CHAPTER 1
MEDICAL RECORDS MANAGEMENT

LEARNING OBJECTIVES

In this PowerPoint presentation, we will learn about:

How has medical records developed over the years and the use of medical records?

How are medical records prepared, maintained, retained, and destroyed?

What is the function of medical record department?

What are different types, formats, and forms of medical records?

Who owns the medical records?

How to reconstruct lost or damaged medical record?

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DEVELOPMENT OF MEDICAL RECORDS

Preparation of medical records dates back to the nineteenth century.

Only a few hospitals maintained medical records during the nineteenth century.

Medical records were maintained only for patients who were admitted to the hospital (in-house patients).

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DEVELOPMENT OF MEDICAL RECORDS

Medical records were kept at the bedside of the patient for ease of accessibility to the treating physician (this practice is still followed in many hospitals around the world).

Medical records were handwritten and produced in duplicate or triplicate by means of carbon copy, this process was quite laborious.

Administrative staff would prepare these reports by hand under the supervision of healthcare professional.

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THE CHANGE

Change 1

Increased workload led to the introduction of several machines such as typewriters, Dictaphones, and computers in the medical record department.

Change 2

Maintenance of medical records for all patient encounters such as admission, OPD, emergency room, etc., as opposed to earlier where only the medical records of in-house patients were prepared and maintained.

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THE CHANGE

Change 3

Metamorphosis of paper records to electronic records. Computers replaced filing cabinets and were used to transcribe as well as to store the medical reports of patients.

Change 4

General set of rules and guidelines were laid down for preparation of proper and accurate medical records.

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FATHER OF PROBLEM-ORIENTED MEDICAL RECORD (POMR)

Dr. Lawrence Weed is fondly known as "The father of the problem-oriented medical record (POMR)."

In the early 1960s, Dr. Weed introduced the SOAP format with a view that well-organized documentation of medical records is essential for sound clinical decision making.

S stands for Subjective, O stands for Objective, A stands for Assessment, and P stands for Plan.

The format emphasizes on simple but organized corroboration of findings followed by the assessment and plan of action.

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MEDICAL RECORDS & MEDICAL RECORDS DEPARTMENT

Medical record is a systematic documentation of information about a patient's past medical history and treatment.

Other terms used in place of medical record are as follows:

- Medical report
- Patient's chart
- Health record
- Medical chart

Medical record technician is a person who maintains the medical record by entering, compiling, reviewing, and filing appropriately into a computer or on paper.

The department which is entrusted with the safe-keep and maintenance of the medical records is known as the medical records department (MRD).

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USE OF MEDICAL RECORDS

Accurate medical records help in easy insurance claim or Mediclaim settlements.

It acts as legal documentary evidence in medicolegal cases and needs to be presented in the court whenever necessitated.

Properly managed medical record is required both for the patient as well as the physician to obtain and provide present and continued care for the patient.

It is the only documentary evidence with the physician to prove that the treatment given to the patient was right and defend any allegation of medical negligence. At the same time, it will also be helpful to those patients who are victim of medical negligence.

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USE OF MEDICAL RECORDS

It is used for on-going record review or closed-record review by healthcare professionals.

It helps in compilation of various kind of reports and statistical information. Example,

- Morbidity and mortality rate
- Malnutrition index
- Infectious or communicable disease report
- Population census
- Fertility rate

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RETENTION PERIOD AND DESTRUCTION OF MEDICAL RECORDS

Different countries and different states have their own sets of rule and regulations pertaining to the period of retention and method of destruction of medical records.

Period of retention

- India

As per Medical Council of India, medical records should be maintained of indoor patients for a period of 3 years from the date of commencement of the treatment in a standard proforma laid by MCI.

Generally hospitals retain medical records longer than the retention period for,

- Research purpose.
- Avoiding any medicolegal issues.

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RETENTION PERIOD AND DESTRUCTION OF MEDICAL RECORDS

National Accreditation Board for Hospitals & Health care Providers (NABH) accredited hospitals in India follow the retention period of medical records as of United States.

- **United Kingdom**

In UK, the general practitioners (GPs) are required to keep the medical records for a minimum of 10 years.

- **United States**

In United States, the general rule defines the period of storing the medical records as follows:

Inpatient records	7 years
Outpatient records	5 years
Medicolegal cases	15 to 30 years or until final court hearing

Minor patient Maintain record until patient reaches age 23 (18 +5 years) or 10 years from last date of treatment whichever is the greater.

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RETENTION PERIOD AND DESTRUCTION OF MEDICAL RECORDS

METHOD OF DESTRUCTION

In order to retain the medical records for prolonged periods of time, hospitals have to bear the impact of secure storage costs of the records. Since medical record contains sensitive protected health information (PHI), it needs to be stored securely.

To avoid the high maintenance costs to store the medical records, hospitals opt to destroy the medical records after the completion of the retention period.

Steps that need to be taken as a good practice before destroying the medical records:

Publish an advertisement in a regional and a national newspaper giving the details about the period of medical records to be destroyed.

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RETENTION PERIOD AND DESTRUCTION OF MEDICAL RECORDS

Proper choice of method for destruction of the medical records.

Maintain a log of medical record destruction for reference in the future by filling medical record destruction form.

Destruction method of paper-based medical records

- Shredding
- Incinerating

Destruction method of electronic media (magnetic tape, microfilm, floppy disk, CD, or DVD)

- Shredding
- Incinerating

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RETENTION PERIOD AND DESTRUCTION OF MEDICAL RECORDS

Destruction method of physical drives (pen drive, HDD, or SSD)

- Purging

A simple medical record destruction form would contain the following heads,

- Name of the authorizer
- Period for which the records are destroyed or purged
- Medical record number
- Date of destruction
- Method of destruction
- Name of the destroyer and witness if any

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PREPARATION OF PROPER MEDICAL RECORDS

In absence of any global statutory body to govern the medical records management, there is no conformation in the medical records from different medical facilities.

Worldwide accepted guidelines that are followed in preparation of medical record are as follows:

A medical record number (MRN) should be assigned to a new patient. Medical record number (MRN) is the unique number given to the patient for identification within a hospital setting. It will differ from one medical facility to another medical facility.

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PREPARATION OF PROPER MEDICAL RECORDS

In case medical records are prepared by hand, details entered in the patient's medical record should be legible.

The basic structure of any medical record constitutes of the following and it should be repeated on each and every page of the medical record and at the same place of the page.

- ❖Patient's Name
- ❖Date of Birth (DOB)
- ❖Gender
- ❖Patient Contact information (Physical address, Email, Phone, etc.)
- ❖Date of visit
- ❖Medical Record Number (MRN)
- ❖Primary Care Provider (PCP)
- ❖Admitting or Treating Facility
- ❖Facility Contact information (Physical address, Email, Phone, etc.)

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PREPARATION OF PROPER MEDICAL RECORDS

Medical facility needs to maintain a list of medical abbreviations and acronyms used in the medical records approved by recognized national or global medical body.

All types of forms used in the medical records department should be of same size.

All the papers in the medical report folder should be clipped or stapled properly in order to avoid missing of any important paper.

In case of any amendment in medical records, it should be rewritten by the physician and reason for rewriting should be specified along with signature.

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MASTER PATIENT INDEX

Master patient index (MPI) is an index created utilizing the unique medical record number. MPI is specific to a particular hospital and will differ from one hospital to another.

An MPI is prepared by the medical records department and is used to identify and locate the patient's medical information.

It should only contain minimal information required to identify and locate the patient's medical record.

In India, Aadhar card number or PAN card number has the potential to be used to prepare a master patient index in the foreseeable future.

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PRINCIPLES FOR PREPARATION OF MASTER PATIENT INDEX (MPI)

Filing of the master patient index should be in an alphabetical order excluding the titles.

If SURNAME, FIRST NAME, MIDDLE INITIAL are same for any two patients, then date of birth needs to be consider, filing from the oldest to the youngest.

Manual master patient index card should be of uniform size and written legibly.

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PRINCIPLES FOR PREPARATION OF MASTER PATIENT INDEX (MPI)

Computerized master patient index card should have the ability to be modified whenever needed.

MPI should not contain any clinical findings pertaining to the patient's disease or treatment.

Computerized master patient index should be able to automatically generate medical record numbers for new patients.

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FUNCTIONS OF MEDICAL RECORD DEPARTMENT

✓Oversee the registration and admission process of the patient.

✓Assign a unique medical record number (MRN) for patient identification.

✓Create MPI for easy identification and location of the medical records.

✓Ensure completeness of medical records with respective patient's medical details and consent forms.

✓Permanently file patient's medical records in chronological order after patient's discharge or death for easy accessibility in future.

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FUNCTIONS OF MEDICAL RECORD DEPARTMENT

✓Retrieve medical records for follow-up patient care and research studies.

✓Online/offline registration of births and deaths and issuance of birth and death certificates, though in some cases, the birth certificates are issued by the local ward offices.

✓Prepare various kinds of statistical reports as required by the health department.

✓Attend and resolve medico-legal issues relating to the release of patient information and other judicial matters.

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TYPES OF MEDICAL RECORD

There are generally two types of medical records depending on the way the patients are seen in the medical facility:

1) Inpatient medical record (when patient is admitted into hospital for treatment and is hospitalized until discharged)

2) Outpatient medical record (when patient is treated in the physician's office, clinic, or hospital but is not hospitalized)

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TYPES OF MEDICAL RECORD

The decision to admit the patient as an outpatient or an inpatient depends on the attending physician's assessment about the seriousness of the illness or the injury.

Serious injury	Inpatient
Nonserious injury	Outpatient

Admitted patients can only leave the hospital after being discharged by the physician. In case any patient leaves the hospital without physician's consent, it is termed as DAMA (Discharge Against Medical Advice).

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TYPES OF MEDICAL RECORD

Some examples of outpatient treatments are as follows:

- Emergency room visit for infection of eye, ear, stomach, limbs which are not severe.
- Same-day surgery (also known as outpatient surgery) such as rhinoplasty, tonsillectomy, tummy tucks, etc.
- Dialysis or blood transfusions
- Various laboratory tests
- Imaging studies and x-rays.

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INCREASED OUTPATIENT SERVICES VERSUS INPATIENT SERVICES

Major factors contributing to the recent increase in the outpatient services versus inpatient services are as follows:

- Rise in medical cost: Facility costs under inpatient treatments acts as deterrent.

- Advancement in healthcare treatments and technology: Due to advances in healthcare technology several operative procedures can now be performed in a physician's office.

Both of the above-mentioned factors are causing the rate of outpatient care to grow more significantly than the rate of inpatient care.

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FORMAT OF MEDICAL RECORDS

Listed below are different formats of paper-based medical records used to document the medical record of a patient:

- Source-oriented medical record (SOMR)
- Problem-oriented medical record (POMR)
- Integrated medical record (IMR)

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SOURCE-ORIENTED MEDICAL RECORD (SOMR)

It is the conventional form of documenting the medical record.

Medical information is organized chronologically according to the source of documentation.

Merits:

- ✓It is easy to create and easy to locate.
- ✓It is easy to maintain.
- ✓Finding the information of a source is simple.

SOURCE-ORIENTED MEDICAL RECORD (SOMR)

Demerits:

- ✓It is difficult and time consuming to get full clinical picture of a patient.
- ✓It creates many sections and subsections in the medical records department.

Example: If nurse records medical information, it will be located in the nursing department, if it is a laboratory test, it will be kept under the laboratory section, and if it is a radiologic test such as an x-ray, it will be placed under the radiology section.

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PROBLEM-ORIENTED MEDICAL RECORD (POMR)

It was introduced by Dr. Lawrence Weed in the late 1960s.

It is arranged according to each of the patient's problem/illness and its relevant medical history.

In this format, a unique number is assigned to each problem and the problems are organized mostly in reverse chronological order.

It consists of four parts:

- ✓Database of information:Collection of information
- ✓Problem list: Creating a list of all problems
- ✓Initial plan: Formulation of care for each problem
- ✓Progress note SOAP note for each problem

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PROBLEM-ORIENTED MEDICAL RECORD (POMR)

Merits:

- ✓It easily depicts full clinical picture of a patient for a specific problem.
- ✓It facilitates for easy patient treatment and progress as it is more informational.
- ✓It has a structured approach and therefore provides high degree of organization as all the data to a specific problem are arranged in a logical sequence.

Demerits:

- ✓It is time consuming to create a new report.
- ✓Creation and filing of POMR requires some initial training to the structure of organization.
- ✓There is repetition of medical information related to more than one problem.

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INTEGRATED MEDICAL RECORD (IMR)

It integrates reports from all the available sources.

It can be arranged in chronological order or reverse chronological order.

Merits:

✓It is less time consuming while filing a report.

✓In this all instances of specific diagnosis and treatment are filed together so easily accessible.

Demerits:

✓It is difficult to compare information related to same subject and time consuming.

✓Retrieval of the related information is hard and time consuming.

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FORMS OF MEDICAL RECORDS

Different forms of medical records which exist in today's healthcare system are:

- Paper
- Electronic
- Hybrid

Paper-based medical records constitute those medical records which are stored on paper.

Electronic medical records constitute those medical records which are stored electronically or digitally.

Hybrid medical records constitute those medical records which are stored partly on paper and partly in digital or electronic format.

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FORMS OF MEDICAL RECORDS – MERITS

Paper-based medical records	Electronic medical records	Hybrid medical records
Merits	Merits	Merits
Paper medical records are simple and easy to initiate and has low start-up costs.	Easy accessibility as all the information is in one place which in turns helps in better clinical decision making.	Attractive option for hospitals which wants to avoid huge costs of conversion of paper records into digital records.
It does not require any kind of technical training.	Provides enhanced security for sensitive patient's health information as compared to paper records.	Provides an alternative to hospitals having professionals who use both paper and electronic forms or medical records.
Readily available, no downtime.	Eliminates storage costs and reduces administrative costs.	

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FORMS OF MEDICAL RECORDS - DEMERITS

Paper-based medical records	Electronic medical records	Hybrid medical records
Demerits	Demerits	Demerits
Requires large volume of storage space to store medical records and needs to be constantly protected from insects, dust, termites, etc.	Electronic records might be lost due to system crashes if not backed up periodically and also are at risk to be stolen by data thieves or hackers.	Accessibility is difficult as medical professional has to look into both the manual and the electronic records.
Paper records can be easily stolen or lost leading to medicolegal issues.	Requires training to the medical staff for the operation of the EMR	Involves excess staff cost to maintain both manual and electronic records.
Illegible hand-written medical records are sometimes hard to decipher and have led to cases of medical errors in the past due to wrong interpretation.	Lack of comprehensive standardization makes data exchange difficult and acts as a deterrent in switching over to different EMR.	
It is a costly affair to store paper-based records as it entails huge storage space and appropriate security measures and personnel.	It is a costly affair to implement and to maintain an EMR.	

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OWNERSHIP OF MEDICAL RECORDS

Generally, the physician or the hospital is the true owner of the medical records and it is their duty to protect the medical information of the patient and maintains its confidentiality at all cost.

On the contrary, in India the medical records of the patients remain with the patient and the patient becomes the owner of the medical records. (Exception government-funded hospitals)

Either way, whether the medical records are with the hospital or with the patient, it is believed to be the sole property of the patient and the patient has every legal right to ask for a copy of the medical records or access the medical information on an as-needed basis.

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RELEASE OF PATIENT INFORMATION

All medical records information is deemed to be strictly confidential and cannot be disclosed to any unauthorized personnel under any circumstances without proper authorization.

Certain exceptions which require hospitals to release the medical information of a patient are as follows:

- If the medical record needs to be shared with a different physician or hospital in order to provide better medical treatment of the patient.
- If a court order for its release is obtained in medicolegal cases such as accidents, medical negligence, etc.

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RELEASE OF PATIENT INFORMATION

- If patient asks for copies of the medical records to seek second opinion from another physician.
- A health care power of attorney of the patient has the right to access the medical records as long as patient has signed a release of records but the extent of access will be limited to those information which will be required to make an informed decision.
- If a health insurance company, asks medical records for claim settlement.
- If the patient is a minor, the parents have the right to seek copies of the child's medical records.

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RAW MEDICAL DATA

Protected health information (PHI) is confidential and cannot be shared, therefore, for it to be used in research, it has to be de-identified. De-identification is the process used to prevent a person's identity from being connected with information.

Simplest way of de-identification is to delete the 18 specified personal identifiers (Refer Chapter 8, HIPAA).

After de-identification, the data is no longer PHI and is called as raw medical data.

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USES OF THE RAW MEDICAL DATA

- It is used by government agencies and medical researchers to construct various types of statistical reports such as morbidity and mortality rate, population census, malnutrition index, etc.

- It is used by medical researchers to find the best medical treatment/procedure for a disease. It is believed that the finding of the most effective and affordable treatment for a certain disease and conveying them to the medical fraternity along with better governance and transparency will go a long way to curb or bring an end to cut- or kickback-type of practice.

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RECONSTRUCTION OF MEDICAL RECORDS

- A disaster recovery plan is crucial for every healthcare facility in the event of a failure of the medical records department to preserve the records of the patients.

- In case the medical facility is outsourcing its medical records storage to a different provider, it has to ensure that the third-party contractor provides a secure and compliant patient medical record storage service.

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RECONSTRUCTION OF MEDICAL RECORDS

In case the medical facility maintains and stores the medical records on its own either onsite or at an offsite location, it is the sole responsibility of the hospital to ensure the protection of medical records.

Simple steps that can be taken to safeguard the medical records in an unforeseen circumstance are 4S,

- Salvage: Save medical records from being damaged or destroyed.

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RECONSTRUCTION OF MEDICAL RECORDS

- **Search:** Conduct exhaustive search to locate the missing records.

- **Start reconstruction:** If a document is permanently lost, attempt to reconstruct such as reprint or retranscribe.

- **Scribe:** If all above fails, the facility should make a documentation of the date on which the disaster took place, number of patient medical records lost, natural or manmade disaster that caused the loss, and possible efforts made to recover the records.