MEDICAL RECORDS MANAGEMENT IN EYE CARE SERVICES

– A PRACTICAL GUIDE

TECSS

Training in Eye Care Support Services Series

ARAVIND EYE CARE SYSTEM

The Training in Ophthalmic Assisting Series and Training in Eye Care Support Services Series were born from the vision and inspiration of one very special man, Dr. G. Venkataswamy, founder of Aravind Eye Hospitals and guiding light in the world of eye care and community ophthalmology.

We dedicate this effort to him.

Intelligence and capability are not enough. There must also be the joy of doing something beautiful. Being of service to God and humanity means going well beyond the sophistication of the best technology, to the humble demonstration of courtesy and compassion to each patient.

- Dr. G. Venkataswamy

Training in Eye Care Support Services Series (TECSS)

Aravind Eye Care system provides this material for educational and illustrative purposes only. It is not intended to represent the only or best method or procedure in the respective support services. It is the responsibility of the hospital management to determine applicability of each process and to use them in their hospital according to the prevalence of local law.

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This series of modules can be improved with your help. If you have ideas or suggestions for ways the TECSSS could meet your needs, please write to Aravind Communications, C/O Aravind Eye Hospitals or email to communications@aravind.org. We welcome your comments and experiences.

Foreword

The discipline of eye care requires a number of appropriately trained personnel working as a team to deliver comprehensive eye care. The services that are delivered must include the promotion of eye health, the preservation of sight and the prevention of vision loss, restoration of sight when it is lost, the enhancement of vision and functional vision, where feasible and facilitation of rehabilitation through vision substitution. Various cadres of trained personnel, with complementary skills contribute to the work of the team.

In an ideal world, with infinite resources there would be a temptation to use the most highly trained personnel to carry out these tasks. This is neither appropriate nor cost effective, given that human resources for health care comprise the most expensive component of the recurring health budget.

It has been possible to select, train and deploy different cadres of human resources, to carry out tasks in a safe and effective manner to help achieve the goal of eliminating avoidable blindness. One of such cadres is variously referred to as Ophthalmic Assistants, mid level personnel or by their primary functions, such as Nurses, Refractionists etc. Where they exist and function in a stipulated manner, it is acknowledged that they constitute an effective backbone for eye care services. However a critical element to their success lies in the adequacy and appropriateness of the training imparted to them.

There have been several training programmes put in place around the world to train such mid-level personnel depending on the one hand, on the human resource needs for eye care in the country, and the local human resource policies, rules and regulations, on the other.

The Aravind Eye Care System, over the years has developed a cadre of Ophthalmic Assistants who have specific job descriptions. To enable them to perform effectively as part of the eye care team, their training has been task oriented with defined requisite knowledge, skills, competencies and attitudes, to carry out the tasks.

This manual sets out in several sections a step by step method for imparting such task oriented training through didactic, hands on and practical training in real life situations. The sections relate to tasks required of such personnel in different settings in the eye care delivery system such as the out-patient department (general and specialist clinics), wards, operating rooms, optical departments etc. Considerable emphasis has been paid to diagnostic technology, which is increasingly a part of the armamentarium in eye care practice.

Finally the manuals include sections for self assessment as well as for continuing monitoring of the achievements of task oriented objectives. The manual lends itself to translation into local languages where required proficiency in English may not exist. The Human resource Development team at Aravind Eye Care System need to be complimented on their efforts to share there wide and successful experience in this field with others who are already involved in or are planning to venture into such training programmes, particularly in the context of VISION 2020: the Right to Sight.

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Preface

In recent years there have been significant advances in eye care, both in technology and in the increasing resolution to address the scourge of needless blindness. Achievements in medical technology have vastly improved diagnosis, treatment and surgery in all aspects of eye care, and efforts like the global initiative "VISION 2020: The Right to Sight" -- which calls for the elimination of avoidable blindness by the year 2020 -- have galvanized support for those working to improve the quality of eye care at the grassroots level around the world.

It has become increasingly evident that trained personnel is one of the most important elements in achieving this goal, and that the effective practice of eye care is a team effort that must combine the talents of ophthalmologists, ophthalmic assistants, ophthalmic technicians, orthoptists, counsellors, medical record technicians, maintenance technicians, and others.

Currently the focus in human resource development continues to be on the training of ophthalmologists. But in many successful eye hospitals it has been shown that four or five trained ophthalmic assistants are engaged to supplement and support the work of an ophthalmologist. When such assistants are used effectively by eye care centres, doctors can treat more patients in less time while still ensuring a high standard of care. It is therefore vital that more attention be paid to the structured training of other ophthalmic personnel.

Over the past three decades, Aravind Eye Hospital has developed and refined a system of structured training programmes for ophthalmic assistants and support services personnel. These series were created to bring together the lessons we have learned over the years, and to share our insights with other eye care programmes and the community at large.

Dr. G. Natchiar
Vice-Chairman, Aravind Eye Care System

Blindness Prevalence

World wide it is estimated that at least 38 million people are blind and that an additional 110 million have severely impaired vision. In all, about 150 million people are visually disabled in the world today, and the number is steadily increasing because of population growth and aging. Overall, the data shows that more than 90% of all blind people live in developing countries and that more than two-thirds of all blindness is avoidable (either preventable or curable). Unfortunately, little information is available on the incidence of blindness around the world; it seems probable, however, that there are some 7 million new cases of blindness each year and that despite every intervention, blindness in the world is still increasing by 1 to 2 million cases a year. Thus, trend assessment points to a doubling of world blindness by the year 2020 unless more aggressive intervention is undertaken.

A major cause of preventable blindness is cataract. Presently, an estimated 7 million cataracts are operated on each year. There is a backlog of 16 million cases that have not yet been operated on. If this backlog is to be eliminated in the next two decades…a staggering 32 million cataract operations must be performed annually by the year 2020.

In addition, there must be an improvement in technology because more than 50% of cataract surgeries in the least developed countries today are still performed without intraocular lens implantation. Thus, most of the developing countries need more surgery facilities, supplies and equipment, and an increased number of trained surgeons. Furthermore, particularly in sub-Saharan Africa, India, China and other parts of Asia, the volume of cataract surgeries must increase greatly. Although considerable progress is being made in some of these countries, the provision of good quality, affordable cataract surgery to all those in need will nevertheless remain the main challenge for ophthalmology world wide for many years to come.

An important aspect of combating cataract blindness is human resource development. To increase the efficiency of ophthalmologists in clinical work, further training of support staff such as paramedical ophthalmic assistants, ophthalmic nurses and refractionists is essential.

Introduction

Eye care in the past three decades has grown with complexity and many divisions. The core product being offered in eye hospital is clinical care; however clinical care by itself is not complete unless it is enhanced by supportive services. This includes services such as housekeeping, medical records, optical dispensing and delivery.

Housekeeping services are of paramount importance in providing a safe, clean, pleasant, orderly and functional environment for both patients and hospital personnel. The medical record department helps in rendering good service to patients, medical staff and hospital administration. Optical delivery and dispensing department helps in timely delivery of glass prescription to patient making an impact in their vision. Training people in these cadres make vital contributions to the achievement of high quality, high volume and financially sustaining eye care in large volume setting.

The Aravind Model of Medical Records Assistant Training

Every multi specialty hospital is in need of Medical Records Technicians to manage the medical records department. But, for a single specialty hospital, it is very difficult to get medical records technician to manage the department. In order to overcome this difficulty, Aravind Eye Hospital has taken up a task of training the higher secondary school passed students for a period of two years to undergo training in the management of medical records. These students are trained under the supervision of a qualified medical records technician who conduct classes and expose them for a practical training program in the management of medical records. In addition these candidates are given training in basic knowledge in data entry. They also undergo basic classes in ophthalmology regarding various common eye diseases. After successful completion of the two years training, they are inducted as "Medical Records Assistant" to manage the medical records department.

Medical Records Management in Eye Care Services - A Practical Guide

This manual intends to provide answers, both generic and specific. It will provide guidelines to those who have yet to establish a medical records department and will aid those who require information on how to improve their current system.

The Medical Record Manual can help with any of the following:

1. How to streamline the Medical Records system in a specialty hospital

2. The need and uses of Medical Records

3. Guidelines on how to become a model Medical Records staff member

4. Effective techniques in planning, organizing, developing and administering of Medical Records

5. How to discuss and evaluate efficacious medical record methods

6. To furnish directives for the protection of medico legal interests concerning health records and for the protection of consumer cases.

7. Learning the International Classification of Diseases codes

8. To outline effective problem solving techniques in Medical Records

9. How to use computers for medical records and prepare statistical reports

About Training in Eye Care Support Services Series (TECSSS)

The Training in Eye Care Support Services Series (TECSSS) responds to the desire of many organisations and institutions around the world to train support services personnel to provide high quality and high volume eye care.

The Training in Eye Care Support Series is a set of manuals explaining the principles and techniques for the effective procedures to be followed by the support services personnel.

Each module is based on the practices of Aravind Eye Hospitals in South India.

The intent of this series is to provide a format for Training in Eye Care Support Services based on Aravind Eye Hospital's "best practices", based on over 30 years of growing, changing, and learning from mistakes.

The three modules of TECSSS

1. **Housekeeping in Eye Care Services - A practical guide :** The invisible "bottomline" for patient safety and satisfaction. Cleanliness, appearance, maintenance, attitude are all essential for the entire hospital and OPD. Duties, responsiblities and specific tasks are covered.

2. **Medical Records Management in Eye Care Services - A practical guide** : A complete guide to establishing and running an efficient medical records department: information retrieval, generating statistics, personnel requirements, importance of accuracy.

3. **Optical Sales and Dispensing - A practical guide :** This gives clear guidance about the various spectacle lenses and frames, how to fit the lens into frame, the technical measurement and sales procedure.

About the Ophthalmic Assistant Training Series (OATS)

The Ophthalmic Assistant Training Series responds to the desire of many organisations and institutions around the world to provide high quality and high volume eye care.

The contribution of the ophthalmic assistants to this work is fundamental.

The Ophthalmic Assistant Training Series is a set of manuals explaining the principles and techniques for increasing high quality and high volume eye care through the use of paramedical staff.

Each module is based on the practices of Aravind Eye Hospitals in South India.

The intent of this series is to provide a format for Ophthalmic Assistant Training based on Aravind Eye Hospitals' "best practices", based on over 30 years of growing, changing, and learning from mistakes.

The five modules of OATS

1. **Introduction to Basics of Ophthalmic Assisting** : This is the foundation of the entire Ophthalmic Assistant Training. All the trainees are given general knowledge and training for the fundamentals necessary for their duties, as well as specific information about all activities required in their work.

2. **Handbook for Clinical Ophthalmic Assistants, Principles & Techniques of Clinical Ophthalmic Procedures:** Out-patient Department (OPD): This includes theory and practice of initial patient evaluations. An introduction to refraction is presented as well as steps for assisting the doctor.

Ward: This contains all the information necessary for the smooth running of a Ward. Pre and post operative procedures and patient instructions, as well as management of emergency and post operative complications are discussed. Ward set-up and management and laboratory functions are covered.

3. **Handbook for Surgical Ophthalmic Assistants (Operation Room Services)**: Contains background and practical steps to the smooth running of a sterile theatre. Personnel requirements, roles and duties of theatre personnel including management of emergencies and medications, and assisting in specific procedures are detailed.

4. **A text book on Optics and Refraction:** All aspects of refractions are covered, including step- by step instruction for subjective and objective refraction, room set up, and equipment required. All types of refractive errors are described as well as the methods of assessing them. The theories and practice of visual fields, ultrasonography, contact lens fitting, low vision aids and optical dispensing are included.

5. **Role of Counselling in Eye Care Services - A practical guide :** Helping patients help themselves. The importance and types of patient interaction are discussed in detail. Basics of communication and specific examples are presented.

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Training in Eye Care Support Services Series

Acknowledgements

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CONTENTS

CHAPTER 1   EVOLUTION OF MEDICAL RECORDS, DEVELOPMENT AND ITS IMPORTANCE

CONTENTS

History
Development of medical records
Uses of medical records
Value of the medical records
- For patient
- For hospitals
- For the physician
- For scientific research and teaching

GOAL

To enable the medical records assistant to understand the history of the development of medical records and also the importance and values of medical records

OBJECTIVES

The medical records assistant will be able to
- Understand the importance of Medical Records develpmental history
- Understand the values of Medical Records to patients, hospital, and physician and for scientific research and teaching
- Know the uses of Medical Records in legal matters, continuity of treatment and to assess the quality of treatment

Evolution of Medical Records, development and its importance

History

The history of medical records runs parallel with the history of medicine. Records are as necessary for the practice of medicine as medications are for effective treatment and they can be traced back to ancient times. The earliest records were primitive in form and very different from present medical records, but they served to record medical achievements for later generations. As time went on, medical records became more detailed and in Egypt, Greece and Rome physicians wrote important medical and surgical treatises.

I. Egyptian period

It is characteristic of earliest historical times that great achievements by men were ascribed to a god. In Egypt, mediating power between god and evil furnishes a good example of this.

The first real physician of record in Egypt is Imhotep. He lived in the Pyramid Age and was a grand vizier, chief architect, and royal medical adviser to a pharaoh of the twenty-ninth century before Christ.

II. Greek period

Greek medicine was not purely Grecian, but was influenced by contributions from older civilisations, especially those of Egypt, Babylonia, and Assyria.

- This in no way reduces the credit to the Greeks for introducing the scientific spirit into the art of healing, but merely indicates the various sources from which they were able to draw information

Both the Greeks and Romans with the Egyptian Imhotep, as was said previously, equated Aesculapius. He is probably the most venerated physician of all times. As with Imhotep, it will probably never be definitely established whether he was a man or myth

However, there is evidence of such a Physician who was widely recognized throughout Greece, and even in Egypt. He is credited with curing many who were so ill that they not expected to survive

It was on the Greek island of Cos near Asia Minor that Hippocrates, known as the "Father of Medicine", was born about 460 B.C. As his forefathers had done before him, he drew the rudiments of his medical knowledge from the reports of cases collected in the Aesculapium at Cos

In the nineteenth century, the famous Massachusetts General Hospital, Boston, Massachusetts, was opened. It has the distinction of having a complete file of clinical records, with all cases catalogued; dating from the day it was opened

- Before the end of the year 1897 a librarian had been employed and the care of clinical records, including their cataloguing became a part of her work. This hospital seems to be the first to have had a medical record librarian. She was Mrs. Grace Whiting Myers who was the first president of the association of Record Librarians of North America and honorary president of the American medical record Association

- The first hospital records written in ink are legible to this day. Hospitals were keeping records as a fashion prior to the twentieth century; it was not until the beginning of this era that medical records received serious attention by other types of hospitals, and especially by medical and hospital associations

In 1905 the physicians themselves began to give some thought to the value and necessity of adequate medical records

The history of medical records, from the earliest beginnings to the present time, has continued unbroken, even though greater progress has been made in some periods than in others

The greatest improvement began with the inauguration of the hospital standardisation movement in 1918, and new gains were made after organisations of the medical record workers and implementation of the medicare regulations

Development of medical records

The skills of many medical and allied health specialists are required to provide complete care to the patient. The team consists of physicians, nurses and numerous allied health personnel.

They inform and advise each other through their entries in the records about their findings, observations, opinions and treatment of the patient.

Good medical care generally means a good medical record, while an inadequate medical record may reflect poor medical care.

Medical records store information concerning the patient and his care. To be complete, the medical record must contain all relevant details to clearly identify the patient, to support the diagnosis, to justify the treatment, and to record the results accurately.

A written medical record must be maintained on every person who has been admitted to hospital or other health care facility. This may be an out-patient, in-patient or emergency patient.

The medical record usually begins in the patient registration area with the patient's registration. It is there that the essential identification data and other necessary information are obtained.

This new record usually accompanies the patient to the vision room. The attending physician and his co-workers add their notes.

These include the patient's complaints regarding the onset and course of present illness, his personal/family history, a complete report of the physical examination, and a plan for study and treatment in the hospital.

Additional reports are added as they are made. These include laboratory, X-ray reports, in-patient reports when a patient gets admitted, reports of operation as written or dictated by the surgeon, and reports of the paramedical services .

The nurses record all observations, medications, treatments and other services rendered.

The attending surgeon records the progress of the patient in the progress notes as often as necessary for an adequate report until discharge of the patient.

When the patient is discharged, the patient's care is summarised by the attending surgeon or his designee in the discharge summary, which includes the patient's condition upon discharge and pertinent instructions for care following hospitalisation.

Uses of medical records

The medical record contains information acquired in a doctor - patient relationship, which is generally considered to be confidential. The hospital is responsible for preventing access to patient's medical record by non-authorised persons from the time the medical record is initiated, during hospitalisation, as well as after discharge. Identification data unrelated to treatment are generally considered non-confidential and may be released without the consent of the patient. Release of this information, however, should be carefully screened and given out only in response to proper enquiry.

Medical records are used

- To record the patient's problem, history, and treatment given either as out-patient or in-patient
- To form a bridge between the doctors and other paramedical professionals contributing to patient care

- To give continuity in treating the patient during subsequent visits or admission
- To assist in protecting the legal interests of the patient, the hospital, and the doctors
- To provide data for any research, study or education
- To review the quality of treatment given by doctors, nurses and other paramedical professionals
- To provide data for any third party agencies connected with the patient, doctor and hospital

Value of the medical records

The content of records may not only aid in diagnosis of a specific case, but may aid in the treatment of another case, and it is also of legal value. The medical record is an orderly written report of the patient's complaints, the diagnostic findings, treatment, and end results. In total they form a clinical picture and, when completed, contain sufficient information to clearly identify the patient, to justify the diagnosis and treatment, and to record results because, "Patient forgets and records remember". "The record is of value to the patients, the hospital, the physician, and for research and teaching" (Fig.1.1).
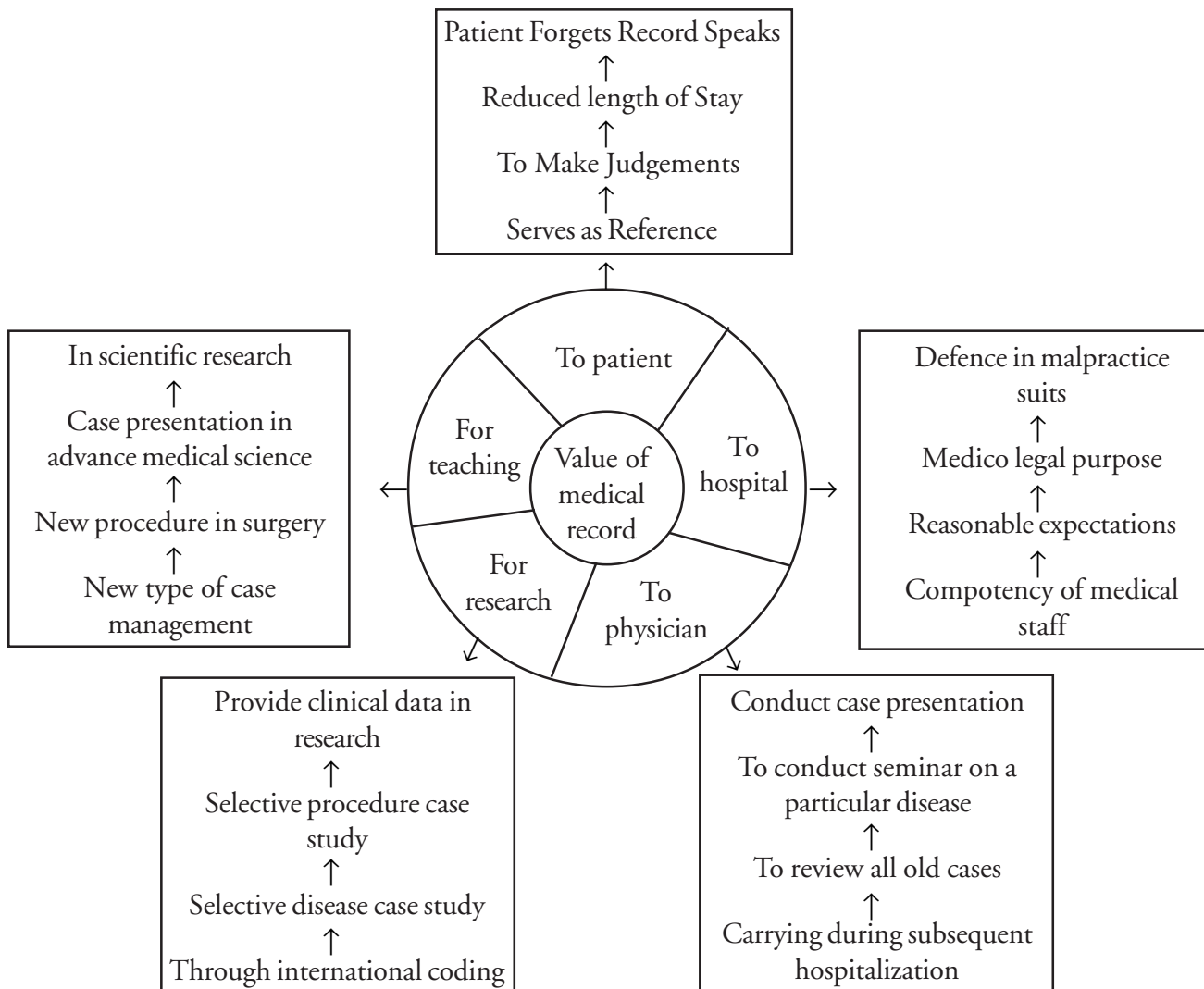
Fig. 1.1 - Value of medical records

i. For patient

- A complete report of an illness results in the accumulation of a large amount of information about the patient
- Physicians cannot be expected to remember the details of each patient's illness. Therefore, medical records serve as a reference
- When a patient requires subsequent hospitalisations with the same or another illness, and with or without a change of physician, the medical record of the previous hospitalisations will enable the physician to review and analyse the previous illness and treatment and make judgements as to the course of treatment to be followed
- With this knowledge of the patient's previous hospitalisation the physician may be able to initiate treatment without waiting for results of diagnostic tests

ii. For hospital

- The medical record is of value to the hospital in evaluating the competency of the medical staff and the end results of treatment
- Unless an accurate record is kept, neither the hospital nor the physician can justify the results of treatment

iii. For the physician

- Medical record will be useful to a physician when he needs to gather information during subsequent hospitalisation
- In addition a physician may wish to know how many times he has been called in consultation during a given period
- The hospital as well as the physician may need the record for medico legal purposes

iv. For scientific research and teaching

- In scientific research the medical record is indispensable. Case studies supply a practical and reliable source of material for the advancement of medical science
- In addition, the medical record is valuable in all teaching programs. It is a source document for medical facts related to disease, treatment, care and results
- Without the documentation of patient care found in the medical record, payment for services could not be justified

Summary

The history of medical records, from the earliest beginnings to the present time, has continued unbroken, even though greater progress has been made in some periods than in others. The mid-twentieth century brought in an era in which all medical, paramedical, and hospital associations are united in the same primary goal-to take proper care of the sick and injured. A medical record must be maintained on every person who has been admitted to the hospital as an in-patient, out-patient, or as an emergency patient. The medical record, documents the hospital experience of the patient. Other purposes are to serve as a basis for continuity in the evaluation of the patient's condition and treatment, to assist in protecting the legal interests of the patient, the hospital, and the doctors, and to provide data for use in research and education.

Key points to remember

- *The earliest records were primitive in form and very different from the present medical records, but they served to record medical achievements for later generations*
- *Mrs. Grace Whiting Myers was the first president of the association of Record Librarians of North America and honorary president of the American Medical Record Association*
- *A medical record must be maintained on every person who has been admitted to the hospital as*

an in-patient, out-patient, or as an emergency patient

- *The content of the medical record is developed as a result of the interaction of the members of the healthcare "team" who use it as a communication tool*

- *The purpose of medical records is to serve as a basis for continuity in the evaluation of the patient's condition and treatment*

- *Medical records are useful in protecting the legal interests of the patient, the hospital, and the doctors, and to provide data for use in research and education*

Teaching suggestions

- *Explain the medical records assistants to understand how medical records came into existence during the Egyptian, Greek and Greco-Roman periods*

- *Demonstrate the values of medical records to the hospital, patients, and physician through OHP presentation*

- *Show the diagnostic and surgical coding data and explain how it is useful to the hospital and third parties*

Student exercise

Answer the following

1. *Identify the following persons or organisations:*
   - *The first medical record librarian.*
   - *The first Egyptian physician of record.*
   - *The god of letters.*
   - *The "Father of Medicine."*

2. *Trace the history of medical records through the Egyptian, Greek, and Greco-Roman periods.*

3. *Identify six uses of medical records.*

4. *Discuss the value of medical record to each of the following:*
   - *The patient*
   - *The physician*
   - *The hospital*

5. *Describe the development of medical records in the hospital.*

CHAPTER 2   MEDICAL RECORDS DEPARTMENT-INTRODUCTION

CONTENTS

Enquiry counter
Qualities of medical records staff
Handling telephones

GOAL

To enable the medical record assistant to understand the importance of enquiry
counter in medical records department

OBJECTIVES

The medical record assistant will be able to:
- Understand the use of an enquiry counter in Medical Records Department
- Learn behavior, patience, good manners and, quick decision making ability
  when interacting with patients and other visitors
- Learn telephone etiquette (how to handle telephone calls)

Medical Records Department - Introduction

The hospital is a strange place for a patient. He/She may be frightened and need reassurance and guidance. The enquiry counter in the outpatient department is necessary for the patient to obtain information such as the location of various clinics and registration procedures. This should be mostly located at the entrance of the department and close to the admission, discharge and emergency services of the hospital. To avoid any disturbance, the enquiry office can be enclosed in see-through cubicles with glass-panelled walls. This arrangement enables the Enquiry counter to monitor the surrounding activity as well as be easily located by the patient. In the outpatient department of smaller hospitals, an open booth or counter will be sufficient.

Enquiry counter

During working hours of the outpatient department, the enquiry counter should not only be visibly signposted but also staffed with an experienced person. A senior medical records staff who has the knowledge of all the facilities and activities of the hospital should be available at the enquiry counter (Fig.2.1). In busy hours, the staff should be able to attend to the needs of the patients and be patient to answer the questions raised by the patients and visitors. Basic facilities like toilet, drinking water in

Fig. 2.1 - Enquiry counter

the form of a water cooler and dispenser should be kept. There should be a telephone booth and a coffee bar with snacks. The entrance should be displayed with information boards of the doctors and their departments, doctors on duty and any program going on in the hospital.

For patients who cannot walk, stretcher-trolleys or wheel chairs will be required. A place to park them should be provided at the very entrance to the outpatient department and it should be close to the entrance of the lobby.

The issue and replacement of trolleys and wheelchairs can be organised under the overall control of the patient care manager. Adequate space for the required number of stretcher-trolleys and wheelchairs should be provided. The enquiry area should have all the information pertaining to the hospital and public services. This includes information regarding facilities, costs, names of the doctors and surgeons, and duration of hospital stay, for all available treatments and problems. The medical records staff should also be knowledgeable regarding all specialty clinic details available in the hospital.

In hospitals where the patient turnover is high, there should be a computer system with information pertaining to OP and IP, there by reducing the workload of the staff. This system should be easily accessible and contain patient details such as medical records number, address, telephone number, details of past visits, and treatment particulars.

It is important that the medical record staff be informed about all meetings, seminars, and conferences that are conducted in the hospital. Since patients are likely to visit the hospital from different places, states, and countries, a travel desk is helpful for patients to reserve tickets and arrange travel and tours well in advance. It is advisable to have a list of

air, bus and train timings at the counter. Having a guide map of the city may be very helpful to assist patients in visiting their places of interest.

Qualities of a medical records Staff

Personal appearance: It is essential that every enquiry personnel should have a proper personal appearance. The Medical records staff must be particularly careful that their mouths are free from bad odors.

A high sense of personal grooming: Uniforms must be clean and neatly pressed. Hair should be groomed well and nails should be manicured. Jewellery should be restricted to one ring and a chain for ladies that denote wedded status. In short, the medical records staff must be seen at their best at all times.

Physical fitness: Enquiry operations require the staff to stand for long hours at a time. The staff must be sturdy, agile and active.

Self-confidence: Self-confidence is necessary as enquiry personnel meet patients and visitors of different countries, status and cultures. They should be comfortable and feel at ease in dealing with these people.

Communication must be correct and clear: It is preferable that medical records staff knows more than one language. It helps in communicating with patients who cannot speak English or the local language. The manner of speaking is also important. Discourteous language can provoke patients. Since senior citizens may have visual impairment or loss of hearing, the voice should be clear, polite and courteous, like

"Good Morning/Afternoon/Evening"

"May I help you, Sir / Madam?"

Remain calm in all situations: Being the nerve center of the hospital, the enquiry is constantly in touch with patients and therefore invariably encountering tremendous pressure. The patients always expect personalized priority treatment and the pressure of demand never ceases. Coupled with this are difficult patients who can be very unnerving. The enquiry staff should thus have a high degree of tolerance to pressure of work and be calm and composed at all times.

Ability to remember names and faces of regular patients: This attribute distinguishes the good from the average amongst the medical record staff. Every individual has an ego and his/her name is precious and personal to him. If the Medical records staff can call patients by their names, this immediately flatters them and personalises the patient experience. The patient begins to feel welcome as people recognise him by name.

Good manners: As the hospital is a place for patients from different states and areas, good societal manners should come into play. Patients of all status arrive for treatment in the hospital and they are used to good manners and politeness. Greeting a patient the time of the day and saying "Thank you "demonstrate basic etiquette.

Quick decision making ability: Patients often approach the enquiry desk with problems and requests. Patients like to be handled by a cheerful staff at the desk. Their smile exudes cheer to the patients and puts them at ease. Medical record reception staff must be able to quickly decide a course of action that satisfies both the patient and the interests of the organisation.

Handling telephones

The enquiry counter and medical records department should be well connected by telephone and intercom with all clinics and other important areas in the out-patient department, so record technician should be able to handle phone calls (Fig.2.2).

Fig. 2.2 - Handling Telephone

Clarity of speech: Clarity when speaking on telephones is essential. In case of doubt, the staff may repeat to the patient what he/she has already said and get it confirmed. The medical records staff speaking too fast often loses clarity of speech. Always make it a point to be attentive when receiving incoming calls and the resident patient calls. Lack of concentration may result in giving wrong numbers or transmitting wrong messages, which could be disastrous for the patient.

Concentration / application and quickness: Medical records staff have to develop absolute concentration in their work since a lack of concentration may cause delay in answering a call or prevent proper attention in answering a call. It is also important that the medical records staff apply their mind to their work and take their work seriously, as this will assist to promote patient satisfaction.

Cheerfulness: It is important for medical records staff to be alert and cheerful while handling any call. They must be aware that they are only heard and never seen, making it essential that they bring out cheerfulness in voice.

Careful and polite: It is not sufficient for a medical records staff to possess all other qualities but not being careful and polite. Carelessness on the part of a enquiry staff might result in patients getting poor service such as receiving a number not asked for or getting the wrong extension. Along with being careful the staff must be polite as well. The medical records staff is very often the first contact point with the public and the reputation of the hospital is linked with the politeness of its enquiry staff. The medical records staff must always maintain their poise and be polite to a patient even if he/she is irritating. They must do their best to be quick and while doing so, must impress the patient with politeness.

Summary

The enquiry counter in medical records department is necessary for the new and old patients to obtain information such as the location of various clinics and registration procedures. The medical records staff is very often the first contact point with the public and

the reputation of the hospital is linked with the politeness of its enquiry staff. With tremendous amount of hectic activity taking place, tempers are likely to be frayed easily. Therefore the medical records staff should be well mannered and cool- tempered with immense patience to listen and answer the patient's innumerable queries. He/She should be more knowledgeable about the location of all facilities and activities of the outpatient and inpatient department. This includes information regarding facilities, costs, names of the doctors and surgeons, and duration of hospital stay for all available treatments and problems. The enquiry counter, registration areas and medial records department should be well connected by telephone and intercom sets with all clinics and other important areas in the outpatient services.

Key points to remember

- *The enquiry counter in medical records department is indispensable to disseminate information*
- *The medical record assistant should be a role model in mannerism with immense patience to listen to a patient's innumerable queries*
- *The medical records assistant is often the first contact point with the public and the reputation of the hospital is linked with the behavior of the staff*
- *The staff should be more knowledgeable about the location of all facilities and activities of the outpatient and inpatient departments*
- *While handling and speaking over the telephone, he/she should be more attentive and should have clarity of speech*

Student exercise

Answer the following

1. *Identify the purpose of enquiry counter in medical records department.*
2. *Discuss the role of a medical records assistant in the enquiry counter.*
3. *Discuss the qualities of a medical records staff.*
4. *How you will diplomatically deal with an unnerving patient.*

CHAPTER 3   MEDICAL RECORDS DEPARTMENT – PLANNING, JOB & FUNCTION

CONTENTS

Planning the work environment
Organizational chart
Functions of the medical records department
Out-patient Service
In-patient Service
Monthly duty roasters (Schedule)
Departmental meeting

GOAL

To enable the medical records assistant to understand the planning strategy, to organize medical records and manage the department efficiently

OBJECTIVES

The medical records assistant will be able to
- Understand and plan the work environment
- Understand the department organisational chart
- Organise and develop his/her departmental activities efficiently
- Prepare monthly duty roaster for the department staff
- Coordinate with the medical records technician in conducting weekly departmental meetings

CHAPTER 3
Medical Records Department - Planning, Job & Function

The medical records department (MRD) must be organised and managed upon the concept that it exists for the benefit of the patients. The medical record department benefits the patient by being responsible for the completeness, accuracy and availability of the medical records at all times. Organising the work of the medical record department in order to attain the planned objectives should be done on the basis of the departments functions. The functions of the department are the processing of outpatient and inpatient records, retrieval, record storage, disease and procedure wise coding & indexing. In a smaller department which may have only a few workers, it is better for all the staff to be familiar with all aspects of the medical record department, so that the department functions smoothly.

A. Planning the work environment

Part of the planning function is providing medical records assistant with proper working environment. This includes planning for office space and location, office furniture and equipment, and spatial conditioning factors such as good lighting arrangements and color.

Departmental layout

Departmental layout: Proper layout of the medical record department adds to its efficiency and attractiveness (Fig.3.1). The key consideration in layout is workflow i.e.: the flow of record from desk to desk. Desks should be arranged so that, as far as possible, records move in straight lines and only a short distance at a time.

Departmental coloring: The proper use of color is another important consideration in office design. Effective use of color not only gives a good and bright appearance of an office, but also improves working
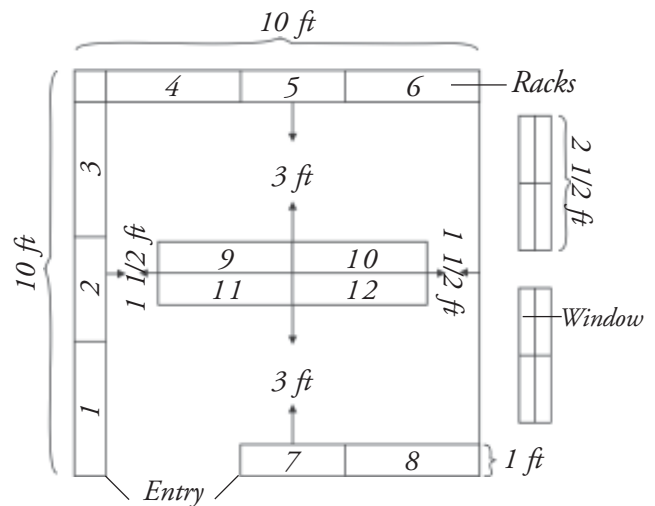
Fig. 3.1 - Layout of MRD

conditions. Psychologically color can affect human emotions, senses, and thought processes, as well as individual's ability to relax. White color will have a favorable psychological effect; others a negative effect. White color gives a lift; others can either hasten or depress mental action.

Departmental lighting: Lighting is another environmental factor, which cannot be over looked. Light sources on the ceiling can usually provide enough light for the entire office area at a prescribed level of illumination.

Location requirements

The medical record department is in constant communication with the registration departments of the out-patient and in-patient care units. Every day, many doctors visit the medical records department for completion of medical records or for records reference. The medical records department must be located in an area near the new and review registration counter and admitting and discharge office.

If the medical records department is not staffed 24 hours a day, it should be located within easy walking distance from the admitting or out-patient area to ensure hospital staffs are able to retrieve medical records on an emergency basis. Security surveillance for safeguard of medical records information and equipment when the department is closed should also be considered.

Space requirement

Space allocation should be determined by the departmental services to be provided, the equipment and computer systems to be used and the daily workload to be handled. Although services vary somewhat from hospital to hospital, services and tasks to be considered when allocating space include record filing cabins, coding and indexing desk, medical records sorting and arranging desk, outpatient registration area, and admitting and discharge office.

The medical record service requires adequate space, which is generally not available and presents a universal problem. Therefore, the medical records technician should review space requirements frequently to overcome the highly common filing problems in medical records department.

The medical records technician should anticipate in advance the growth of MRD and make arrangements for the future requirements and to procure the required space.

Equipment requirement

Open-shelf filing units are the most commonly used storage system for medical records. They are less expensive. Medical records assistant can file or retrieve records faster. Most importantly open shelves are space savers, accommodates more records in a given floor area.

Open-shelf filing equipment may consists of 7 or 10 shelves with a height of 9 to 10 ½ feet depending upon the NO. of shelves (Fig.3.2). 7 open shelves having 3 feet long and 1 feet width each with dividers can house an average of 750 outpatient

records in one compartment, thus housing 5250 records in a single open-shelf filing unit. If a unit-numbering system is used, adequate shelf space must be provided for growth of records as a result of readmission and repeat clinic visits.

Fig. 3.2 - Open shelf filing unit

A review of records from the past several years is the best source of information for working estimates of the amount of space required. One approach is to tabulate the average number of sheets per medical record of repeat clinic visit and discharged patient over two or three months. This can be achieved by counting the sheets per current episode of care and the sheets for previous episodes of inpatient or outpatient care. This tabulation indicates the size of an average medical record for the hospital.

Record dividers between files

Record dividers should be placed throughout the files to speed up the retrieval and filing process and finding of records. The number of dividers needed depends upon the thickness of the majority of the medical records in the shelves. For medical records of medium thickness, a divider for every hundred and fifty records is adequate. When purchasing dividers, durability and quality should be the primary concern. To determine

the total number of dividers needed, the following formula may be used:

$$\text{Total number of records} = \frac{\text{Total number of dividers}}{\text{Number of records between dividers}}$$

If the total number of records is not known, an estimate may be made by multiplying the filing inches by the average number of records per inch. Several shelves of records should be counted to determine the average number of records per inch. Storage and retention of medical records should be done in the most efficient manner for retrieval of requested records in a health care facility. The medical record file area may either be centralised or decentralised.

Climbing devices

Open shelf filing unit is designed to reach the maximum height of medical records filing room in order to save the space available. When medical records are placed at more than the height of 5 feet or 6 feet, it may be difficult to retrieve them. Hence, hospitals use various types of climbing devices to reach the medical records kept at a height of up to 8 or 9 feet.

Fig. 3.3 - Step type steel ladder

An aluminum ladder with rubber bush at the bottom of the leg or a step type ladder will be of greater use to the retriever to file or retrieve the records easily. Aluminum ladder will be less in weight and easy to carry inside the medical records room. The rubber bush avoids ladder from slipping down.

The step type steel ladder will be easy to climb exclusively for female (Fig.3.3). Thus, climbing device will be much more helpful for the filing assistants to place or to retrieve medical records much quickly avoiding unnecessary accidents.

Organisational chart

It is important that each employee knows the limits of his authority and responsibility, and an organisational chart is a good means of informing others about such relationships. An organisational chart indicating the functions and lines of authority should be clearly established (Fig.3.4). This will ensure there is no ambiguity in understanding either the line of authority or the duties and responsibilities of staff members. In a medical records department procedures may be written for every job performed.

Job description

Written procedure manual for job description provides a valuable tool for two reasons.

i.   First, it provides an employee who regularly performs a procedure with an exact picture of what she is expected to do

ii. Secondly, it is an invaluable aid in cross-training regular employees and in training new employees

It is helpful for a medical record Technician to go through a procedure with the employee at least once before the employee attempts to follow it by herself. It is also necessary that job description be explicitly written for every staff. When a procedure is reviewed, the job description for employees who carry out that procedure should also be reviewed. Job description for an employee spells out the qualifications needed to perform a job in a satisfactory manner.
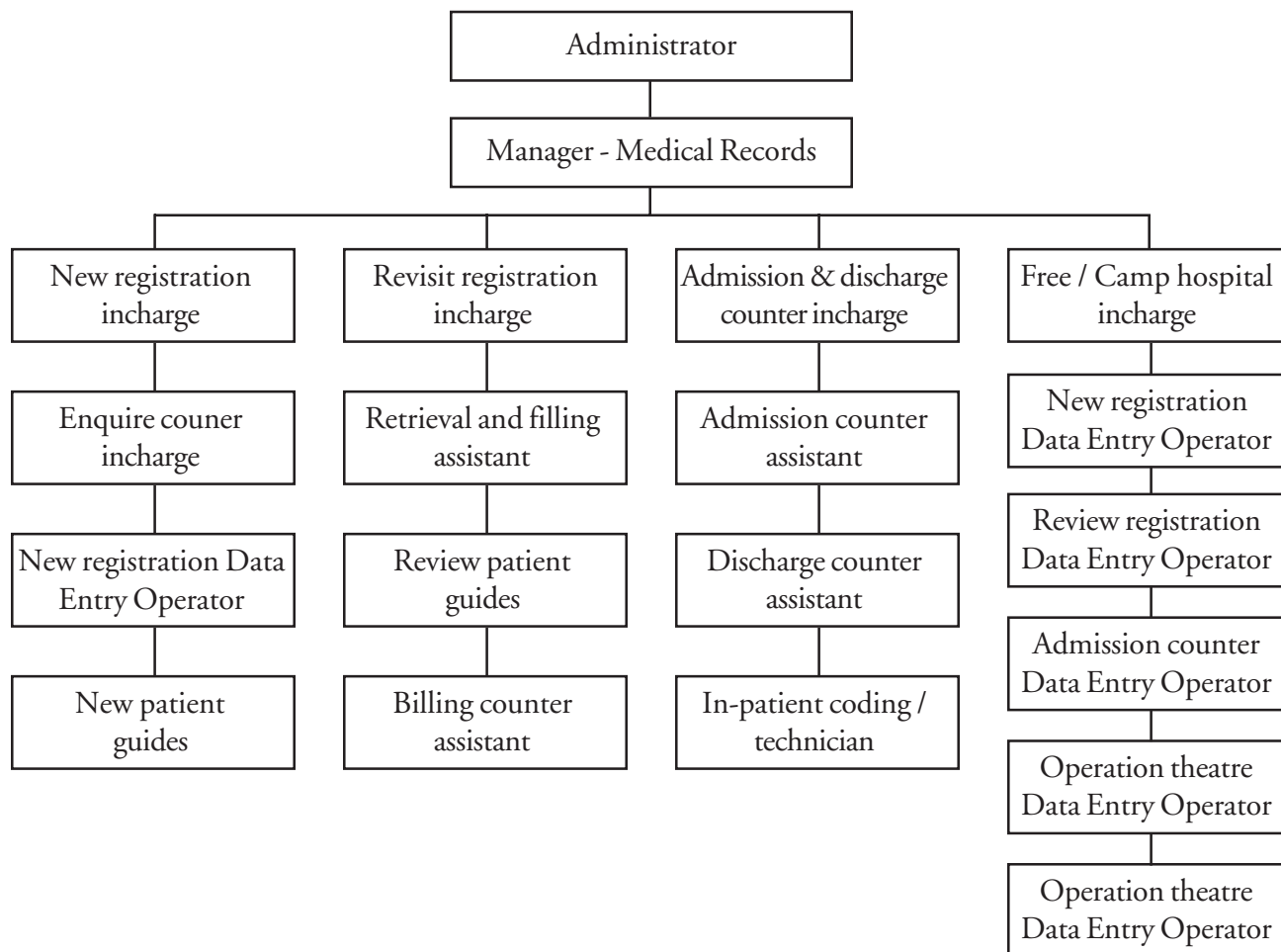
Fig. 3.4 - Organisational chart

Job description for a medical records assistant

Job title: Medical records assistant

Routine tasks

With thorough knowledge of the work involved and with occasional supervision of the medical records Technician, uses initiative and independent judgment in the departmental activities.

Prime job

- To ensure smooth functioning in the New and Revisit Registration area, Admission and Discharge area and medical records department
- To ensure quick disposal of patients from the Registration, Admission and discharge areas

- To meet the training requirements of the new medical records staff and trainees
- To ensure that medical records codification is updated by clinic wise and surgical wise everyday
- To prepare monthly and yearly Statistical reports

Role and responsibility

- To update codification of medical records by diagnosis wise and surgery wise everyday
- To prepare statistical report according to surgery wise and doctor's wise everyday
- To ensure that medical records are processed serially and filed everyday
- To generate all statistical data on daily, monthly and yearly basis to submit to Management authorities

- To take regular classes for the medical record trainees based on the medical records book
- To procure and keep all forms and stationary needed for every week from stores
- To solve problems and grievances (if any) of patients and to ensure patient satisfaction
- To ensure that medical records are inactivated and disposed of based on the inactivating and disposing policy of the hospital
- To ensure that adequate space and racks are available to keep medical records every month
- To ensure that missing medical records or wrongly filed medical records are searched and taken out

Working relations with other department

- To co-operate with accounts section on day to day handling of registration, Admission and lab investigation cash and settlement of accounts
- To coordinate with computer section in generation of any statistical reports required by the management and in case of any computer problems
- To coordinate with the doctor's secretary in issuing medical records to doctors for project study and seminars

Functions of the medical records department

Training of new staff

Every new staff must be clearly informed in writing of hospital and departmental policies, rules and procedures. A supervisor cannot hold a staff accountable for his / her actions unless the staff has a clear understanding of his responsibilities.

Provide on Job Orientation and Training

All staff are entitled to thorough training for the job to which they are assigned. An intensive training of three to four weeks should be given to all new departmental staff before they are independently put to work.

The new staff member should first be introduced to all the personnel of the department and later to the hospital's important units, which maintain a close relationship with the medical record department. In the initial training stage, staff members should be placed under an experienced medical records supervisor who in turn must impart "on job training" and instruct the new staff in observing the correct policies and procedures.

Evaluate performance

Every staff wants to know where he stands with his/ her supervisor.

Evaluations of performance should take place on a regular basis. Point out to the staff his/her strengths and weakness.

The medical records technician should assist the staff in correcting poor performance. The medical records technician and the supervisor should share in a process of goal setting. This provides a staff with direction for development and creates job satisfaction and improves his/her self-confidence. Verbally scolding a staff in presence of others is not acceptable.

Supervisors should strive to maintain two way communications with staff, and staffs should be encouraged to make suggestions. Supervisors in turn should be sympathetic when listening to staff's problems. Finally, a supervisor will at times have to give priority to get a job done by the staff or to untie a problem.

Main Functions

The main functions of medical records department are

Out-patient service

- Registration of new and revisit patients
- Guiding patient to units and specialties
- Coding of out-patient and in-patient medical records
- Collecting, processing, sorting and arranging of medical records

In-patient service

- Admitting patients
- Discharging patients

Out-patient service

The purpose of the out-patient service area is to register new and revisit patients and direct them to the concerned units or specialties for consultation and treatment.

New and revisit registration

This section functions throughout the week from Monday to Saturday. The medical records assistant employed in the new registration area performs the following function:

I. Procedure for New Registration

- Before registering the new patients the medical records assistant checks for the sociological data form, outpatient records, and plastic pouch to keep ID card, staplers and bell pin in the new registration counter.
- The medical records assistant checks the system and other tools to assure they are working properly.
- The New Registration counter starts functioning in the morning.
- The sociological form filled up by the patient contains the patient's name, age, sex and relatives name, address of the patient with city, Patient's telephone number, mobile number and fax number.
- The filled up sociological data form is collected at the new registration counter and checked for any correction, omissions and additions.
- The medical records assistant then enters the data in the system.
- The amount that may be due for the new registration is collected from the patient.
- The currency notes are then checked in the fake note identifier machine to confirm good notes.

- The medical record assistant checks with the patient for any referral letters from outside doctors.
- The data is then printed in the outpatient main card.
- The identification card along with the receipt is given to the patient bearing his medical records number.
- The patient is well informed about the likely duration of his consultation and treatment with the doctor.
- The patient is then taken to the doctor along with his outpatient record for consultation.

II. Procedure for Revisit Registration

- Patients visiting the hospital from the next day of their new registration are subsequently called as revisit patients.
- The medical records assistant checks the system and other tools at the counter to assure they are working properly.
- The revisit registration counter starts functioning in the morning.
- The revisit patient produces the identification card to the revisit registration counter
- The medical records assistant then enters the medical record number in the system to register the patient
- The money that is due for the revisit registration is collected from the patient
- Tracer card is prepared for record retrieval by entering the date of registration and medical records number
- The purpose of the tracer card is to help the retriever to trace the medical records when it is not found in its place
- The tracer card is then taken by the medical records assistant to retrieve the medical record
- After retrieving the medical record by M.R.Number, the tracer card is kept in place of the record

- In case if the medical record is missing, the tracer card will help to find out the location of the medical record

2. Procedure for patient guides

- During the course of training in medical records, the medical record trainees are assigned the role of the patient guides
- The role of the patient guides is to guide the patients to the concerned units from the new and revisit registration area
- After registration, the new and revisit patients waiting in the lounge are called through the public address system
- After confirming the name and city of the patients called, the patient guides will guide them to the concerned units and specialities

Processing and filing of out-patient and in-patient medical records

The main functions of this area are:

- Collection of medical records from the out-patient clinics, speciality clinics and discharge counter
- Checking for deficiencies in outpatient and inpatient records
- Coding of completed records in the system
- Sorting and serially arranging medical records

Fig. 3.5 - Sorting & arranging Medical Records

Collection and sorting out of disposed of records for filing

- The patient medical records are collected from the dispose box of each out-patient clinics, speciality clinics and discharge counter by the patient guides.
- The collected medical records are checked for deficiency in outpatient and inpatient records. The medical records are checked for any incompleteness, final diagnosis and, doctor's signature.
- The collected medical records are sorted out according to units and speciality for coding.
- Each medical record is coded according to the diagnosis and treatment given. (The importance of coding is explained elaborately in chapter – 6 of this manual).
- The coding is done in computer software designed for this purpose.
- After coding is done, all the medical records are arranged serially in ascending order according to the medical records number (Fig.3.5).
- The medical records thus sorted out and arranged in ascending order are placed in different medical record boxes for filing.
- Each medical record box is assigned with serial numbers in a continuous sequence from 1 to 10000 and from 10001 to 20000 and so on.
- Each medical record box is allotted to a medical records assistant for filing in relevant racks.

In- patient service

The in-patient medical record services are classified into two sections. They are Admission and Discharge counter and Accident and Emergency (casualty) service.

Admission counter

This admission counter functions 24 hours a day throughout the year. Staff are posted in two shifts (morning and night) to perform the following functions.

- The patients are guided by the counselors to the admission counter after counseling is done for the type of lens and room they prefer.

- The admission counter staff collects the money for the surgery and an advance receipt is generated in the system.

- The receipt is signed by the staff and handed over to the patient.

- The inpatient record is prepared with patient name, age, sex and a rubber stamp is stamped to write the type of lens and the amount paid by the patient.

- Signature of the patient or his attendant is obtained in the operation consent form.

- A color folder is attached to hold all the relevant medical record forms of the patient. This folder denotes the speciality to which the patient is admitted.

- Patient is then taken to the ward or theatre by the nursing staff along with the case sheet for surgery.

In-patient coding assistant

- After surgery is performed in the theatre, the medical records are sent to the inpatient coding assistant.

- Each medical record is coded for the surgery performed in the theatre, which automatically updates the charges for the surgery in the system.

- If patient is supported by monitor or any other additional procedure is done during the course of the surgery, they are also charged and updated in the system.

Discharge counter

- The case sheet is received from the ward through the nursing staff to the discharge counter

- The final receipt is generated according to the number of days stay and for the surgery performed

- The final receipt along with the discharge summary is handed over to the patient

- The follow-up date of patient's revisit is explained to the patient by the discharge counter staff

Monthly duty rosters (schedules)

For effective utilization of personnel, a monthly duty roster must be prepared. Every month the staff should be rotated from one section to another, with the exception of the specially trained and supervisory staff. The supervisory and specially trained should be rotated once every three to six months. The monthly duty schedule should include name of the staff, his or her designation, place of work, main duties and responsibilities, and the person to whom he or she should report.

Departmental meetings

There should be weekly general meeting with all departmental staff to review the day-to-day work carried out by the medical records department. Any new innovations brought for the better improvement of the department can be shared with the staff members. The problems and issues related to the staff and the department can be discussed among the staff with the medical records technician and proper solution should be evolved for the smooth functioning of the department.

Summary

The medical records department staff must be more than a skilled technician. He/She must be both a leader and an innovator in building up a well-organized, efficient department. Constant effort is necessary to keep abreast of the advances in both medicine and the technology of recording and retrieving data. Efficient organization and management of the medical record department are important factors in the accreditation of health care facilities. The health facility exists for the benefit of the patient, and its medical records department is responsible for the accuracy, safekeeping, and availability of the medical record at all times. It can discharge these responsibilities only when it is properly organized and well managed by the medical records assistant.

Key points to remember

- *In organising any health facility, it must be remembered that the primary responsibility and objective is the proper care of the sick and injured*

- *For effective utilization, a monthly duty roster must be prepared and the staff should be rotated from one section or unit to another, with the exception of the specially trained and supervisory staff*

- *Organizstional chart indicating the functions and lines of authority should be clearly established and the job description for every staff should be clearly written*

- *General weekly meetings with all departmental staff to review the day-to-day work carried out by the medical records department should be conducted*

- *In the initial training stage, staff members should be posted under an experienced medical records supervisor who in turn must impart "on the job training" and instruct the new employee in observing the correct policies and procedures*

- *Cooperative and responsible personnel are most important for efficient management*

Students exercise

Answer the following

1. *Explain the purpose of an organization chart and the use of the monthly duty roster?*

2. *Describe the common function carried out in new and review registration area?*

3. *Explain the major function carried out in the admission, discharge and, casualties counter.*

CHAPTER 4 DESIGNING MEDICAL RECORD FORMS & FOLDERS

CONTENTS

GOAL

To enable the medical record assistant to understand the method of designing and alteration of forms and the use of forms and folders in patient care

OBJECTIVES

The medical record assistant will be able to:
- Develop a medical record form or a folder
- Design and alter the medical records form whenever it is necessary for the documentation purpose
- Understand the importance of documenting the patient treatment information
- Understand the usage of each and every form used in the process of patient care

CHAPTER 4
Designing Medical Records Forms & Folders

All hospitals have the responsibility to develop medical record forms as per their requirements. Thoughtful designs of the forms will become part of the medical record, that will provide a more readable, useful, and less bulky document. Forms can accomplish several purposes: they can reduce writing time and standardisation of information results from their use. Well designed forms are also easier to fill up.

The first and most important step in form designing is to determine the purpose of the form. Is the form really necessary? What benefits will be derived from introduction of the form into the record? The purposes of the form will in turn determine the information to be included on it. Unnecessary information must not be included.

Principles of forms designing

In the development of a new form, it is advisable to have only a small supply of forms prepared for trial use, because experience frequently indicates a need for revisions. Since cost is also a factor in continually revising and printing small quantities of forms, photocopying might be the method of choice. Forms should be kept simple and the variety must be few in number to provide flexibility and reduce bulky record. All discontinued forms should be removed from the stockroom or supply area and destroyed.

Before a new form is developed or an existing form is revised, the following steps can be used to compile the necessary facts and to determine what, if any, improvements should be made.

The principles for designing a standard forms

- A uniform size of paper should be used. Although standard size (8 ½ -inch - by 11-inch) paper is most commonly used, 8-½ -inch- by -5 ½ -inch papers could be used to reduce waste.

- A uniform binding should be maintained, either on top or side.

- A uniform margin that is based on the binding edge should be maintained.

- For top binding, information on forms that are to be printed on both sides should be correctly placed on both sides for proper assembly in the chart. For side binding the two sides should be placed head-to-head.

- Line spaces should be assigned on the basis of whether the forms are to be typewritten, handwritten, or both.

- Good quality paper should be used. If both sides are to be printed, the paper must be heavy enough to prevent the ink from showing through.

- Colored forms should be selected carefully because problems can occur in photocopying or microfilming colored sheets. White paper with color-coded borders will prove more effective for quick identification of different forms in the hard-copy record.

- When feasible, using a rubber stamp on an existing form can eliminate the need for special form that is not used regularly

The printer can ordinarily give advice on the physical aspects of printed forms - the kind and size of types, margins, paper color and weight, ink, and size of the form. Remember that standard - size forms are always less expensive, facilitate filing, preclude loss, which is often the case with irregular paper sizes. Keep in mind also that different colors of paper and ink will affect photocopying and microfilming in different ways.

Duplicating methods

Several persons or departments often need similar patient data. In such situations it is well to consider the possibility of a multipart form or a method to produce multiple copies. Multipart forms should be used whenever possible to

1. Save time and labor;

2. Avoid errors

3. Promote rapid intra hospital communication of essential data; and

4. Meet the need for extra copies.

The various methods of producing copies or duplicates are:

The effectiveness of legible carbon copies is limited to two or three copies. Carbon copies may be of three types:

- Loose carbon inserted between forms. The inserting and removing of carbon paper makes this method time-consuming. In addition, care must be taken to ensure that the information on all copies is lined up exactly or entries will appear above or below the space indicated.

- Snap-out or interleaved forms with one-time carbon previously inserted by the printer. Snap-out forms are widely used for reports of operations, discharge summaries, and dictated reports when copies are needed.

- Forms with carbonized backing are particularly effective for carbonizing specific portions of forms. However, the black carbonized portion rubs off and is more difficult to handle. This may be a disadvantage to consider.

- Stencils or master copies - this method is used to produce more copies than is possible with the above methods. Care must be taken to avoid methods which result in copies that will fade or in which legibility is poor

- Photocopy equipment - this method is used to produce exact copies. Eliminating the need for a stencil saves time and labor.

Out-patient records

Hospitals, which have an organised out-patient department, may maintain as many as twenty or more speciality clinics for out-patients. The records that are compiled in this setting should be compatible in size and format to those used for outpatients and inpatients in the facility. Each patient registered as an outpatient should have an initial history and physical examination, which should be brought up to date at regular intervals. Every clinic visit should be noted, including date, clinical finding, treatment, and names of those examining or caring for the patient.

Out- patient records are compiled in the outpatient department and should conform in size and form to the records used for hospitalised patients. On the subsequent clinic visits, noting as to findings and treatment should be made on the continuation note sheets. If the patient is admitted to the hospital, his outpatient record should be filed with the inpatient record as a unit, reflecting continuous medical care. These records should be checked as closely as those for hospitalized patients for accuracy in dates, time, spelling, and hospital numbers.

Information card

The primary purpose of information card is to collect the basic identifying information of patient. Identification data is ordinarily obtained at the time of patient registration. Therefore the patient medical file must include complete and correct identification

Fig. 4.1 Information Card

data including: the hospital number, the patient's name, and gender, date of birth (age), address, telephone number, cell phone number, e-mail address and relative's name (Fig. 4.1).

Outpatient main record

The out-patient record consists of outpatient (OP) main card and continuation sheet. The OP main card is basically used as a first record of document (Fig.4.2). This contains the identifying information of a patient with contact phone and cell phone numbers and e-mail address. The purpose of this sheet is to assist the doctors in getting the history and complaints of the patient thereby establishing a diagnosis on which to base the care and treatment of the patient. The essential facts should be given in a concise and progressive manner.

In addition basic tests like urine sugar, blood sugar and other physical tests like blood pressure of the patient are also recorded.

Proper International Classification of Diseases (ICD) code should be recorded by the doctors in the space provided for the purpose after finalising the diagnosis of the patient. When the outpatient main card is fulfilled, additional sheets can be added to continue the progress and treatment of the patient. This continuation sheet is added to the record according to the need.

Identity card

The basic purpose of an identification card is to identify the patient and his medical record by number. When registering a new patient, a medical record number is given to the patient. This medical record number becomes the identification number of a patient. This card is also used as a receipt for the consulting fees collected during the first registration. This card is given to patient as an identity for subsequent visits to the hospital (Fig.4.3).

Tracer card

The name "Tracer Card" itself implies that when ever a medical record is not found in its place, the tracer card is the only source of information to the medical records assistant to track the exact location of the medical record taken. The tracer card contains three columns (Fig.4.4). The first column denotes the date, second column denotes the number of the record and third column denotes the signature of the retriever.

Tracer card can be used in different colors to differentiate between records retrieved for patient visit and, records retrieved for study or research purpose. After the medical record is replaced in its original location, Tracer card can be pulled out.

In-patient admission record

The Inpatient or admission record also known as the face sheet, is usually the top or first form of the medical record. The upper portion contains information of an identifying nature, while the lower section contains the admission information and the pre-operative instructions to be carried out for the inpatient. The information contained in the identification portion of the face sheet may vary in different hospitals. However, it should include enough information so that the patient can be positively identified.

This would include full name of the patient, address, phone number, place age, sex, marital status, and the name and address of the relative with phone number for emergency contact. Proper ICD code should be recorded by the doctors in the space provided for the purpose after finalising the diagnosis of the inpatient (Fig.4.5).

Consent form for surgical / medical procedures

The back of the admission record or face sheet is often used for the admission consent form (Fig.4.6) which is signed upon during the patient's admission to the hospital as part of the admission procedure. This provides a record of consent to routine services, diagnostic procedures, and medical or surgical treatment.

Fig. 4.2 - Out-patient main card

	Right Eye	Left Eye
Vision without glasses		
Vision with glasses		
Tension		
Ducts		

B.P		Urine Sugar		Blood Sugar	

Fundus :   R: L:

Detailed history : (Immediate past and treatment history)   ICD Code:

ALLERGIC TO :

ONE EYED	☐	HYPERTENSIVE	☐	ASTHMATIC	☐
CARDIAC	☐	DIABETIC	☐	OTHERS	☐

Fig. 4.2 - Out-patient main card

Fig. 4.3 - Identity Card

Fig. 4.4 - Tracer Card

The admitting assistant must inform the patient specifically that he is being asked to sign a consent form and the need for the form should be explained to him. Special consent for specific medical or surgical treatment are also required. But, in a single speciality hospital, the routine consent can be merged with the operation consent which can be also collected during the admission of the patient. It is also advisable that such forms should be countersigned by the relatives of the patient as a witness to the signing of the patient.

Speciality surgery record

Speciality surgery records are attached along with the other in-patient records according to the speciality department to which the patient gets admitted. For example:

Fig. 4.5 - In-patient Card

Fig. 4.6 - Consent Form

- Retina surgery Record
- Cataract / IOL surgery Record
- Pediatric ophthalmology Intra operative Record
- Strabismus Surgery Record
- Glaucoma Surgery Record
- Orbit and Oculoplasty Surgery Record
- General Anesthesia Record

Color coding of record folders

Color coding refers to the use of color on folders to aid in the prevention of misfiling and in the location of misfiled records. Color bars in various positions around the edges of folders (known as blocking) create distinct patterns of color in various sections of the file. A break in the color pattern in a file section signals a misfiled record.

Color coding is most effective when used in conjunction with terminal digit and middle digit filing, although it is said that workable color-coding systems can be used for straight numerical filing.

Color folders

Based on the type of speciality department the color folders are also attached as a folder cover with the case sheet. This folders are in different colours. For example:

- Retina Folder (Light Blue)
- Cornea (Light Green)
- Cataract & IOL (Yellow)
- Orbit (Thick Green)
- Pediatric (Thick Reddish Brown)
- Uvea (Light Biscuit Brown)
- Glaucoma (Pink)
- General (Grey)

Discharge summary sheet

When patients are discharged, discharge summary (Fig.4.7) is given along with the final receipt. The discharge summary is a concise recapitulation of the reasons for hospitalisation, significant findings, procedures performed, course of hospitalisation, and condition of patient on discharge, and instructions given to the patient or family relating to physical activity, medications, diet, and follow-up care.

The discharge summary sheet varies by colors and information according to the speciality. The following summary sheets are given as samples used against the speciality mentioned below:

- Cataract/IOL discharge summary sheet
- Retina summary Book
- Paediatric Cataract summary Book

Summary

A medical record must be maintained on every person who has been admitted to the hospital as an inpatient, outpatient or as an emergency patient. The medical record documents the medical and surgical history of the patient. Each hospital has the responsibility to develop medical record forms to fit its needs. Responsibility for designing medical record forms is delegated to the hospital forms committee. Although a variety of styles of medical record forms are used in hospitals throughout the country, certain basic essentials must be included if the hospital is to maintain accreditation standards. Medical record forms will not by themselves guarantee accurate and adequate medical records. However, if forms provide for the recording of essential data, and if the physician carefully records the information requested, accurate and adequate medical records will result.

Key points to remember

- *A medical record must be maintained on all the patients who have been admitted in the hospital either as an Inpatient, as an emergency patient or visit the hospital as an out patient*
- *In the development of a new form, it is advisable to have only a small supply of forms prepared for trial use*

Fig. 4.7 - Discharge summary

- *All discontinued forms should be removed from the stockroom or supply area and destroyed*

- *Remember that standard–size forms are always less expensive, facilitate filing preclude loss, which is often the case with irregular paper sizes*

- *When feasible, using a rubber stamp on an existing form can eliminate the need for special form that is not used regularly*

- *Since cost is also a factor in continually revising and printing small quantities of forms, photocopying might be the reproduction method of choice*

Students exercise

Answer the following

1. *Explain the four purposes for maintaining Outpatient Records in a hospital?*
2. *Summarize the information contents of each of the following medical record forms:*
   - *Information card.*
   - *Consent form for surgical / medical procedures.*
   - *Surgery record.*
   - *Discharge summary book.*
3. *State the first and most important step in designing a standard forms.*
4. *Explain the basic principles in the development of good medical record forms.*

CHAPTER 5   MEDICAL RECORDS – NUMBERING AND FILING SYSTEMS

CONTENTS

GOAL

To enable the MLOP to understand the simple method of numbering and filing system which can be followed in Medical Records.

OBJECTIVES

The MLOP will be able to:
- Understand the method of numbering system which can be followed in medical records
- Follow the method of filing system which can be followed for their hospital
- Able to understand the advantages and disadvantages of each and every numbering and filing system given in the text book
- Understand the importance of using dividers between records and its advantage

Medical Records - Numbering & Filing Systems

Medical records in most health care institutions are filed numerically according to patients' medical record numbers. In the past, some hospitals have filed records according to patient's names, discharge numbers, or diagnostic code numbers. Alphabetic filing by patient names is more cumbersome and subject to more error than numerical filing. Filing by discharge numbers and diagnostic code numbers is generally unsatisfactory because other important records or registers in the facility are concerned exclusively with medical record numbers.

Medical Records numbering system

Three types of numbering systems are currently in use in health care facilities-serial, unit, and serial unit.

Serial numbering

In serial numbering the patient receives a new medical record number each time he is registered or treated by the hospital. If he is registered five times, he acquires five different medical record numbers.

Eg : Patient, Ravi, gets registered in the hospital and receives a number of 13650.When he returns for follow-up one month after treatment, he is registered under medical record number 14020. If he is visiting the hospital again the following year, he would receive still a third number such as 19560. Although all medical record numbers assigned to this patient has been recorded in the system, his medical records are filed in as many places as the number of times he has been treated in the facility.

Unit numbering

Similar to the serial numbering system, the unit numbering system provides a single record, which is composite of all data gathered on a given patient, whether as an outpatient, inpatient or emergency patient.

The patient is assigned a medical record on his first visit, which is used for all subsequent visits and treatments. His entire medical treatment is thus available in one folder under one medical record number.

For example: With unit numbering, each time Ravi arrived at the hospital for treatment, he would receive the first number he had been assigned –13650.

Serial unit numbering

This numbering system is a combination of the serial and unit numbering systems. Although each time the patient is registered he receives a new medical record number, his previous record are continually brought forward and filed under the latest issued number. For example: When patient Ravi returned for his follow-up one month after treatment, he would receive number 14020, but his out patient treatment data, filed under 13650, would also be brought forward to be filed with the old medical record made during his most recent visit. A unit record is thus created.

When the older records are brought forward, tracer card must be left in the shelf where the old record has been pulled, to indicate the new number under which the record is now filed. The tracer card marked with a referral note to the new number is a satisfactory method for accomplishing this.

Annual numbering

In annual numbering system, two digits indicating the year are added to the end of a serial number. The year designation serves as a control number in inactivating medical records. The serial numbers

together with the calendar year also provide immediate data on the number of hospital registration or visits that occurred during a specific year.

Family numbering

Another version of unit numbering is the family numbering system. Family numbering usually consists of placing extra two digits, which indicates assigning number to each individual in the family.

These digits are usually placed instantaneously before the regularly assigned medical record number. Prefix number pairs have a definite order and meaning, as follows:

- 01 = Head of Family (either mother or father)
- 02 = spouse
- 03 = children
- 04 = any other family relatives
- 05 = servant

Even though each patient of his family is assigned a separate medical record, the information pertaining to this family is thus filed together under one medical record number as "Family number".

File expansion

It is necessary to leave 25% of the shelves vacant when the unit numbering system is followed. This is because of expansion of the medical records when more forms are added to a record during frequent visits of the patient.

When serial-unit system is followed in a hospital, old medical records are forwarded to combine with the new medical records of the patient. Gaps may occur on the shelves as records are pulled and forwarded. This commonly happens when revisit rates are very high. In a serial numbering system since patients are assigned a medical record number during every visit, the shelves are filling only at one end as new numbers are assigned to patients every time.

Bulky files

Records of patients having had several occasions of treatment sometimes become so thick that additional folders are needed to house one complete medical record. In order to alert filing personnel and health care professionals that a medical record is contained in several folders, it is wise to mark each folder with both the volume number and the total number of volumes.

For example, the first folder can be labeled as" Volume 1 of 2", the second folder "Volume 2 of 2", etc. If an extra folder is added the label should be changed to indicate the total number of folders. The first folder labeled "Volume 1 of 2" would change to "Volume 1 of 3" as a third folder is added.

Medical records filing systems

Three types of numeric filing systems are commonly used for filing medical records- straight numeric, terminal digit, and middle digit.

Straight numeric filing

Straight numeric filing refers to the filing of records in exact ascending order according to medical records number. Thus, simultaneously all the numbered records would be in an ascending series on the filing shelves. For e.g., the following four medical records would be filed in the following order on a shelf: 65023, 65024, 65025, and 65026.

Clearly it is a simple matter to pull fifty continuous records from the filing area for study purpose or for inactive storage. Perhaps the greatest advantage of this type of filing system is the ease with which personnel are trained to work with it. However, this approach to filing has certain disadvantages. It is easy to misfile since a staff must consider all digits of the record number at one time when filing a record. The greater the number of digits that must be recalled when filing, the greater the chance for error. Alteration of numbers

is common: medical record 65424 can be misfiled as record 56524.

A more serious problem to straight numerical filing is that the heaviest filing activity is concentrated in the area with the maximum number of new records. Several staff filing records at the same time in such areas is bound to get in each other's way. Since staffs are usually filing in the area of the most current records, it is not possible to fix responsibility for a section of the file to one staff.

Terminal digit filing

A six-digit number or a seven-digit number can be used and divided with a hyphen into three parts, each part normally containing two digits. Within the number, the primary digits are the last two, secondary digits are the middle two and, the tertiary digits are the first two or three digits.

In a terminal digit filing, there are 100 primary sections, ranging from 00 to 99. A staff must first consider the primary section while filing the records. With each primary section, groups of records are matched according to the secondary digit, after locating the correct secondary digits section, the medical record staff files in numerical order by the tertiary digits. In medical records, the second tertiary digits changes with every record.

Note the following example in a terminal digit file

66-31-06	98-11-38	98-99-50
67-31-06	99-11-38	99-99-50
68-31-06	00-12-38	00-00-51
69-31-06	01-12-38	01-00-51

The terminal digit method of filing is described using six numbers, but as mentioned earlier it can be adapted for using five, seven, or even nine digits. With a five-digit number, one could break it into three sections, as follows:

7-65-43	0-00-01	etc.

With seven digits, the break up might be:

765-43-21	000-00-01	etc.

There are numerous advantages of terminal digit filing. When new records are added to the shelves, their terminal digit numbers are equally distributed throughout 100 primary sections of the shelves. Every 100th new medical record will be filed again in the same primary section of the shelves.

The obstruction that results while straight numeric filing is followed when several staff are filing in the same area is avoided. Staffs may be assigned responsibility for certain sections of the shelves. When four staff are filing, the first staff can be responsible for terminal digit sections 00-24, the second for 25-49, the third for 50-74, and the fourth for 75-99.

As registration numbers are still assigned in straight numerical order, the work is evenly distributed amongst each staff in each section. Numbers 463719, 453720, and 463721 are assigned in strict sequence, but the records would be filed in terminal digit section "19", "20", and "21" respectively.

Inactive records may be pulled from each terminal digit section as new records are added. In this way the volume of records in each primary section is controlled and large gaps in the file which require back shifting of records is prevented. This volume control also simplifies planning for filing equipment.

Advantages of terminal digit filing

Misfiling is considerably reduced with the use of terminal digit filing. Since the staff is concerned with only one pair of digits at a time, the transposition of numbers is less likely to occur. Even if the tertiary digits are increased to three, e.g., 245-68-90, recalling three digits is easier than recalling seven.

The training period for medical records assistant is usually a little longer for a terminal digit system than for a straight numeric filing, but most of the staff can learn it in a few days time.

Initial setting up of file shelves may be required from the starting stage, which may require more units

of shelving since expansion capabilities must be planned for the total medical records area.

Middle digit filing

In this method the staff files according to pairs of digits, as in terminal digit filing. On the other hand, the primary, secondary, and tertiary digits are in different positions. The middle pairs of digits in a six-digit number are the primary digits, the digits on the left are the secondary digits, and the digits on the right are the tertiary digits

76	--	68	--	96
Secondary		primary		tertiary

Shown below is a sample sequence in middle digit file

76-68-96	99-68-96
76-68-97	99-68-97
76-68-98	99-68-98
76-68-99	99-68-99
77-68-00	00-69-00
77-68-01	00-69-01

From the example given, the staff can see that blocks of 100 records (e.g., 76-78-00 through 76-78-99) are in straight numerical order.

This has several advantages:

- First, it is simple to pull out 100 consecutively numbered records for research purposes.

- Second, conversion from a straight numerical system to a middle digit system is much simpler than converting to a terminal digit system.

- Third, blocks of 100 records pulled from a straight numerical file are in exact order for middle digit filing.

Middle digit filing provides a more even distribution of records that does straight numerical filing, although it does not equal the balance achieved by a terminal digit filing system.

As in terminal digit filing, the staff is filing by pairs of digits rather than by six or seven digits; therefore wrong filing is reduced.

There are certain disadvantages to middle digit filing. More training may be necessary than the straight numeric or terminal digit filing.

Centralisation

Centralisation refers to the filing of outpatient, inpatient, and emergency patient's records in one location. When continuous follow-up care is regularly provided by a hospital, a filing system which renders a unit record is most practical. Unit records are stored within the medical record department.

Decentralisation

- A decentralised file results when outpatient records are filed in the medical record department, but inpatient and emergency patient records are stored in their respective patient care areas.

- A large medical complex consisting of several health care units which are physically separated from each other might need to adopt such a decentralised system for easy record retrieval and accessibility.

- The decentralised file areas should remain, however, under the control of the medical record department.

Regardless of whether files are centralised or decentralised, there must be centralisation of authority over them. One person, logically the Manager of medical records department, should be authorised to establish and maintain control over all filing procedures and record usage.

Medical record request form

Routine requests for medical records from Specialty clinics or doctors performing study or research, should

Fig. 5.1 - Medical record request form

be delivered to the medical record department by a specified time of day fixed by Hospital administrator or by medial records policy. The routine requests from the doctors or clinics are received through the medical record request form. The requisitions slip usually is a single form which contains necessary columns.

- The minimum information to be included are, the patient's name, medical records number, sign of person issuing medical records and the name of the person requesting with signature.

All routine requisitions for records should be received before 4 p.m. every day. The exact time set for the deadline is dependent on (1) the volume of requests received daily and (2) the number of medical records retrievers available to pull requisitioned records.

Usually maximum of 15 medical records may be issued to any doctor requesting for study. This is to minimize the delay in getting back from the concerned doctor the medical records of patients who may visit the hospital for consultation. If too many records are held by a doctor, the visiting patients may have to wait for a long time till their records are got back from the doctor. This will also reduce the work load of the concerned retriever thus, by controlling the huge number of medical records taken out from medical records filing area.

When the medical record is returned back, it is rechecked with the medical records request form and sent for filing. If the medical record is not returned within the established time, a note is sent to the person who has taken the medical records to return that immediately.

Summary

While the methods of numbering medical records and the system of filing have the same objective, that is, that is making available a continuous record of the patient at all times , the centralised unit or serial-unit system automatically attains this objective because all records of a patient are filed together in one folder and in one department. If a centralised unit system is coupled with terminal digit filing in hospitals where the activity of all records is very great, efficient and improved service for the patient, doctors, and other personnel should be the result. Unless the medical record is immediately available when and where needed all the time, labor and expenses in maintaining a medical record department is wasted.

Because the space required for the filing of medical records is growing rapidly, the medical record manager must face the problem of retention of records realistically. Therefore periodical surveys should be made by the departmental head which can greatly assist the administrative personnel responsible for making decisions regarding storage space and retention schedules.

Key points to remember

- *The unit numbering system provides a single record, which is a composite of all data gathered on a given patient*

- *The straight numeric filing system has a greatest advantage in training personnel within a limited span of time*

- *Alphabetic filing by patient names is more cumbersome and subject to more error than numerical filing*

- *Periodical surveys should be made by the Medical Records Technician which can greatly assist the Hospital Administrator responsible for making decisions regarding storage space and retention schedules*

- *Unless the medical record is immediately available when and where needed all the time, labor and expense in maintaining a medical record department is wasted*

Student exercise

Answer the following

1. *Describe the following numbering system and list one advantage and disadvantage of each system.*
   - *Serial numbering*
   - *Serial-unit numbering*
   - *Unit numbering*

2. *Define centralized and decentralized filing, and summarize the advantages of centralization for medial records.*

3. *Arrange the following medical record numbers in a sequence according to each filing system: 213497, 213498, 213598, 213599, 313501, 313502, and 313503.*
   - *Straight numeric filing*
   - *Terminal digit filing.*
   - *Middle digit filing.*

4. *What is Straight numeric filing system and explain the advantages and disadvantages of this filing system.*

5. *Method of issuing medical records to doctors or clinics on request. Explain?*

CHAPTER 6   MEDICAL RECORD - INTERNATIONAL CLASSIFICATION OF DISEASES(ICD) AND PROCEDURES, THE METHOD OF INDEXING DATA

CONTENTS

GOAL

To enable the medical records assistant to understand the importance of coding the diseases and procedures in the system

OBJECTIVES

The medical records assistant will be able to
- Understand why coding is important in medical records.
- Know the process involved in assigning numbers to disease and procedural terms
- Understand the classification of diseases and procedures which is one of the most important functions of medical records department
- Will be able to understand the system of coding procedures manually and automatically
- Know the importance of ICD-9 and ICD-10 and the differences in operating these International coding books
- To update the disease and procedure codes independently in any given medical records

Medical Record - International Classification of Diseases(ICD) and Procedures, the method of indexing data

A large number of people are working in the health care field. This fact, coupled with an increase in the number and kinds of health care specialists, makes it vital that there should be a clear communication about the patient's condition. Use of standardised terminology to describe clinical progress and treatment procedures is a means for ensuring that all people involved in patient care have a common understanding of the patient's disease. Numerous attempts have been made over the years to compile accurate descriptions and identifications of all known diseases. Prior to the nineteenth century, such attempts produced some rudimentary classification systems.

Classification of diseases and procedures is one of the most important functions of the medical records department. A well-organized department selects one of the best-suited International Classification Systems to code diseases and operations for the collection of morbidity and mortality information. A classification of diseases is a system of grouping together morbid entities according to some established criteria.

What is coding?

- It is the translating of narrative descriptions of diseases, injuries and procedures into numeric codes
- The coding process involves assigning numbers to disease and procedural terms
- The principal source of coded information is the medical record. The medical record lists final diagnosis and operations and is completed by the attending doctor
- A code number for each disease and operation is recorded in the system by the medical records assistant

Why do we need to code?

Coding is done in order to group conditions and procedures that are similar for statistical tabulation. Medical and health statistics are generally used to

- Review previous cases of a given disease in order to provide insight into the management of current patient's health problems
- Test theories and compare data on certain diseases or treatments in order to conduct research and prepare scientific papers
- Procure data on the utilisation of hospital facilities and to establish a hospital's need for new equipment, beds, staff, etc., in various departments
- Evaluate the quality of care in the hospital.
- Conduct epidemiological and infection control studies on the work environment
- To accumulate risk management data, such as the incidence of medical and surgical complications

In order to develop the best possible health care delivery system with preventive, curative and rehabilitative components, it is necessary to have comprehensive information on morbidity and mortality. While making efforts to achieve this the need for the disease classification acceptable throughout the globe was felt. It led to the development of ICD .

Code numbers

- The code numbers that follow the terms refer to categories and subcategories under which the terms should be classified. If the code has only three characters, it can be assumed that the category has not been subdivided. In most

instances where the category has been subdivided, the code number will give the fourth character. A dash in the fourth position (003.-) means that the category has been subdivided and that the fourth character can be found by referring to the tabular list.

- In listing inclusions and exclusion terms in the tabular list, the ICD employs some special conventions relating to the use of the abbreviations "NOS", "NEC" use of parentheses, square brackets, colons, braces, the word "and" in titles. These need to be clearly understood both by coders, and by anyone wishing to interpret statistics based on the ICD.

Introduction to Ophthalmology ICD-9-CM

This ophthalmology coding book is divided into three sections.

- The first section contains the introduction, guidelines for use and the outline of the ICD-9-CM, showing the major categories of diseases and where they may be found in the tabular columns

- The second section is an Alphabetical indexing of specific diseases entries

- The third section is the most important for proper coding, the tabular list. This section will guide you for proper and accurate coding

- While searching for a specific code, it is always easy to refer alphabetical indexing. Here most of the diseases are cross referenced in several ways making it easier

- You can refer to the tabular list for more precise guidelines of coding. When you become more familiar with the coding process you may find that you will refer to the alphabetical indexing less often. However, coding will be more accurate if you refer to the tabular list since more precise guidelines are found there

Introduction of ICD- 10

This general coding book is divided into three volumes.

- Volume 1 of the ICD contains the classification itself. It indicates the categories into which diagnoses are to be allocated, facilitating their sorting and counting for statistical purposes.

  - Although it is theoretically possible for a coder to arrive at the correct code by the use of volume 1 alone, this would be time-consuming and could lead to errors in assignment.

  - An alphabetical index guide to the classification is contained in volume 3. The introduction to the code provides important information about its relationship with volume 1.

- Volume 2 of the Tenth Revision of the International Statistical Classification of Diseases and Related Health problems contains guidelines for recording and coding, together with much new material on practical aspects of the classification's use, as well as an outline of the historical background to the classification.

  - Volume 2 is presented as a separate volume for ease of handling when reference needs to be made at the same time to the classification (Volume 1) and the instructions for its use.

  - Detailed instructions on the use of the Alphabetical indexing are contained in the introduction to Volume 3.

- On the other hand Volume 3 of the International Statistical Classification of Diseases and Related Health Problems is an alphabetical indexing to the Tabular List of Volume 1.

  - Although the index reflects the provisions of the Tabular List in regard to the notes varying the assignment of a diagnostic term when it is reported with other conditions, or under particular circumstances (e.g. certain conditions complicating pregnancy), it is not possible to express all such variations in the code terms.

- Volume 1 should therefore be regarded as the primary coding tool. The Alphabetical indexing is however, an essential adjunct to the tabular list, since it contains a great number of diagnostic terms that do not appear in Volume 1. Therefore the two volumes must be used together.

Classification of diseases

- All medical records of patients treated in both outpatient and inpatient services must be coded for classification of disease by the medical record assistant according to the International classification of diseases.
- Various classification systems have been used, but the one in common use today is the International Classification of Diseases Adapted in the United States (ICD-9-CM) which is exclusively intended for ophthalmology coding.
- This classification is an adoption of the World Health Organization's clinical modification, 9th revision designed to serve various statistical purposes including hospital indexing.

Classification of procedures

- All medical files of patients treated in both the outpatient and inpatient departments must be coded for operation classification by the medical record department according to the International Classification of Procedures (ICP). Usually ICP-9 is in use to day to code medical records for minor and major procedures performed.

Manual indexing

- An important function of the medical record department is the compilation of patient care data from medical records. This means that certain information about patient care is extracted from medical records and hand posted on ledger sheets or cards. This method of hand posting in cards is called as manual indexing.
- Manual index means that disease and procedure code numbers are entered on each appropriate disease or procedural index cards.
- The disease conditions for which patients were treated are coded and then posted on a set of index cards, which comprises the "Disease Index"

Fig. 6.1 - Disease Index

Fig. 6.2 - Operation Index

(Fig.6.1) and "Operation Index" (Fig.6.2). While there are many manually maintained indexes still in existence, the trend is the increasing computerization of this activity.

Automated Indexing

- Many health care facilities have incorporated are considering the inclusion of the disease and procedural coding in their data processing system. Abstracts should be designed to correspond to the procedure for retrieval of information from the patients' health records.

- The coding is usually done in computer to reduce workload and to increase speed in computing data.

- The disease and procedure codes are the most expensive indexes to maintain in the department.

- The medical record assistant must not only be a capable individual, but also extremely accurate in making the entries.

- Coding systems may be effectively designed for computerised entry into a data processing system. Programs can be written to extract information and routine printouts; however, the needs of the persons using the stored information should be

considered of prime importance. Related patient information on printouts should be grouped together for easy retrieval.

Coding Control

- There must be some method for ensuring that every record is coded. Every day disposed medical records may be placed on the coding person's desk at a prescribed time.

- Coding may be done after the doctor has completed the record and it has been checked for completion by medical record assistant.

- Coding is the last step before the medical records are sent to the filing area.

- Incorrect coding, as well as incorrect terminology, results in a loss of research material.

- Ideally one or two medical records assistants can be appointed exclusively to do all the coding as this fixes responsibility for the work and should result in a more consistent code

Quality control in coding

- Diagnosis and procedure code are not simply used to provide data for doctor's research. Once an

appropriate classification system has been chosen and implemented in a health care facility, it is extremely important that continuous internal quality control measures are used to ensure the accuracy of the collected information. Because of the vast usage of recorded information, it is essential that coded diagnoses and operations are accurate and readily retrievable.

- The codes used should describe the patient's condition and treatment as definitively as the classification system will allow.

- Classification of diseases and procedures should be accurate in three areas – individual codes should correctly classify patient information according to the classification system used. The collection of code numbers for each patient should reflect the totality of his medical condition at the time of treatment.

- Finally, the code numbers must be assigned in proper sequence to reflect the principal reason for the episode of care and any contributing secondary diagnoses and procedures.

Summary

Our health care delivery system has become more specialized, so too have specialty classification systems been developed for use in recording valuable medical statistical information. Health care institutions often require the medial records technician to make individual decisions regarding an appropriate classification system for use. The medical records technician must constantly stay abreast of changes and innovations in published coding systems. No single classification will satisfy everyone's needs. A careful appraisal of the needs of the facility and an up-to-date knowledge of coding possibilities will result in selection of an appropriate coding system by the health care institution.

The medical records technician is facing a continuous challenge to stay abreast of changes which affect the coding function. The amount and type of data to be stored for each patient's stay continues to rise. Professional users of the stored data increase every day. Data processing innovations are regularly introduced to assist the medical records professional in efficient retrieval and storage of required information. It is vital for the medical record professional to keep abreast of developments so that continuous adaptations to change in data collection can be conducted as smooth as possible.

Key points to remember

- *Classification of diseases and procedures is one of the most important functions of the medical records department.*

- *Coding is the translating of narrative descriptions of diseases, injuries and procedures into numeric codes.*

- *Coding is done in order to group conditions and procedures that are similar for statistical tabulation.*

- *In order to develop the best possible health care delivery system with preventive, curative, primitive and rehabilitative components, it is necessary to have comprehensive information or morbidity and mortality.*

- *All medical files of patients treated in both outpatient and inpatient department must be coded for disease classification by the medical record department according to the latest International classification of diseases.*

- *A disease index lists diseases and conditions and an operation index lists surgical and procedures according to the classification system or code numbers.*

- *Finally, code numbers must be assigned in proper sequence to reflect the principal reason for the episode of care and any contributing secondary diagnoses and procedures.*

Student exercise

Answer the following

1. *What is coding? Why do we need to code?*

2. *Discuss the use of ICD-9-CM in the field of Ophthalmology? Explain how this differs from ICD-10.*

3. *Explain the classification of diseases and operations adopted in ICD book?*

4. *State the factors to be considered in designing the manual index card?*

5. *Discuss the method adopted to evaluate the quality of coding function?*

CHAPTER 7   HANDLING MEDICO LEGAL RECORDS

CONTENTS

GOAL

To enable the medical records assistant to understand the importance of the medico legal cases and the problems related to consumer issues in medical records management

OBJECTIVES

The medical records assistant will be able to
- Understand how to handle a medico legal case
- Know the legal rights of the hospital and the importance in maintaining the confidential communication status
- Understand the importance of medical records as personal and impersonal document
- Know the importance of summon when it is served upon the hospital
- Prepare medical record for court room scrutiny when called by a court to appear for a testimony
- Understand the method of inactivating and destructing of medical records

Handling Medico Legal Records

- With the advancement in medical knowledge and the complexity of modern medical and surgical treatment, an accurate and adequate medical record is essential as a documented reference of the patients' treatment, while in the hospital. Each medical record reveals patient-centered information.

- The patient is the recipient of the medical care, which is offered to him by a team, that usually consists of the doctor, the nurse and the paramedical worker. The team offers this care to the patient in the hospital. All activities by the team are for the benefit of the patient and this is recorded, thus making the existence of the hospital medical record possible.

- The hospital compiles and keeps medical records for the benefit of the patient, as well as the protection of the hospital and physician. However, the personal data contained therein, considered confidential, is a property interest of the patient.

- In addition to being kept for the benefit of the patient, medical records are also kept as a guide to consultants, for the education of undergraduates and postgraduates, for the training of nurses, for medical statistics research, and for the protection of the physician, hospital staff and hospital against unjust criticism.

When the hospital admits a patient, it enters into an indirect contract to render services necessary in the care and treatment of the patient. This necessitates keeping a chronological record of the care and treatment rendered by the personnel.

Medical records as legal document

Apart from the uses to which medical records are put in the normal operation of the hospital, their importance from a legal standpoint cannot be overemphasized.

The records are neither the property of the patient nor the physician but rather the property of the hospital. The physician has no legal right to determine who shall be permitted to examine the record, although his permission may be sought as a matter of courtesy. Unless patient is mentally incompetent, others do not have the right to examine the record.

As in the case of professional relationships, communications between a patient and his physician are regarded as privileged and confidential. The privilege extends to hospital records which contain information that enables a physician to treat the patient. It follows, therefore, that the records should be made available with the consent of the patient and that such consent should be obtained in writing.

Confidential communication

Medico legal problem often concern the hospital administrator, but are then transmitted to the responsibility of the records department personnel. If there is no medical record department, this responsibility is usually vested on the casualty medical officer.

The treating of medico legal cases are day-to-day problems and it is necessary that policies governing the release of confidential information be clearly defined by the administrator; the medical record must be safely guarded from unauthorised inspections. The medical record is used either as a personal or an impersonal document.

Personal document

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 the individual. The information is confidential and may not be released to anyone without the patient's permission. However, the lawyers and their legal representative,

to act in the best interest of the deceased, should be allowed to access the record for the performance of their duties. This access to the records may be permitted only after presenting proof of authority.

Neither relatives nor friends of the patient, not even the husband or wife, have any right to review a record unless authorization has been received from the patient. The authorization should always be in writing and should be filed with the record, together with a carbon copy of the information released.

It must be recognised that if a record is summoned it must be produced in court. Usually a member of the hospital or medical records department represents the hospital in producing the record in court. It is recommended that a Photostat of the record should be retained in the hospital and the original sent to the court. In the past, at times, the court had retained the original sent to the court, for an indefinite amount of time, or permanently. In such occasions the photostat copy fulfils the purpose.

If the patient should be readmitted under the care of a second physician, the second physician should be allowed access to the record of the previous hospitalisation. If the patient is subsequently admitted to another hospital, a summary may be sent upon request from the hospital or the physician. In such an instance, an authorisation is not usually considered necessary, as the information is being released in the interest of better patient care.

If the patient personally requests information from his own record, it is not always in the best interest of the patient that he knows all the details concerning his illness. It is a wise policy, in all such instances, to consult the physician. It is doubtful, however, whether the hospital would be justified in refusing the information to the patient even against the advice of the attending physician. It must always be kept in mind that laws differ from country to country and even from state to state, and therefore, one should acquaint himself with the legal requirements of the particular state.

Impersonal document

As an impersonal document, the record may be used for research or study. Such cautions need not be exercised as when it is used as personal document because it has no connection with the patient as an individual. Moreover, it is used in this manner only by physicians, under-graduate and Post–graduate student, nurses and paramedical staff, all of whom are bound by the code of professional secrecy.If the research is being done by a staff physician and is not for publication, it is not necessary to obtain the permission of the attending physician to use the record, although this is done as a matter of courtesy.

The medical record, as an order of business, is the property of the hospital. The personal data contained in the record are considered as a confidential communication in which the patient has a protectable interest. It is compiled, preserved, and protected from unauthorized inspection for the benefit of the patient, hospital and physician. When releasing any information, the medial record department must ascertain whether the record is to be used as an impersonal document or a personal document.

If it is to be used as personal information, written authorization must be obtained from the patient or his authorized representative. If the record is to be used within the hospital for purposes of quality assurance, continuing education, research or other scientific investigations, permission is not necessary from the patient or from the attending physician, unless the information is to be published. In such an instance it is desirable to secure the consent of the attending physician.

Since the medical record is frequently used as evidence in court, it can serve as a protection to the hospital physician and patient, only when it clearly shows the treatment given to the patient, by whom given, and when given. It must show that the care and service given by the hospital and by the physician were consistent with good medical practice.

Medical record in court

The presentation of information from medical records as evidence in a court is quite proper. Indeed the record is maintained not only to provide information for medical and administrative purposes but also because it contains data of the highest value to individuals and organisations having a legitimate need to know its contents. The record is an unbiased chronological report made in the regular course of business of the hospital.

1. Summon

A summon is a court order (Fig.7.1). It is designed to cause a witness to appear and give testimony. If the order is neglected by the receiving person he will be under pain of penalty for failure to do so. It should be noted that summon requires the presence of the witness to come with certain specified records. The person to whom summon is issued may be considered to have committed contempt of court if he does not honour it, or present a satisfactory explanation of the reasons why it was not honoured.

2. Preparation of medical record for court

When preparing a medical record for court room scrutiny, the following steps and procedures will be useful:

- As soon as you receive summon, the medical record should be checked to make sure it is complete and all reports are present
- Material not of a medical nature such as letter of correspondence should not be fastened into the record or folder
- Check the record to make sure it is complete, signatures and initials are identifiable in each sheet containing the patient name and number
- Before taking the medical record from the hospital to court, each page should be numbered in ink; the total number of pages should be recorded on the folder
- To avoid the necessity of leaving the original record, many medical record technician Photostat

Fig.7.1 — Summon

the record and take the photocopies together with the original medical record when answering to a summon
- When this has been done, many trial judges will accept the photocopies in lieu of the original medical record after the latter has been properly identified

Other legal aspects

Each patient has the right to decide for himself what treatment, therapy or procedures will be performed on his person. Once the alternatives have been made clear, an intelligent decision can be reached to consent to or refuse suggested remedies.

A written authorisation for each surgical procedure or operation to be performed should always be obtained from the patient, or appropriate representative if the patient is a minor or otherwise legally incompetent. To be valid, such a consent or authorisation must be an informed consent.

The patient or representative should include in writing that he has been told what is to be done, the risks involved, and the consequences of the procedure. One is the general consent to medical and hospital treatment to be signed when the patient is admitted to the hospital. These two forms used together should meet the requirements of an informed consent so long as it is clear that the responsibility rests with the physician and surgeon to give the patient sufficient information on a level he can understand to allow him to make an informed judgment.

Children under the age of minority cannot generally give consent to their own medical treatment. A parent or legal guardian should sign the consent. It is good practice to obtain the consent of the parents of any minors who is to receive medical or surgical treatment.

Patient leaving against medical advice

If a patient is discharged against the medical advice of the doctor, the signature of the patient or nearest relative should be obtained in a prescribed form or in the progress/nurses notes. The patient or nearest

relative should be informed of the consequences or risk involved and the hospital is not responsible for any adverse effects.

In the event the patient or nearest relative refuses to sign, the patient record should be signed by the physician with a written statement and duly witnessed setting forth the circumstances, reasons, and warnings against such premature departure without the advice of the doctor.

Patient absconding from ward

Information about absconding patients must be recorded in the medical records file with details concerning the date and time the patient was discovered to be missing from the (room or bed) ward. The treating doctor should note down the time and date of incident and sign the medical record accordingly. The security officer and the accounts manager should be informed about the incident. The matter must be communicated to the nearest police station.

Permission to leave the hospital temporarily

As a policy, any patient, who is hospitalized, should not be permitted to leave the hospital. At the discretion of the treating doctor the patient may be permitted to leave the hospital temporarily for a period of not more than 12 hours. If permitted and the patient fails to return within 12 hours, he or she should be treated as discharged and the necessary entries made in the record with proper intimation to the security officer and accounts manager.

In case of patients, who return according to schedule, necessary entries of date and time of leaving and returning to the ward should be made in the patient file with prior intimation to the security officer and accounts manager.

Medical record retention policy

It is a rare case in which the medical record technician has ample space for storing medical records. For most practitioners, there is a never-ending battle against overcrowded files. The alert medical record professional has to develop a formalized plan for record retention schedule for the automatic transfer of ineligible records for inactive storage and later destruction of the medical record itself. This alleviates the problem of deciding what to do with the overcrowded files once a year.

The length of time a medical record is retained in active and inactive storage will greatly depend on the type of health care facility and the activity of the medical staff. In developing a record retention policy, a health care institution must be guided by its own patient care and research activities, taking into consideration the possibility of future legal action by patients. Based on these factors, a decision should be made regarding the age of record before it is placed in inactive or alternate medical record storage in another area of the facility.

Inactive medical records

A definite plan for handling inactive records must be established in order to provide filing space for a continuously expanding active file. Practically speaking, the chief criterion for determining record inactivity is the amount of space available in the department itself for the efficient storage of the newer medical records.

In one department, records of discharged persons which are five year old may be designated as inactive, whereas in another department with an acute shortage of filing space, inactive records may be defined as records only one or two year old. If there is no more space for active record storage, an effort should be made to systematically retire older records to inactive status at the same rate as new records are being added.

Inactive records can be stored in another area of the facility; they can be commercially stored; or they can also be destroyed in compliance with record retention statutes. Storage for inactive records may be established in areas of the facility physically separate from the medical record department. As old records are removed from the active files, transfer slips to the inactive files should replace them. This will eliminate unnecessary searching in the inactive storage area.

Destruction of medical records

The destruction of inactive medical records by shredding or burning has gained popularity in recent years as health care institutions realise that medical records with longer age have very little to contribute to current patient care and research activities.

A hospital or other health care institution is seldom requested to produce medical records older than ten (10) years for clinical, scientific, legal, or audit purposes. Accordingly, it is recommended that complete patient medical records in health care institutions usually are retained, either in the original or reproduced form, for a period of ten years after the most recent patient care usage. After this period, in the absence of legal considerations, such records may be destroyed.

Consumer protection

Since 1986, the consumer protection act came into existence; the health care providers including doctors, nurses, paramedics and hospital administration have to be meticulously careful in understanding the full responsibilities that they have to fulfill in the legal and administrative sense. This becomes vital to ensure whatever the services rendered have to be properly documented in patient records to safeguard the staff involved in the consumer service. After enacting the consumer protection law which has brought medical service also under its purview innumerable negligence cases been brought out against medical professions, From health point of view the paying patient who receives health services from clinics, health institution, nursing home, etc. is considered to be the consumer and the service is defined as medical/health service of any type received in any recognised health institutions, clinics, nursing homes from a qualified medical, nursing, paramedical professional by a patient.

Medical negligence

The medical negligence can be distinctly divided into two categories primarily due to incompetence and mere negligence, secondly due to non-maintaining organised patient record. Medical malpractice under the law is more than a mere error in treatment or diagnosis. The medical record is the basic reference document used in medical malpractice litigation.

A well-organised, well-written record is the best defense for the competent health care provider. The poorly written, disorganized record is strong evidence of an incompetent health care provider. The poorly kept medical record is not in itself proof of negligence on the part of the health care provider, but it is proof of substandard care.

A medical man rendering professional service for consideration is liable under Consumer Protection Act , if he falls short of the standard of a reasonably skilful medical person in his field. The Supreme Court has laid down that whenever a patient approaches a practicing medical professional, his responsibility is not to completely refuse because the patient's problems are unrelated to his speciality, but he has to provide a minimum possible care or consultation or treatment and refer the patient to the appropriate medical facilities and document the episode.

Medical malpractice

Medical malpractice litigation is built around the medical record. The medical record provides the primary objective record of the patient's conditions and the care provided. Records are particularly important for a physician's defense. It is the doctor's responsibility to keep the medical records to prove that the injuries were not due to negligence.

If the record is incomplete, illegible, or incompetently kept, this is the doctor's failure. While courts and juries usually give a doctor the benefit of the doubt on unclear matters, this does not extend to ambiguities created by incompetent record keeping.

Medical professionals are expected to exercise and provide reasonable degree of skill and knowledge and

also exercise reasonable degree of care in treating patients.

Service rendered free of cost

A medical practitioner rendering professional service free of charge has no obligation under the Consumer Protection Act 1986.

An unreasonable patient is not a consumer for availing of medical services free of cost.

The patient undergoing medical treatment in a hospital providing the service of doctor free of cost is not a consumer.

Summary

The medical record is the property of the hospital, while the information contained in the record is considered as a confidential communication in which the patient has a property interest. It is compiled, preserved, and protected from unauthorised inspection for the benefit of the patient, hospital, and physician. When pages and pages of data are written in the interest of the patient's treatment, to someone else it may mean a waste of paper. But, it is obvious that each statement made in the hospital medical record is a relevant fact which can be produced as evidence in a court of law. When releasing any information, the medical record department must ascertain whether the record is to be used as an impersonal document or personal document. If it is to be used as personal information, written authorisation must be obtained from the patient or his authorised representative. If the record is to be used within the hospital for purposes of quality assurance, continuing education, research or other scientific investigation, permission is not necessary from the patient or from the attending physician unless the information is to be published. In such an instance it is desirable to secure the consent of the attending physician.

Since the medical record itself must frequently be used as evidence in court, it can serve as a protection to the hospital, physician and patient, only when it clearly shows the treatment given to the patient, by whom given and when given. It must show that the care and service given by the hospital and by the physician were consistent with good medical practice. By the same token, the record may prove to be a potent weapon against the hospital or physician in an action by the patient. Any deficiency which indirectly leads to negligence and malpractice could be prevented and minimised the risks to the patient and protect the doctors from malpractice suits.

Key points to remember

- *The hospital compiles and keeps medical records for the benefit of the patient, as well as the protection of the hospital and physician.*

- *The records are neither the property of the patient nor the physician but rather the property of the hospital.*

- *The treating of medico legal cases are day-to-day problems and it is necessary that policies governing the release of confidential information be clearly defined by the administrator.*

- *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 the individual. The information is confidential and may not be released to anyone without the patient's permission*

- *As an impersonal document, the record may be used for research or study. Moreover, it is used in this manner only by physicians, House Surgeons, under-graduate and Post–graduate student, nurses and paramedical staff, all of whom are bound by the code of professional secrecy*

- *The record is maintained not only to provide information for medical and administrative purposes but also because it contains data of the highest value to individuals and organisations having a legitimate need to know its contents*

- *A summon is a court order designed to cause a witness to appear before a specified court or officer at a specified time and give testimony*

- *A written authorisation for each surgical procedure or operation to be performed should always be obtained from the patient, or appropriate representative if the patient is a minor or otherwise legally incompetent*

- *The paying patient who receives health services from an health institution is considered to be the "consumer" and the" service" is defined as health service of any type received in any recognised health institution from a qualified medical, nursing, paramedical professional by a patient*

- *A well-organised, well-written record is the best defense for the competent health care provider. The poorly written, disorganised record is strong evidence of an incompetent health care provider*

Student exercise

Answer the following

1. *What do you mean by confidential communication? Explain the circumstances in which the medical record is used as a Personal and Impersonal document?*

2. *List the steps taken in preparing a patient's medical record for entry into the court proceedings in response to a summon?*

3. *Explain the importance of getting the informed consent and the operation consent from the patient? What legal problems may arise when we fail to do so?*

4. *What is medical negligence? And the role of consumer protection act in such an occasion?*

5. *Explain how will you inactivate or dispose medical records based on the policy of your hospital?*

CHAPTER 8   SAFETY AND SECURITY OF MEDICAL RECORDS

CONTENTS

GOAL

To enable the medical record assistant to understand the safety and security measures which should be followed in medical records management

OBJECTIVES

The medical record assistant will be able to
- Follow the safety rules and regulations which have to be followed in medical records
- Understand the necessity for safe keeping of medical records
- Follow the procedure for preserving medical records from temperature, from insect attack and for humidity control
- Under stand safety measures to be taken against fire in records room
- Understand the policies on disclosure of medical record, to patients and other health care providers

Safety and Security of Medical Records

The hospital organisation and its individual employees jointly share the responsibility for the best possible care of the patient. To fulfill this obligation, the hospital and the employees are both charged with certain reciprocal ethical obligations to safeguard confidential information regarding patients and the hospital; to avoid gossip and criticizing the hospital in public; to develop a spirit of mutual friendliness with fellow workers, and to be courteous to the public. The hospital therefore is responsible for providing adequate safety and security to prevent access to patient's medical record by unauthorized persons or protecting the records from nature from the time the record is initiated.

Safety for staff

- Safety factors are an important consideration in the filing area and safety rules should be conspicuously posted
- The prevention of falls is of prime importance, particularly when staffs are working with the upper shelves in open-shelf units. Skid proof ladders and step type steel stools are a wise investment
- Filing shelves and other mechanical equipment devices should be well erected to avoid accidents.
- There may be either pullout shelves in the record-storage unit or carts of some type to assist in processing records within the filing area
- Adequate lighting reduces eyestrain. Proper conditioning of the air with regard to temperature, humidity and dust control is essential for fire prevention and employee productivity
- Necessary safety measures should be taken for the welfare of both the departmental staff and visitors to the department

Preservation of records

Protective covers for medical records

In order to keep the contents of medical record documentation intact and to protect the sheets from tearing and from the effects of repeated handling, medical records should have protective covers. Some that are popular are chart covers, file folders, and record folders are common options.

- Record folders may be purchased with preprinted numbers on the cover, which provides a neat and legible appearance
- The patient's name as well as the hospital number should appear on the folder or cover
- A sequential list of years printed horizontally on the front right–hand side of the folder allows for checking the year of most recent registration and makes purging inactive records an easy process

Selection of paper and ink

The medical records which are needed to be preserved either for a long duration, say for more than 10 years, or permanently, the selection of paper or ink plays an important role in the preservation.

Ambience of records room

- Exposing the records to a hot and dry climate, stagnant air, direct sunlight or heat, accumulation of dust and dampness, leads to deterioration. Hence, arrangements for proper cross-ventilation and provision for an adequate number of electric fans/air-conditioners and exhaust fans should be made to ensure good air circulation
- Regular dusting of records with the help of vacuum cleaners is also necessary to keep them clean and tidy

Protection from insect attack

- Prevention of infestation of records by insects can be done by periodical checking of the floors and walls and attending to minor defects, using insecticidal powders or sprays and naphthalene. While using liquids, care should be taken to see that records on shelves are not directly sprayed upon, as it may stain or damage the record

- During fumigation of record rooms, only those fumigants, which do not have any deleterious effect on paper and other record materials, should be used

- Filing racks should not be kept in close contact with damp walls to avoid damage by silverfish. The rack should be installed at least 5"away from the wall. Since wooden shelves attract white ants, closed steel racks are preferred for filing medical records

Safety measures against fire in records room

- The entire medical record department, especially the filing area of records and X-rays, should be protected from fire

- Important documents such as medico legal cases should be preserved in "fire-proof" cabinets

- All electrical cords should be covered to avoid short-circuiting. Smoking, lighting of matchsticks, carrying of an open flame, and storage of chemicals should be prohibited in the record room. All electric wires should run through conduit and windows and ventilators should be fitted with wire-net frames

- An adequate number of fire extinguishers should also be fixed in all convenient locations

Temperature and humidity control

- Temperature and relative humidity of the atmosphere above 32° Celsius results in the growth and propagation of pests like hookworms, silverfish, cockroaches, termites, and a variety of funguses commonly known as mildew. The temperature most suitable for proper preservation of paper and other record materials ranges between 22-25°celcius

- Regulation of temperature and humidity in the above range is only possible with the help of an elaborate air-conditioning plant

- Heavy dust particles are also eliminated in the airway system. Direct sunlight should also be minimized as it damages the records

- All endeavors for proper preservation and storage will however be in vain if care is not observed in handling the records

Security of medical records

The policies on disclosure of the contents of medical record must begin with a set of basic principles. These basic principles relate to the uniqueness of medical record: confidentiality, accessibility and hospital security. Medical records of the hospital maintained for the benefit of the patient, the doctor, and the hospital are regarded as the property of the hospital.

Confidentiality and disclosure

- The patient has the right to expect that records pertaining to his care will be treated as confidential, and the hospital has the responsibility to safeguard his records against unauthorised disclosure

- Subject to applicable legal provisions, the hospital may restrict removal of medical records from the shelves or from its premises, determine who may have access to their contents, and sort the information that may be disclosed

Accessibility

- Medical records should be used within the hospital only by authorised personnel on a need-to-know basis

- Responsibility for disclosure of medical record information by the hospital, with or without the authorisation of the patient should be delegated to hospital administrator who recognises the occasional situations that require the advice of a doctor or the hospital lawyer

- The hospital shall provide security to safeguard medical records and establish internal policies to provide for their proper use as needed to carry out functions within the hospital

- Access to the medical record without the written permission of the patient depends on the reason for the request

Hospital security

- It is the responsibility of the hospital administrator to establish and implement security measures that reasonably safeguard both the medical records and its informational content, whether in hard copy or in computerized form, against loss, damage, alteration and, unauthorised disclosure

- All employees of the hospital must be made aware of their responsibility in maintaining the confidentiality of medical record information and of the disciplinary actions that may be taken for unauthorised disclosures of patient identifiable information

Patient's authorisation

- Use of a patient's previous medical record, both inpatient and outpatient, by doctor and other hospital doctors involved in the care on that patient at the institution maintaining the record does not require the patient's signed authorisation because consent to such use is not mandatory

- Disclosure of medical information in the event of direct referral or transfer of patient to another institution does not require patient's signed authorisation. I n that event it becomes necessary to disclose the contents of the record of that institution

- Written authorisations from the patient may be necessary under some regulatory requirements. One of the purposes of a well drawn authorisation for disclosure of medical record information is to indicate to the patient or the lawyer acting on his behalf, what subject matter is being authorised to be disclosed to the person or organisation that will receive the information

Study and research programs

- The rules of the hospital shall define the extent to which doctors and other professional staff in good standing are privileged to use the medical records for study and research and shall describe circumstances that require patient authorisation for such use

- Anyone using the medical records for study and research must also share the responsibility for

protecting the confidentiality of medical records, ensuring availability of medical records for patient care purpose at all times

Policies on external disclosure

- Without the authorisation of the patient, access to the medical record should be provided only on a need to know basis, including the necessity for external or internal administrative tasks

- Disclosure of medical records content can be done only by the hospital administrator

- The hospital should establish its own policies for disclosure of medical record information to meet various requests from outside such as insurance companies, corporate companies having tie-up with the hospital and, outside agencies authorized to receive information

- The hospital authorities should also include the establishment charges for furnishing copies of medical records

Summary

The hospital medical record is not merely a collection of papers recounting the tale of the patient's sojourn under the care of his physician in a hospital. It is an in-patient document and is frequently used in the court. It can serve a protection to the hospital, physician and patient only when it clearly shows the treatment given to the patient, by whom and when. Medical record is compiled, preserved and protected from unauthorized inspection for the benefit of the patient, doctor, hospital and its employees. Plenty of data are entered in medical records. To some it may mean a waste of paper. But, it is obvious that each statement made in the hospital medical record is a relevant fact which can be produced as evidence

in a court of law. The hospital therefore is responsible for providing adequate safety and security to prevent access to patient's medical record by unauthorised persons or protecting the records from nature from the time the record is initiated.

Key points to remember

- *Safety factors are an important consideration in the filing area and safety rules should be conspicuously posted.*

- *Proper conditioning of the air with regard to temperature, humidity and dust control is essential for fire prevention and employee productivity.*

- *To protect the sheets from tearing and from the effects of repeated handling, medical records should have protective covers.*

- *Important documents such as the ones related to medico legal cases should be preserved in "fire-proof" cabinets.*

- *All officers and employees of the hospital must be aware of their responsibility in maintaining the confidentiality of medical record information and of the disciplinary actions that may be taken for unauthorised disclosures of patient identifiable information.*

- *The hospital should establish its own policies for disclosure of medical record information to meet various requests from outside such as individual persons, outside agencies, or organizations authorized to receive information.*

- *The hospital should maintain either the original or copies of the patient's disclosure authorisation, which should be made available for examination by the patient*

Student exercise

Answer the following

1. *Discuss the safety measures to be taken in the interests of the patient and the hospital.*
2. *Explain in detail about the preservation of medical records.*
3. *Devise medical record policies and procedures for the release of confidential patient information to patients and their authorised representatives, third party agencies and insurance companies.*
4. *Discuss the procedure to be followed while disclosing the contents of medical record document to another hospital where the patient is taking treatment.*

CHAPTER 9   PROBLEMS RELATED TO MEDICAL RECORDS AND ITS MANAGEMENT

CONTENTS

GOAL

To educate the medical records assistant to understand the problems related to medical records management and the method of solving them

OBJECTIVES

The medical records assistant will be able to
- Find a medical record that is missing or that has been filed in a wrong place
- Manage an unexpected crowd by following the techniques taught to them
- Manage the unsatisfied customer by following the procedures to be adopted to satisfy them
- Manage crisis situation like system failure or power shut down

CHAPTER 9
Problems related to Medical Records & Management

A patient complaint in medical records is one of the best opportunities for turning an unhappy patient into a loyal customer. Even the most dissatisfied patient can become an ambassador, winning new patient for the institution by word-of-mouth advertising. Only a few patients will complain . The majority will not return to the hospital and will tell others of their bad experience. The simple fact is that one may be pushing profits out of the door in the abscence of effective complaints handling policy.

So, through resolving a complaint efficiently and fairly, the hospital retain the customer's loyalty and potentially gain new customers through good feed back. Take time to handle complaints when they are first made as, prompt action will more likely satisfy the patients. The faster a complaint is resolved, the less time you'll need to spend on it.

You may not believe the patient's complaint is justified but remember that, although they may not be 'right' in your opinion, they are telling you because they are unhappy. Their complaint is an opportunity to retain the patients. The situation may be difficult if the patient is angry or has an irritating manner, or if their complaint seems trivial to you, but getting angry yourself will only make it worse.

Find out the exact problem. Listen carefully to what the patient is saying, empathise with them and make sure you understand by checking it out with them.

The studies which are carried out in this chapter will be a supportive version in solving the problem related to medical records and the method of managing them.

How to detect a wrong - filed medical record?

In spite of the techniques adopted to file the records properly, there are several instances of human errors in filing the records.

- When a record is not found in its original place, usually the medical records team is forced to search for the record which is misfiled thereby bringing the routine affairs to a standstill.
- In such a situation the M.R.No., of the misfiled records as well as the medical records number similar to the number of the misfiledrecord are noted.
- For example, if the misfiled number is 534607, the number similar to this will be 534067 or 534670 or 536407 or 536470 or 534507 or 534807.
- Thus the misfiled record is searched in all these locations. Apart from this, all medical record number serial from 534000 to 535000 will be also searched if the record is not traceable through the first method.
- If the record is still not found, a list of all revisit patients visited on the day can be taken and the missing record can be searched in between each and every record filed on that day.
- Possible chances are always there to file two medical records keeping one into another, thus by misfiling one of the two records.
- At times it is also possible for the filing assistant to do a wrong filing when she is doing the filing job constantly for more than two or three hours. Continuous eye strain may also cause a wrong filing.
- Despite all the above measures, if the misfiled medical record is still not found, all medical records available in the particular shelf should be removed and searched to find the possibility of medical record lying in between any one of the medical records.

Finding a missing medical record

Despite the extensive measures adopted to have good control over medical records, some records will be

missing. This could be due to non-receipt of medical record from the clinic or not filing the medical record in its appropriate place.

- Under these circumstances, when a doctor insists on obtaining the original record for rendering care, the medical records assistant should inform the doctor first about the non-availability of medical record.
- Due care should be taken by the medical records assistant to search for the original record.
- Patient can be enquired about the clinic he has visited, the investigations advised and referred to any other clinic during his last visit.
- Possibilities are always there to find the record in any other clinic due to an awaited lab test or any other procedure to be performed upon the patient.
- If the original record is not found within 15 minutes from the time of registration, necessary steps should be taken to open a duplicate record thus, by avoiding the patient to wait in the registration area for a longer duration.
- Thus a duplicate record can be created with the same medical record number and with the sociological data of the patient. The word "Duplicate" should be written in the right side top corner of the record.
- The duplicate record thus created should be recorded in a note book.
- This will help the medical records technician to remember the number and search the same with the help of the medical records assistant during the leisure hours.
- When the original record is traced, the medical records assistant should incorporate all the forms found in the duplicate record to the original record.
- Before filing the original record in its place, the name and medical records number entered in the duplicate search note book should be deleted.
- It is always advisable to inform the patients telephonically or through a letter when the original record is found.

Patient having multiple records

The medical records technician should be very careful in avoiding multiple records for a particular patient by taking necessary steps to eliminate duplicate records and ensuring each patient to have one medical record only.

But, without the knowledge of the medical records staff patients may tend to register newly during every visit to the hospital. The reason is patients feel very desperate to inform the staff that they last their identity card. In such a situation, it becomes necessary to retain one record by cancelling the others.

The appropriate procedure is to retain the new record. The remaining records have to be cancelled and given cross-reference numbers. All the documents in the cancelled records need to be moved into the retained record. The cancelled empty folders with the cross-reference numbers should be placed in their respective area. Any cancelled record number should never be allocated to a new patient.

Patient crowd management

The primary factor in ensuring a safe and comfortable environment for managing patient crowd is planning. Most of the hospitals may not experience this situation as they see only a very limited number of out-patients. But, there may be a situation when you find a large crowd of patients after a festival or a monday morning when you find it difficult to manage the crowd.

Many hospitals train their crowd management personnel and provide orientation manuals for staff and security. Whenever large crowds gather the processing of those patients must be organized, orderly and disciplined. Using a queue means having control over a large crowd. It also prevents potential hazard of crowd developing a sense of urgency and rush towards an entry point. This sense of urgency or anxiety is the crucial factor that must be removed.

The patients can be well informed about the present situation through public address system. Creating awareness among patients will reduce their tension there by preparing their mind about the actual time taken to reach the counter.

During power shutdown or when system fails
- An uninterrupted power supply (UPS) provides constant power to a computer system when

power fluctuation or power loss occurs. The key to recovery from a systems failure is preparation.

- If you have already taken steps towards prevention of power related problems and arranged for continued working of systems, you will be in a much stronger position to handle the unexpected.
- Perform a risk analysis. This can be a sophisticated and extensive exercise, but it is essential to establish the importance of each system or system element. Work out what could stop them operating. Implement appropriate controls to minimize the disruption caused by any untoward event.
- Take regular backups of information and store them away from the system. Establish how long your hospital can tolerate a system failing (a day, a week?) and make sure your backups allow you to recover before that time elapses. If you hold sensitive information, remember to apply appropriate security to your backup media.
- Make sure you have access to alternative machines to run your systems and hold your data. Make sure all staff know what to do in an emergency.

Summary

There are large number of issues in a hospital that result in dissatisfaction of patients and their visitors. A number of such issues continue happening without the notice of management. The nurse, medical records staff and all others who come in contact with patients and their attendants need to be sensitised to behavioral issues. The management should make it clear that patients are very important to the hospital and misbehavior or maltreatment would not be acceptable. However, due care should be taken to maintain and promote self-respect and dignity of the staff. A vigilant Hospital Management professional can identify most of these issues and can take corrective actions. Attending the patient promptly and improving communication is the key to improving patient satisfaction. Whenever it is not possible to retrieve a medical record promptly, inform the reason for delay and when it will be possible to provide the record. Merely satisfying the patients may not be sufficient to gain his loyalty. The providers may have to exceed the expectations of the patients.

Key points to remember

- *Patient cannot evaluate the professional quality of care, but they do evaluate the food, linen and housekeeping services and behavior of the staff*
- *Patient complaints tell a health care organization how to improve services; they are most efficient and least costly way of getting information from patients and understanding their expectations about the services you offer*
- *As a general rule, each patient should have one medical record and one medical records number*
- *Take time to handle complaints when they are first made, prompt action will be more likely to satisfy the customer*
- *The key to recovery from a system's failure is preparation. Take regular backups of information and store them away from the system*
- *A practical demo can be arranged as how a UPS works and how the system fails and the medical record assistants can be explained as how to overcome such a crisis*
- *The medical record assistants can be instructed as how they should manage the crowd and they can be practically exposed to manage them*

Student exercise

Answer the following

1. *Public is becoming more and more conscious of their rights and privileges and are expecting a higher standard of service. What method you will adopt to give a quality service to them?*
2. *An author has written that " patients" complaints are the biggest gift to the organisations". How will you react to the statement?*
3. *Describe the various methods of finding a missed or wrongly filed medical record? What steps will you take to communicate to the patient?*
4. *If a patient absconds from the ward what steps should be taken regarding the legal proceedings?*
5. *Explain the steps to be taken during a system failure or when the UPS is down? What steps you will take to avoid it recurrences?*

CHAPTER 10 COMPUTER AND ITS USES IN MEDICAL RECORDS MANAGEMENT

CONTENTS

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GOAL

To make medical record assistant to understand the basics of computer application and its uses relating to patient care and medical records department

OBJECTIVES

The medical record assistant will be able to
- Learn and know various components of computer
- Understand various applications available
- Know the basics of using Electronic mail and other applications pertinent to medical records
- Work independently in preparing slides or generating various statistical reports on weekly, monthly and annual basis

CHAPTER 10
Computer & its uses in Medical Records Management

Handling of information through technology has become in recent years, a science in itself. Information science in everyday life is springing up as a new business which is devoted entirely to meet the needs of management and scientific groups in establishing better systems for storing and retrieving information. The current HMS (Hospital Management System) is the outcome of transformation that has taken from the manual hospital related information management to a fast and accurate computerised HMS and promises to play this role even more dramatically.

What is a computer?

A computer is a device that accepts information (in the form of digitalized data) and manipulates it for some result based on a program or sequence of instructions on how the data is to be processed. The components of the computer is, a) Keyboard, b) Data Storage Devices, c) The Optical Disk d) Printer e) Mouse

Key board

A keyboard is basically a board of keys. Along with the mouse, the keyboard is one of the primary input devices used with a computer. The keyboard's design comes from the original typewriter keyboards, which is arranged with letters and numbers in a way that prevents the type-bars from getting jammed when typing quickly.

Data storage devices

This device stores information on a long-term basis. There are two types of data storage devices internal and external. The storage devices are Hard discs, optical disc etc.

The optical disk

The microcomputers have developed optical disks in recent times called as CD ROM's or Laser disks. These disks use a laser to write data onto a hard magnetic platter. This is similar to the technology used to record sound on a compact audio disk.

Printer

Printer is a device that translates signals from a computer into words and images onto paper in black and white or color. Printer types include dot matrix, ink jet, laser, impact, fax, and pen, plotters and ink devices.

Mouse

The mouse is the cursor control device, by which many operations of the computer can be performed by clicking.

Software

The software refers to the medium containing the information that instructs the hardware how to perform a particular task. Coded instructions (programs) make a computer to do useful work.

Program

A program is a set of instruction written in various computer languages or an application program for performing a task. This prescribes the actions ("computations") that are to be carried out by a computer. Most programs consist of a loadable set of instructions which determines how the computer will react to user input when that program is running, i.e. when the instructions are 'loaded'.

Operating system

There are three types of operating systems- Micro Disk operating system (MS-DOS), Microsoft windows (MS-Windows) and the UNIX operating system. The Microsoft-windows is the commonly used operating system in the personal computer. The network version is also used in Local Area Network computers.

Application programs

A program that performs tasks is called an application program. For example, a word processing program is an application program that inputs, edits and prints documents such as letters, memos, and reports. Excel is an application program that manipulates numeric data, related to inventory or financial analyses such as inventory of a store or hospital statistical analysis

Word processor (Microsoft word)

A word process is a program for manipulating text. Such programs allow you to type a document and alter it on the screen as you type. You can move directly to any point within the document to add, delete, copy or move a section of text, incorporate pictures, and import information from other application programs..

Spreadsheet (Microsoft excel)

An excel program turns the microcomputer into an accountant's worksheet. It can be used to plan budgets, to do accounting tasks, and to analyse investments. This program allows defining relationships between numbers with the definitions and formulae of the hundreds of numbers entered on the Excel can be manipulated to required data.

Database management (Microsoft access)

Database is very important for any organisation. For example, there is a data sheet in the patient's information and the laboratory generates an investigation report for every order placed. These information data can be easily maintained by storage in a diskette. When necessary, such data can be analysed or updated by using the database management program, Microsoft Access.

Graphics

Graphic programs help in creating images on a screen and to print such images with a printer or plotter. The most common graphics are bar charts, line graphs, pie charts, and histograms.

Computers and communication

Communication and computers have become easy and fast. With the online system and Internet facilities, computer users all over the globe are able to communicate with each other via electronic mail and with minimal cost. The hospitals of different parts of the world want to share their medical technology through the Internet facilities or telemedicine facility. This has facilitated the storage of research work information on the World Wide Web, which is used all over the world through Internet facilities.

E-mail (Electronic mail)

Electronic mail is one of the communication programs. By electronic mail one can receive memos, reports, and sales information from anywhere in the world. The sender can deposit the mail at any time, and you can view your mail by using a communication program to transmit the mailbox to your computer. You can also down load and print.

Development of computerised medical records management system

- The development of computerisation in the field of medical records was started in early 1960's by storing the patient demographical information, which was retrieved as and when necessary
- The clinical information including diagnostic and operation indices is also stored separately. This has reduced the manual work carried out for the statistical purpose
- Each department- medical, surgical, laboratory, radiology, wards, administration is equipped with personal computers, which operates individually,

hence when information was required from a particular department, the information was retrieved from that particular computer

- The invention of the Local Area Network (LAN) and Wide Area Network (WAN) have enabled individual computers to be linked with the help of a central server. This type of networking system made the data available at any part of the hospital where the computers are connected to the central server

- Even the health care organizations, which are geographically located in different areas are linked through the telephone lines by a modem. This has considerably reduced the time necessary for retrieving information, within and outside the health care organization

- One of the important recent developments in the field of computers is the scanner. The technology of the scanner is the same as the photocopying machine, but the image scanned is stored in the electronic medium

- The scanned images can be further magnified and viewed or printed for the clarity and clearness of the findings

- This technology in the field of the medical record has eased the process of retention of inactive records by scanning and storing them in the electronic medium

- This has also paved the way for the Electronic Patient Record, as almost all the clinical information including the diagnostic results can be scanned and viewed through the monitor

- Instead of physical records, now records are documented by typing the information straight into the computer and diagnostic images scanned and stored to be available online. Once the information has become inactive, it will be stored in the secondary storage device for future references

Advantages of computerised patient's clinical record

- Good medical care requires comprehensive and accurate records than previously due to advancement of technology, high expectation of patients, malpractice, third party payer's claims, and enormous cost to provide efficient health care

- All these lead to effective methods of keeping the patient's clinical records

- The computer system must accomplish something better than the manual medical records and help the physicians, nurses and other staff to improve their efficiency in providing better medical care to patients with reasonably low cast

Telemedicine

The Tele-medicine is nothing but, the transfer of the health information from one part of the world to the other to get the experts opinion for further management of patient care. With the latest development, the management of health information can also spread in the remote areas by having a wide area network, in which the information can be stored and shared from a central server to any part of the world.

Electronic medical records (EMR)

The paperless medical records can be defined as the patient care management data entered directly or infused into an electronic machine which is capable of accepting, storing, and retrieving comprehensive integrated data in the least possible time at the required places. To achieve this, there is a need to design clear patient care management information, which should assist in registration of total patient information at the point of each transaction.

The capture of data is recognised to be a key concern in designing a comprehensive Health Information System (HIS). Maximum benefits including improved quality cares with reduced cost are only realised when the primary creators and consumers of information interact directly with a system.

Computers offer "on line" systems that provide the hospital staff with direct access to computerised data bases through decentralised communication terminals. Ideally the computerised system for medical records should be integrated with the hospital information system.

Some of the advantages of EMR is that the records are organised, legible and, therefore, likely to minimize misunderstandings as well as patient care errors. The health care professionals especially nurses, are more productive as less time is devoted to paperwork and also instant billing is possible.

Summary

The health care delivery system is rapidly changing due to the high expectations of the society. The general public has become increasingly interested and knowledgeable about health care and health maintenance. The strategy of health care delivery system has to be completely reorganised in view of the fast growing technology which is available to the human being today. In order to improve the traditional health care system, a computer-based medical record should replace the traditional paper record. The challenges of migrating to the modern technology like computer-based health information, intra and internet linking systems are enormous, but, so are the rewards.

In conclusion, the manual system had served the purpose of the hospitals. With advent of the computer technology unwanted costly and duplicate system has been restricted. As manual system leads to duplication and more clerical efforts and time consuming and needs extra efforts to achieve certain results. In manual system there is more expenditure, and also possibility of losing the health information

due to the environment factors such as heat, rain etc and also due to human error such as misfiling or not keeping an account of records not returned.

Key points to remember

- *A personal computer is a single device which consists of a number of separate components that work together as a microcomputer system*
- *Keyboard consists of various keys that allow the user to input data, control cursor and pointer locations, and to control the dialog with the workstation*
- *The two types of data storage device are internal data storage called the hard disk, which is a built-in part of the computer and external data storage devices which included floppy disks, and CD-ROM diskettes*
- *The optical disk uses a laser to write data onto a hard magnetic platter*
- *Printer is a device that translates signals from a computer into words and images onto paper in black and white or color*
- *The physical components of a microcomputer system are collectively called as hardware*
- *Software refers to the medium containing the information that instructs the hardware how to perform a particular task*
- *A program is a set of instruction written in various computer languages or an application program for performing a task*
- *By using Electronic-mail the sender can deposit the mail at any time, and the receiver can view the mail by using a communication program to transmit the mailbox to his/her computer*

Student exercise

Answer the following

1. *Explain briefly about various parts of the computer with examples.*
2. *Write short notes on microsoft office and explain how it is useful to the staff of medical records.*

3. What is the work of a printer? Mention the common types of printer and explain how it is useful to the functions of medical records?

4. The recent trend of using HMS (Hospital Information System) software has emerged most probably in all the hospitals. How this will be useful to your hospital?

5. The health care system is rapidly changing with new innovations to change the entire medical records to a paperless office. Explain how this will be possible and the benefits thereafter?

CHAPTER 11 DATA COLLECTION AND STATISTICAL ANALYSIS

CONTENTS

GOAL

The medical record assistants will be able to understand how to collect the data from various sources and how to prepare statistical reports by various means

OBJECTIVES

The medical record assistants will be able to
· Understand the method of collection of data from various sources
· Prepare statistics by collecting and presenting the facts as numbers
· Know all the formulae which are utmost necessary for calculating various data's
· Learn the definition of each formula and understand the need for using such formula in the preparation of various reports
· Understand the principles behind using such formulas for the purpose of checking various parameters in patient care management

CHAPTER 11
Data Collection and Statistical Analysis

Every hospital has to have a system which can provide the hospital management with information necessary to plan and provide satisfactory patient care and efficiently manage the hospital. One of the main sources of hospital statistics is the medical record. Therefore, a suitably designed medical record system combined with a good patient registration system must be designed to suit these requirements.

Statistics are facts set down as figures. Preparing statistics involves the collection, analysis, interpretation, and presentation of facts as numbers. The hospital administrator and governing board use statistics to compare current operations with the past and as a guide in planning for the future.

Keeping up with current reporting system will save a great deal of unnecessary work. This will help to modify the collecting techniques so that information kept will be accurate and useful. Medical records are the primary sources of data used in compiling medical statistics.

Daily, monthly and annual reports

The daily and monthly analysis report concerning the professional care rendered to patients may indicate the number of patients registered newly as out patients, and the number of patients registered as revisit patients. This will include reports of admissions, discharges, number of surgeries performed and, the number of patients occupied as in-patients on a given day or month.

This report may be combined with a comparative report of the previous year, the same day and same month. If this is done on a routine manner the necessary additional data can be compiled on a daily, monthly and yearly basis and the information will be available when it is needed. The monthly analysis and comparative reports are important to the administration and governing board for future planning and control of activities

Descriptive statistics

There is increasing emphasis on standardization of health statistics for valid intra hospital and inter hospital comparisons and analysis. In some hospitals, daily census reports are kept according to organized clinical services as well as nursing unit. Thus, for each service the daily statistical report will show the number of patients admitted directly or by transfer and the number of bed occupancy.

All statistical data gathered should be reviewed periodically so that obsolete or unused data no longer need to be collected. Since the medical records department sets the pattern for data collection, medical records in-charge should be aware of needs for new data related to activities newly developed in the hospital.

Some hospitals gather certain statistics for which there is no agreement among hospitals on definition. Such data will be useful only to those particular hospitals and to persons who are aware of the limitations of the definitions. Such data may be useful for internal operational purposes.

Out-patient services

Out-patient services data is extracted from the registers or system maintained at the registration counters in the out-patient department, specialty clinics and emergency services. The data will be useful to the extent that these registers or system contains pertinent information. Commonly used statistics pertaining to out patient services are,

1. Number of new patients
2. Number of revisit patients

3. Speciality wise break-up of patients
4. Unit wise break-up of patients
5. Age and gender wise distribution of patients
6. Out-patient diagnostic statistics

The formula for deriving this can be computed as follows:

$$\text{Daily average Out-patient visits} = \frac{\text{Total no. of out-patient visits during the period}}{\text{No. of op working days during the period}}$$

Weekly predicting report

In order to create awareness among the staff of the hospital, a report anticipating the number of out-patients, in-patients and surgeries can be generated based on relevant figures during corresponding year of previous year. This statistical report can be prepared by adding expected growth rate to the actual data of the last year. During this preparation one has to keep in mind about the discrepancy between days and festivals of previous year and the current year.

This can be corrected by comparing with the last 3 year statistical data and anticipating the actual number of patients for the particular day or the week. Depending on the growth rate of out-patients, in-patients and surgeries of the current year, the prediction calendar can be prepared by adding 3% to 5% to the next year. This predicted report will be useful to plan each week for man power resources, granting casual leave to the staffs and to create awareness among the working staff.

Fortnight report

Based on the predicted weekly report and the actual number of patients treated in the week, a comparative report can be prepared to understand about the present growth trend of the hospital. This report can be prepared by collecting the number of out-patients, in-patients and the surgeries performed within fortnight. To understand the growth trend elaborately, this report can be further included with villages, districts, taluks and, cities.

This fortnight report can be prepared by comparing with actual patient visit of the last year with the number of patients anticipated this year which is compared with the current number of patients treated this year. This report will be helpful to the hospital authorities, doctors and the working staff to know the growth trend of their hospital.

Preparation of prediction calendar

For any institute as it grows, it becomes absolutely necessary to predict the number of patients visiting the hospital every day. This workup can be done by developing a calendar for every day which can be further developed on monthly basis for twelve months in a year. This daily predicted data for the upcoming year can be even printed as a book with the predicted data on one side and the actual number on the other side (Fig.11.1).

National holidays, festival and all important events which are going to take place in that New Year can also included in the prediction calendar. A column can be drawn in the calendar to compare the actual number of patient's versus the predicted number. A comparative report with actual number of patients treated for the past three years with the current year can also be prepared for every month to know the growth trend of the hospital.

Comparative statistical reports

- The comparative report of professional performance provides comparative figures which are of value to the medical staff to evaluate its own performance, and to the governing board and the hospital administrator as a picture of professional performance of the hospital and medical staff

Fig. 11.1 - Prediction calender

- The work of the current month can be compared with that of the same month of the previous year, and the total to date of the current year with that of the corresponding period of the previous year. The daily census provides some of the data for this report

- It is the responsibility of the medical records In-charge to keep up with the changing data requirements of the governing board to which the hospital must submit reports and have the data available when it is needed

Common hospital percentages and rates

The term ratio is frequently used instead of percentage. A ratio expresses the quantitative relation of one thing to another, such as the relation of births to deaths.

Careful attention must be given to all figures. Many errors in arithmetic occur because of misplaced decimal points.

There is one bit of common sense reasoning that will help medical record In-charge when computing a rate. A rate should be considered as the number of times something did happen compared to the number of times something could have happened. When expressing this ratio as a percentage, the number of times a thing happened is divided by the number of times it could have happened.

Infection rate

Every hospital must have a committee charged with the responsibility to investigate, control, and prevent infections. The primary purpose of evaluating infections is to determine the cause so that repetition

may be avoided. Medical judgment is needed to establish the incidence of infections and the proper control measures to be taken. The hospital committee charged with infection control should set up procedures for the surveillance and reporting of infections.

Postoperative infection rate

The ratio of all infections in clean surgical cases to the number of operations performed in a particular period. The postoperative infection rate may also be required on statistical reports. If endophthalmitis rate is needed, it must be specified if this is to be computed out of all operations or out of all clean operations.

$$\frac{\text{Number of infections in clean surgical cases for a period}}{\text{Number of surgical operations for the period}} \times 100$$

Length of stay calculations

The length of stay (for one in-patient) is the number of calendar days from admission to discharge. To compute a patient's length of stay, the date of admission is subtracted from the date of discharge when the patient is admitted and discharged in the same month.

The average length of stay (average duration of hospitalization, average stay) is "the average length of hospitalisation of in-patients discharged during the period under consideration"

The formula for computing the average duration of in-patient hospitalisation is

$$\frac{\text{Total length of stay (No. Of days stay)}}{\text{Total discharges}}$$

Average daily in-patient census (average daily census)

The average daily in-patient census records the average number of in-patients present each day for a given period of time. To arrive at the average number of in-patients in the hospital, the total in-patient service days for the period must first be determined. The formula to obtain the average daily in-patient census for a whole hospital is

$$\frac{\text{Total in-patient service days for a period}}{\text{Total number of days in the period}}$$

In-patient bed occupancy ratio

The in-patient bed occupancy ratio can be computed at any specified point in time or for any specified day. To compute the percentage for a specified day, the in-patient service days for that day are multiplied by 100 and divided by the in-patient beds available for the day. To obtain the in-patient bed occupancy ratio as a daily average in a longer period, the formula is

$$\frac{\text{Total in-patient service days for a period}}{\text{Total number of in-patient beds available} \times \text{Number of days in the period}} \times 100$$

Anesthesia death rate

The ratio of anesthesia deaths caused by anesthesia deaths caused by anesthetic agents for a period to the number of anesthetics administered for the period. Since anesthesia deaths occur frequently, this rate will usually be computed on an annual basis. An anesthetic death is defined as a death that takes place while the patient is under anesthesia or which is caused by anesthetics or other agents used by an anesthetist or anesthesiologist in the practice of his profession. The number of anesthetics administered is obtained from the anesthesiology department or the operating room. The formula for figuring this percentage is:

$$\frac{\text{Total number of deaths caused by anesthetic agents for a period}}{\text{Total number of anesthetics administered for the period}} \times 100$$

Computerised statistical reporting system

- In most hospitals the collection of statistical information is done with the assistance of a data processing system

- Regardless of whether information is processed and stored in the hospital's computer or contracted to an outside data processing service, a large amount of valuable hospital data can be retrieved for use in tracking patient care, research and planning efforts, and reporting to other health related organisations

- The daily census sheets are often the first automated venture made by a facility when converting from a manual to computerised statistical reporting system. From the census information fed into the computer, a daily list of admissions, discharges and occupancy list is printed and used

Presentation of quality control data

- Feeding patient information into a computer for processing and storage does not diminish the medical record department's responsibility for the accuracy and reliability of collected data. It is safe to assume that the computer can perform simple mathematical functions accurately

- Quality control of input data however remains the responsibility of the medical records technician

- Duplication of effort may be avoided if one consolidated report satisfies everyone's needs

- In a manual system, evaluation of the percentage of clerical error is an important consideration

- Routine quality control studies can ensure that the necessary collection of statistical information is done in an effective and cost-efficient manner

- The reports from the medical record department to the hospital administrator are forms of communication

- One needs to keep in mind that reports should be simple, highlighting important facts, and to make them as readable as possible

- The medical record In-charge who supplements these tables with such visual aids as graphs, bar charts, and pie diagrams, or any other pictograph that illustrates clearly what the figure indicate, is to be admired

- Each and every report must be titled and dated with short and clear information

- This additional effort makes a report much more interesting and attractive and easy for the reader to review and interpret

Summary

This chapter covers the basic data needed by the governing board, hospital administrator, and the working staff. The medical record department will receive requests for data that are not kept routinely, but, such requests can be fulfilled if data are kept in sufficient detail. Assistance must be provided to the medical staff and hospital committees in analysing and interpreting the data collected.

In developing a program involving collection of statistical data, emphasis must be placed on routine, systematic collection and recording of information. The information must be stored in such a way that the medical record In-charge can retrieve it easily and present it accurately. Medical record personnel working in health care institutions which have access to computers will be able to collect much more than the basic data and will be able to retrieve them more readily in usable form. No matter what method of collecting statistics the medical record In-charge or technician employs, the meanings of terms must be defined to make the information understandable. Different definitions of the same word may be used and required for different purposes. When statistics are approached with a questioning attitude and are accurately reported, they will be valuable to all who use them.

Key points to remember

- *Medical records are the primary sources of data used in compiling medical statistics*

- *Preparing statistics involves the collection, analysis, interpretation, and presentation of facts as numbers*

- *The daily, monthly analysis report concerning the profession care rendered to patients should indicate the number of patients registered newly as out patients, and the number of patients registered as revisit patients*

- *All statistical data gathered should be reviewed periodically so that obsolete or unused data no longer need to be collected*

- *The data of the current month can be compared with that of the same month of the previous year, and the total to date of the current year with that of the corresponding period of the previous year*

- *This monthly analysis and comparative report are important to hospital administration and the governing board for future planning and control of activities*

- *Routine quality control studies can ensure that the necessary collection of statistical information is done in an effective and cost-efficient manner*

- *The reports should be simple, highlighting important facts with visual aids as graphs, bar charts, and pie diagrams, or any other pictograph that illustrates clearly what the figure indicates.*

This effort makes a report much more interesting and attractive and easy for the reader to review and interpret

Student exercise

Answer the following

1. *Describe the method of collecting daily, monthly and annual statistical reports?*
2. *How the data are compiled for out-patient services? Mention the commonly used statistics pertaining to out-patient services.*
3. *Describe the method of predicting weekly report and preparation of calendar for the year?*
4. *Explain how the fortnight report will be useful to the working staff and the management and the method of preparing it?*
5. *Monthly analysis and comparative report are essential to the governing board. Explain how it is important.*
6. *Define the following terms:*
   - *Post-operative infection rate*
   - *Average length of stay*
   - *In-patient bed occupancy ratio*
   - *Anaesthesia death rate*
7. *Define computerised statistical reporting system? Explain how quality control studies can be done to evaluate its accuracy and reliability?*

ARAVIND EYE CARE SYSTEM