariff Advisory Committee Of the General Insurance Industry & The Metropolitan City Government Authorities recognize fire hazards with large buildings and have developed rules and regulations for fire protection & fire fighting requirements in large buildings.
- Architects, layout planners, interior designers & construction authorities need to follow these rules and regulations diligently.

Interior Designer & Electrical and Engineering (Plant & Machinery) Planner:

The interior designer needs to keep in mind to incorporate the environment safety measures, the clean green ambience & comfort levels for the occupants of the infrastructure especially the patients here. Indicators like adequate natural light, fresh air and color therapy need to be considered in such designs. The designs should be such that there is minimal use of combustible materials. The designs should use plenty of good quality fire retardant material for furnishing & decoration purposes. Appropriate waste management systems also need to be designed to prevent accidents due to hazardous waste.

- For electrical wiring designs and plant & machinery designs:
- The electrical wiring could be enclosed in metal/ heavy gauge screwed conduits.
- The cable passing from one floor to the other should be suggestively sealed off effectively to minimize fire-spread possibilities.
- A master control switch for each floor should be located at the ground floor for easy switching off of systems in case of emergency.
- It is highly advisable to use individual air conditioning or space heating systems for each floor in large buildings. However in case of centralized systems that we generally use in hospital infrastructures; care should be taken to provide appropriate automatic fire dampers for each
 - floor in the common ducting system.
- Proper cooling facilities to dissipate heat should be provided for over heated equipments/ plants/ machinery.
- Boilers, Plant rooms, Freezers, manholes and similar confined spaces should have effective means to ensure safe access & exits.
- All equipments should be bonded and earthed properly to dissipate the static charges to the earth.

- Incorporate totally enclosed switchgear systems/ miniature circuit breakers instead of ordinary fuses.
- Always an emergency power supply arrangements need to be designed & incorporated in case of total system switch-offs during emergency.
- Appropriate fire fighting equipments, fire detection, smoke & heat detection alarms should be incorporated in the design.
- The fire fighting equipments should be planned as per quality standards & norms.

Safety Practices:

- Finally after taking adequate precautionary measures in the conceptual & design stage itself there is a need to implement safety measures & protocols in the infrastructure:
- Prepare a guideline manual to be followed by all the staff for prevention & precautions against fire & related accidents.
- A manual stating actions/steps to be taken in case of emergencies should be effectively designed and followed stringently by all.
- The staff should be trained to handle such emergencies & chaotic situations.
- The organization should call for regular safety audits & drills so as to train the staff effectively.
- The fire audit survey should be conducted as per standard norms and the changes if any should be implemented diligently.
- Appropriate delegations of tasks should be implemented for safety management protocols.
- Preferably a head/supervisor should be designated to look into the safety measures of any infrastructure.

Alarm system:

Hospital Alarm fatigue has been identified as the top technology hazard for healthcare organizations¹ and is the subject of the Joint Commission's National Patient Safety Goals on Alarm System Management.

With our comprehensive hospital alarm fatigue management solutions and consulting services, your caregivers can get the right information at the right time for targeted care.

The problem of alarm management has become so widespread that as of December 2013, The Joint Commission introduced it as a National Patient Safety Goal (NPSG). The Joint Commission now requires its accredited hospitals to improve their alarm systems, aiming to alleviate the constant barrage of bells and whistles that are often the hallmark of a hospital stay for patients and that contribute to hospital alarm fatigue for healthcare workers. With alarms poised in first place on ECRI's "Top 10 Health Technology Hazards" list for the fourth consecutive year, the issue of alarm management is one that is critical to patient safety for healthcare organizations.

The right systems, together with the right policies, augment your workflow to support clinical decision-making. Our alarm system management solutions contain features designed to facilitate care, improve workflow and reduce hospital alarm fatigue.

Our hospital alarm management solution is an end-to-end solution designed to help you manage alarms and reduce fatigue, while providing the information you need, when you need it, to categorize, distribute and respond—virtually wherever you are.

"If it doesn't mean anything, then why is it going off?" This concern is all too common. Patients want to know that care providers are focused on what is important and relevant to their care and recovery. Our hospital alarm systems management solutions help you gain back patient trust by helping you manage and reduce non-actionable alarms.

Increase Safety

Even when you appoint security guards, there might be times where they won't be able to provide protection 24/7 everywhere. With alarm systems in the hospital, you can get constant protection round-the-clock against burglars or emergency cases. For instance, a [glass break detector](#) can notify the security guards about the break-ins and take quick actions against it.

Strong Deterrent

With so much footwork in the hospitals, it's difficult for the security guards to keep track of every person in the building and provide protection to the patients and the staff. When you have burglar alarm systems installed, you are at a lesser risk of being targeted by intruders and burglars. When the infiltrators find out that

you have installed an alarm system, they are persuaded to move away from the property. If they still won't, the sound of the alarm systems is enough to scare them away.

Easy to Install with Wireless

There are two types of alarm systems – wired and wireless. With the help of the wireless alarm systems, you can easily install the alarm systems at any place where you want it. Wireless alarm systems are effective when there is a power cut. So, if you are worried that the alarm might turn off during power-cuts or battery replacement, you may choose wired or wireless alarm systems accordingly.

Easy Upgrades

Wireless systems are modern alarm systems offering flexibility with their hardware counterparts. If the alarm system or its components are broken or outdated, you can easily replace them with new ones without too much trouble.

Notifies the Authorities

Alarm systems in the hospitals can be programmed in a way to inform the authorities of the premises or to the respective authorities. During the times of emergencies, like fire, intruders, terrorist attacks, the alarms systems can notify the authorities to respectively. You can even use special alarm systems such as magnetic beam detector, electric current alarms, or even glass break detectors. There are alarm systems that can also be controlled via remote or using a smartphone app as well.

Many hospitals are taking healthcare security very serious. It is crucial to provide safety and security to the people on the premises.

Safety rules:

1. **Prevent central line-associated blood stream infections.** Be vigilant preventing central line-associated blood stream infections by taking five steps every time a central venous catheter is inserted: wash your hands, use full-barrier precautions, clean the skin with chlorhexidine, avoid femoral lines, and remove unnecessary lines. Taking these steps consistently reduced this type of deadly health care-associated infection to zero in a study at more than 100 large and small hospitals.
2. **Re-engineer hospital discharges.** Reduce potentially preventable readmissions by assigning a staff member to work closely with patients and

other staff to reconcile medications and schedule necessary followup medical appointments. Create a simple, easy-to-understand discharge plan for each patient that contains a medication schedule, a record of all upcoming medical appointments, and names and phone numbers of whom to call if a problem arises. AHRQ-funded research shows that taking these steps can help reduce potentially preventable readmissions by 30 percent.

3. **Prevent venous thromboembolism.** Eliminate hospital-acquired venous thromboembolism (VTE), the most common cause of preventable hospital deaths, by using an evidence-based guide to create a VTE protocol. This free guide explains how to take essential first steps, lay out the evidence and identify best practices, analyze care delivery, track performance with metrics, layer interventions, and continue to improve.
4. **Educate patients about using blood thinners safely.** Patients who have had surgery often leave the hospital with a new prescription for a blood thinner, such as warfarin brand name: Coumadin®), to keep them from developing dangerous blood clots. However, if used incorrectly, blood thinners can cause uncontrollable bleeding and are among the top causes of adverse drug events. A free 10-minute patient education video and companion 24-page booklet, both in English and Spanish, help patients understand what to expect when taking these medicines.
5. **Limit shift durations for medical residents and other hospital staff if possible.** Evidence shows that acute and chronically fatigued medical residents are more likely to make mistakes. Ensure that residents get ample sleep and adhere to 80-hour workweek limits. Residents who work 30-hour shifts should only treat patients for up to 16 hours and should have a 5-hour protected sleep period between 10 p.m. and 8 a.m.ⁱⁱⁱ*Resident Duty Hours:*
6. **Consider working with a Patient Safety Organization.** Report and share patient safety information with Patient Safety Organizations (PSOs) to help others avoid preventable errors. By providing both privilege and confidentiality, PSOs create a secure environment where clinicians and health care organizations can use common formats to collect, aggregate, and analyze data that can improve quality by identifying and reducing the risks and hazards associated with patient care..
7. **Use good hospital design principles.** Follow evidence-based principles for hospital design to improve patient safety and quality. Prevent patient falls by providing well-designed patient rooms and bathrooms and creating decentralized nurses' stations that allow easy access to patients. Reduce infections by offering singlebed rooms, improving air filtration systems, and providing multiple convenient locations for hand washing. Prevent

medication errors by offering pharmacists well-lit, quiet, private spaces so they can fill prescriptions without distractions.

8. **Measure your hospital's patient safety culture.** Survey hospital staff to assess your facility's patient safety culture. AHRQ's free *Hospital Survey on Patient Safety Culture* and related materials are designed to provide tools for improving the patient safety culture, evaluating the impact of interventions, and tracking changes over time. If your health system includes nursing homes or ambulatory care medical groups, share culture surveys customized for those settings..
9. **Build better teams and rapid response systems.** Train hospital staff to communicate effectively as a team. A free, customizable toolkit called TeamSTEPPS™, which stands for Team Strategies and Tools to Enhance Performance and Patient Safety, provides evidence-based techniques for promoting effective communication and other teamwork skills among staff in various units or as part of rapid response teams. Materials can be tailored to any health care setting, from emergency departments to ambulatory clinics. A free 2 ½-day train-the-trainer course is currently being offered in five locations nationwide. Ordering information for the TeamSTEPPS Multimedia Resource Kit
10. **Insert chest tubes safely.** Remember UWET when inserting chest tubes. The easy-to-remember mnemonic is based on a universal protocol from the Joint Commission and stands for: **U**niversal Precautions (achieved by using sterile cap, mask, gown, and gloves); **W**ider skin prep; **E**xtensive draping; and **T**ray positioning. A free 11-minute DVD provides video excerpts of 50 actual chest tube insertions to illustrate problems that can occur during the procedure.