SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY

Thiruvananthapuram – 695 011

SUMMARY OF PROCEDURES DONE
WORK BOOK

NAME : ASWATHY REMANAN

PROGRAMME :PG DIPLOMA IN MEDICAL RECORDS SCIENCE

MONTH & YEAR OF SUBMISSION : NOVEMBER 2016

DECLARATION

I hereby declare that the work book of medical record is a bonafide record work done by me and that it has not previously formed the basis for the award of any degree, diploma or other similar title or recognition.

ASWATHY REMANAN

Place : Thiruvananthapuram
Date :

SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY

(An Institute of National Importance under Govt. of India)

Thiruvananthapuram - 695 011, Kerala, India

Certificate

This is to certify that this is the bona fide workbook of Medical records Science undertaken by ASWATHY REMANAN in partial fulfillment of the requirements for the award of PG *Diploma in Medical Records Science.*

Place: Thiruvananthapuram ***Signature:***

Date: ***Name: ASWATHY REMANAN***

Signature

Head of the Department

CONTENTS

PREFACE

This workbook, I have done as a part of my training in the Medical Record Department for the PG Diploma in Medical RECORDS SCIENCE (PGDMRS-) course at SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY. Through this book, I would like to present some details about medical records, its value, organization and administration of medical records department and its functions.

PGDMRS is a two years full time residential programme for graduate in biology or statistics. Selection is done through national level entrance examination followed by interview and medical examination. At present the institute offers only two seats. The aim of this course is to prepare well-qualified personnel to handle medical records and thereby help to improve the quality of medical care that we are providing.

Our syllabus includes subjects like Anatomy and Physiology, Medical Terminology, Medical Coding, Medical Record Science Biostatistics and Computer science and Hospital Administration. The course schedule consists of theory classes and practical training. Diploma is awarded after the written test and viva-voce, conducted at the end of the second year.

ACKNOWLEDGEMENT

First of all I would like to thank Senior Medical Records Officer Cum Lecturer & Head of the Department, Medical Records Department, **Sri. N.G.Thampi** who has been our tutor and instructor. He had given proper guidance to each and every aspect of my training. I would also thank **Sri.Jesudin M.Arul Redjvy**, Assistant Medical Records Officer.

I thank the Director of the institute **Dr. Asha Kishore,** Medical Superintendent **Dr. Saradha,** Dean Sri. **Kalliyana Krishnan D, and** Registrar **Dr. A.V. George,** for their advice and kind attention towards me. I extend my heartful thanks to all Staff members of Medical Records Department for their help during my training period in this institute.

Finally, I would like to acknowledge my sincere thanks to my seniors and juniors for their help in performing my duties successfully.

THE INSTITUTE

Sree Chitra Thirunal Institute for Medical Science and Technology, Thiruvananthapuram is an institute of national importance under Department of Science and Technology, Government of India. The Institute is empowered to grand medical degrees, diplomas and other such distinctions. Such titles are recognized to the Indian Medical Council Act in 1956 as per circular MCI-24 (1) 8-med (491) dated 11 may 1998. It is one of the common wealth universities in India. This Institute has connection with World Health Organization also.

The institute has completed Silver Jubilee celebration in 2002. This Institute is established with the great help from royal family of travancore and govt. of Kerala. This Institute has a hospital wing which is a tertiary referral center providing advanced facilities for cardio-thoracic and neurological disease. A bio-medical technology wing is situated in Poojappura, aimed to promote bio-medical technology research. The research wing co-operates with various companies and agencies and makes various types of biomaterials. A center for public health science studies is working near to the hospital complex. The institute offers various degree, diplomas, certificate programmes and training programmes.

INTRODUCTION

The Medical Records Department is that part of a necessarily complex organization which is concerned not only with the custody and processing of a variety of clinical documents but also a wider range of administrative procedure associated with patient activity in hospitals including such things as inpatients admission and discharge, out patients appointments and reception, registration follow up procedures and statistics as well as training of Medical Record personal.

The Medical Record is an orderly written report consisting of the patient's complaints, the diagnostic findings, treatment given, progress of the disease or complaint and finally the end results of the treatment. Medical Records are important tool in the practice of medicine. They serve as a basis for planning patient care, provide means of communication between the physician and other groups contributing to the patient care, documentary evidence of the course of the patients' illness and treatment, and serve as a basis for review, study evaluation of the medical care. They are legal documents too.

DEFINITION OF MEDICAL RECORD

Medical record is defined as a clear, concise and accurate history of patient's life and illness written health professional contributing to patient care. Mrs. Edna K. Huffman defined it, as Medical Record is the compilation of facts of patient's life and health history including past and present illness and treatments written by health professionals contributing to patient care.

Dr. McGibbony defined Medical Record as a clinical, scientific, administrative and legal document relating to patient's care in which recorded sufficient data written in sequence of events to justify the diagnosis and warrant the treatment and end results.

Kipling Stalwaarts defined Medical record as Who, What, Why, When and How of patients care during hospitalization.

PURPOSE

The main purpose of the medical record is to accurately and adequately document a patient's life and health history, including past and present illness and treatment with emphasis on the events affecting the patient during current episode of care.

MEDICAL RECORD - VALUES AND USES

The Medical Record is a compilation of pertinent facts of a patient's life and health history, including past and present illness and treatment, written by health professionals contributing to that patients care. The medical record and its content but also ancillary information concerning purpose, ownership, values, uses and responsibility for medical record.

VALUES

A good medical record is valuable in the following ways: A good medical record is valuable in the following ways:

1. To the patient:
    a. Continuity of medical care in case of re-visits.
    b. Avoid the repetition of investigations.
    c. Saving expenditure.
    d. For the purpose of certificate.
    e. Legal safe guard to patients.
2. To The Doctor:
    a. To continue treatment.
    b. Evaluation or results of new drugs, treatment etc
    c. Compare the results with similar results obtained throughout.

3. To the hospital:
    a. To justify the results of the treatments and patient care.
    b. Serves as a measuring instrument for judging the quality and quantity of work done by Doctor, Nurses and paramedical staff.
    c. For medico-legal purpose.
    d. For statistical purpose and planning of services, budget, staff and equipment.
4. For health authorities:
    a. Complete statistical data on disease from discharge records and out- Patient record.
        i. District health services (state level)
        ii. Director General of Health Services (national)
        iii. World Health Organization (international)
    b. Control infectious disease and epidemics.
5. For research purpose.
6. For use of third party agencies.

CHARACTERISTICS OF MEDICAL RECORDS

Characteristics of adequate medical record documentation are the following.

1. To be complete the medical record must contain sufficient data written in sequence of events to justify the diagnosis and warrant the

treatment and end results.

2. Accurate: the contribution of all the staff concerned (Doctors, nurses, paramedical staff) should be thoroughly checked and the opinion given by them be spotted by findings.

3. Adequate: The physician and his assistants should mark the progress note as often necessary till the patient is discharged. We can judge the medical record standard through the qualitative analysis performed by the medical record department.

4. Appropriate documentation: the quality of medical records depends on information entered by those professionals authorized to provide care and responsible for documenting that care. It is further required that the record contain the originals of all report.

5. Proper Authentication: Those professionals providing care to a patient must be documented. They also verify this care was given by signing the entry. The attending physicians must countersign at least the history,physical examination and discharge summary written by the house staff. Any entry, which required countersignature of the attending physician must be defined in the medical staff rules and regulations.

6. Abbreviations: Abbreviations and symbols are to be used only when

they have been approved by the medical staff and when there is an explanatory legend available to those authorized to make entries in the record. Each abbreviation and symbol should have only one meaning. The final diagnoses are recorded without abbreviations.

7. Timeliness: The entries regarding patient care can be made as close as possible to the time of occurrence of the event being documented. Current records (the history, physical examination and laboratory and x-ray data etc) are those which should compiled within 24-48 hours after admission. Upon discharge of the patient, the record is to be completed within 15 days.

8. Legibility: The usefulness of the record depends on the part of legibility, when it is economically feasible and appropriate medical entries be typed.

9. Correction of errors or omissions: Errors are corrected by drawing a single line through the mistake, writing the explanatory statement such as "wrong information" near it and recording correct information. The corrected person should not be erased or painted. If an entry is omitted, the entry is made after the last entry of that day with an explanation regarding the omission. If an entry is made in another day, it is added between the lines on the proper day with the date of entry and sign.

RESPONSIBILITY FOR MEDICAL RECORDS

Each hospital has a governing body aims at the management of hospitals.

1. Hospital administration:

The administration of hospital ensuring that the medical staff adopts rules and regulations providing for maintenance of timely complete maintenance of medical records.

2. Medical Records committee:

The major function of this committee is to change of form/formats of a medical record if necessary. Attention should be directed towards the improvement of patient care documentation. Insuring that there is proper filing, indexing, storage and availability of medical records.

3. The physician:

The major responsibility for an adequate medical record lies with the physician who assumes the final responsibility for its completion and accuracy. Recording of information like history, physical examination, discharge summary etc written by interns, residents and other house staff must be reviewed, corrected and countersigned by attending physician.

4. The Medical Record Personnel:

The medical record practitioner works with medical staff for good medical records and check the quantitative review of records. The medical record personnel assist the physician in reviewing the record and select appropriate coding and indexing system for retrieval of data.

MEDICAL RECORD- ITS CONTENTS:

There are certain basic essential forms, which must be included in the medical record of the patient. These forms are necessary in the majority of the records regardless of the patient.

BASIC FORMS:

a) Out patient record:

It contains out patient form and patient follower in chronological order. Then investigations such as lab reports, ECG, EEG & other diagnostic investigation reports and correspondence.

b) In patient record:

Following is a typical arrangement for permanent filing.

1. Admission Record:

This form is also called the social history record, the social data

record, identification sheet or face sheet. The upper portion contains information of identification nature and lower section contains summary of discharge data.

The admitting diagnosis is a vital part of this admission record. It serves as a basis of examination and treatment. It is useful in determining the room assignment in the hospitals with specialized patient care services. It also necessary in order that the intern, resident and nurse will have the information needed to start caring for the patient.

The lower portion of the admission record is completed by the physician at the time of patient is discharged. The final diagnosis is a statement of opinion arrived at after extensive study. The admission record provide data such as consultation, autopsy perform, presence of institutional infections, allergies and sensitivities.

The attending physician is responsible for the record and should sign on the admission sheet. This indicate that he accept the responsibility for the scientific and medico- legal content of the medical record there by full filling him obligation to the patient, the hospital and himself.

The back of the admission record is used for the admission consent form. It is signed upon the patient's admission to the hospital as part of the admission procedure. This provides a record of consent to routine

services, diagnostic procedure and medical treatment.

2. Case summary and discharge summary.

This is a brief note of the entire Medical Record of a patient. It is valuable aid for the attending physician on re- admission of a patient or follow-up treatment at the OPD. The Discharge Summary should be containing essential information regarding the patient's illness, investigations and treatment. It is usually filed immediately under the face sheet. The discharge summary sheet should be signed by the attending physician.

3. The discharge summary is useful in the following manner

It can be used to make photocopies to send to insurance companies or other purposes thus saving the time of making the abstract. A copy is kept in the Outpatient Record for easy reference when patient reports for follow-up treatment. A copy may be sent to the referring physician or consultant for his official records. Copies may be made for the residents who wish to keep a record of the case at which they have assisted for their study purposes.

4. Physical Examination Record:

This is the result of a through examination of the patient by the

physician and is a statement of his observation and finding supplemented by diagnostic aids. At the conclusion of this examination, a brief summary and the diagnosis are recorded.

1. Laboratory Report master: Laboratory examinations are ordered by or under the direction of the attending physician. Original reports are pasted on the master sheet that becomes a part of the medical record of the patient.
   - The reports should be pasted in chronological order according to the date or investigations ordered.
   - All reports must be checked for accuracy of hospital number, name, date and signature of the technologist.
   - Similar procedures should be adopted in case of ECG, EEG etc
2. Progress Record: Progress notes are specific statements written by the physician or his assistants. They provide a summary of the condition of the patient on admission and a chronological record of the patient's progress written every day, or even few hours during a critical condition. They are very important in the day to day care of the patient and in medico-legal need. They must be signed by the attending physician or his assistants.
3. Physician's Orders: This is a record of all orders given by the physician and it is also known as treatment record. All orders should

be written on this order sheet and signed by the physician. Orders are sometimes given orally or on telephone and this are transcribed by his assistant to the order sheet. The physician countersigns them on his next visit, in order to establish his responsibility for the given orally or on telephone.

4. Nurses Record: The nurses, record their observation and treatment and services rendered to the patient during the absence of the physician on the nurses beside record. It serves as a means of communication between the doctor and nurse. All nurses' notes should be signed by the nurse who rendered the service; it becomes necessary at times to identify who has given certain treatment.
5. Graphic Chart: This record is started on admission of the patient to the ward at the same time the nurse bedside record is started. It helps the physician to have a quick picture of the temperature, pulse and respiration of the patient.

Besides these basic forms there are some special forms are also available which varies from patient to patient depending upon the case of illness. The important ones are.

1. Anesthesia Record
2. Operation Record

3. Histopathological Record

4. Blood Transfusion Record

5. Intake and output chart

MEDICAL RECORDS - FORMAT TYPE

Hospital standards are revised periodically to reflect changes in the delivery of health care services and with advances in medical care. The hospital shall maintain Medical Records that are documented accurately and in a timely manner, that are readily accessible, and that permit prompt retrieval of information, including statistical data. Medical Record information can be structured in three ways.

- Problem Oriented Medical Records (POMR)
- Source Oriented Medical Records (SOMR)
- Integrated Medical Records (IMR)

1. Problem Oriented Medical Records (POMR)

The Problem Oriented Medical Records was introduced by Lawrence L. Weed in the 1960s. It provides a systematic method of documentation to reflect logical thinking on the physicians directing the care of the patient. POMR has four basic components.

a. Database

b. Problem list

c. Initial plans

d. Progress notes

The element of the data base include the chief complaint, present illness, patient profile and related social data, past history and reviews, physical examination and baseline laboratory data.

The problem list has problems that require management or diagnostic workup, including medical social and economic and demographic problems. The problem should be titled and numbered as a table of contents. Thus it contains the statement of a symptom, an abnormal findings, a physiological finding or a specific diagnosis conditions suspected or ruled out are not included. The initial plans describe what will be done to learn more about the patient's condition, treat and conditions and educate patient about the conditions. Plans fall into 3 categories. That is more information for diagnosis and management, Therapy and patient education.

Progress notes are the follow up for each problem. Each note is preceded by the number and title of the appropriate problem and it consist

of the following elements: subjective (symptomatic), objective (measurable, observable), assessment and plan statements. This process is SOAP and the writing of progress notes in the POMR format is often referred to as "soaping".

2. Source Oriented Medical Records:

The hospital medical record is organized in sections according to the patient care departments which the care and the data, thus the "source oriented" medical records. The major advantage of the source oriented format is that, it organizes the reports from each source together, Thus making it easy to determine the assessment and observation a particular department has provided. Critics of this system state it is not possible to determine all the patients' problem with this format. It is also difficult to determine all the treatment being provided for the patient at a given time.

3. Integrated Medical records.

In integrated format, the information is organized in strict chronological order. The forms from various departments are intermingled. Thus the history and physical examination may be followed by a progress note, a nurse's note an x-ray report, a consultation and so on.

The advantage of the integrated format is that all the information

on a particular episode of care is together. This provides a clear picture of the patients' illness and response to treatment. There may be varying degrees of integration of information. Advantages of the progress notes are:

a. A patient's progress can be determined easily
b. It is unlikely that one professional will overlook the documentation made by another professional, because all the information is concentrated in the place.
c. The number is specialized record forms may be reduced, thus reducing the bulk of the record.
d. The team concept among health professional is encouraged.
e. Progress notes are recorded promptly to maintain chronological sequence.

Disadvantage of this type of integration are the following:

a. Only one individual can document or review progress notes at a given time.
b. It. May difficult to identify the profession of individual making a particular entry unless notes are always followed by a title of recorder.
c. Special training sessions for concise and appropriate documentation non- physician professional staff are necessary.

MEDICAL RECORDS DEPARTMENT-NEED AND ITS FUNCTIONS

Medical Records library is the pool and storehouse of health information. Every health care facility should have a proper place for lodging the medical records for storage and security. The medical records section should be logically located to facilitate easy transport of reports. The location of department should be in proper place to provide medical information to health care providers quickly.

Based on the storage of records there are two type of medical records libraries: Centralized and Decentralized. Centralization refers to filing of patient's files in one area. If outpatient clinic care is regularly provided in a hospital is most practical. In decentralization filing system, files of different sections filed in different areas.

The medical record department identifies some specialized branch of hospital administration. It is concerned not only with the processing of a variety of clinical documents but also a wider range of administrative procedures associated with patient activity in hospitals including such things as inpatient admission, discharge, maintenance of waiting list, outpatient department management, reception, registration, follow up procedures and statistics as well as training of medical records personnel

are involved in the duties of medical records department.

The major functions of the medical records department

1. Registration of the patients:

Each and every patient who came in health care facility should be registered before consulting with medical care providers. The important registration details usually recorded are name of the patient, father's/husband's/wife's/guardian's name, age sex, religion, marital status, full postal address, occupation of the patient, facility or specialty in which he is registered, referral doctor's name and address, referral diagnosis etc. The medical records start in the registration office. An identification number is given to the patient at the time of registration, usually becomes the hospital number of that particular patient.

2. Admission:

In the majority of the cases, the patient's first and all important contact is with the staff of the medical records department. The admission service is a division of the medical records department. The great extent the reputation of this department and also the institution depends on the good well established at this point. Hence the efficiency of the staff is very much required.

3. Censes

The hospital inpatient Census is the number of patients occupying beds in the hospital at the given time. The census taking hours is generally specified as midnight because this period is usually the time of least activity in the admission and discharge of patients. I midnight is not a practical time, any other specified hour may be designated, but it should be the same hour for each day. The census may be compiled by the admitting /registration department; nursing service, medical records department; and it may be collected manually or by computer. If the census is done by computer, the necessary data like admission, discharge, and transfers are entered into the computer as they occur. During manual method of census report from each nursing unit is sent to the department responsible for combing them into a complete master census.

4. Analysis

The medical records are to be analyzed for accounting daily admissions and discharges, age-wise, sex-wise and department-wise classification of patient, age group classification, paying bed and non-paying bed classification, treatment result, percentage of bed occupancy, bed turnover rate average stay of patient, mortality rates etc

5. Assembling and deficiency check:

The assembling and deficiency checking section collects the census and discharged records of the previous day and make entries in the respective registers. Arrange the records in the standard order and the deficiencies are marked. All the deficiencies are pointed out in the deficiency check sheet. The check sheet helped the doctor to complete the record during his weekly visit to the department with his team of doctors. The deficiency check sheet is destroyed when the record is complete.

6. Coding

Diagnostic and procedural data can be classified in many ways, depending on the purpose of the classification system and use being made of it. The most efficient classification system for hospitals is one that yields adequate information about large numbers of inpatients and ambulatory care patients and permits retrieval of the maximum number of patient medical record with review of the minimum number of records. A perfect design for classifying diagnoses, surgical procedures and pertinent non-surgical procedures would anticipate every request for health data information and patient record retrieval in all hospital that use. Such a system has not been designed and may be impossible to attain.

Classification systems presently used in the health care field range from those statistical in nature to those that area catalogue of terms for describing and recording clinical, pathological or procedural terms. Although one classification system predominates in hospitals, medical record practitioners should familiar with the existence and purpose of other classification and listing systems designed for use in the health care field.

The International Classification of Diseases is a publication of the World Health Organization. Revisions are scheduled every ten years, and the ninth revision (ICD9) is now a days used in hospitals. But the tenth revision is also introduced in some super specialty hospitals. The ICD-9, Clinical modification (ICD9-CM) is used in hospitals and state and federal agencies responsible for preparing vital statistics on births, deaths, and fetal deaths. Medical coding is the transference of verbal descriptions of diseases, injuries, procedures and surgeries into numerical designations, which is an exact translation of the meaning of diagnosis according to some established criteria. Placing of a diagnosis in a class or group of diagnoses related to each other is called classification.

Classification systems are used to organize the heath care data for easy and meaningful retrieval. Coding is performed to meet internal and external demands for medical information. Third party payers and outside

agencies use this information to forecast health care data, evaluate utilization of health care facilities and the appropriateness of health care costs and conduct epidemiological studies.

7.indexing

Hospital maintain various indices and registers so that patient medical records and other information can be located and.classified for patient care purposes, case studies, utilization management and other administrative purposes and for compliance with state regulations or licensure requirement. The various indices are the Master Patient Index (MPI), Disease and Operation Index (DOI), Physician Index (PI), other special indices etc.

MEDICAL AUDIT:

The word "Audit" means to take into account or to check. Medical audit is to account for or to evaluate the performance of those engaged in the care of patients. It is an objective method for applying a yardstick to the quality of professional performances. It is an analysis of clinical work. It is a systematic review of professional work in a hospital. It is an attempt to assess the quality of care provided by the staff. Medical audit simply means that it is a systematic and objective way of evaluating the quality of car rendered by the medical care team.

MEDICAL RECORD DOCUMENTATION ANALYSIS:

The medical record is the permanent, legal document, which must contain sufficient information to identify the patient, justify the diagnosis and treatment and record the results. As such it must be accurate and complete. But because documentation in the medical record is performed by a variety of health care providers- physicians, nurses, therapists and others and because it is performed as a secondary activity following the rendering of patient care, documentation may not always be as accurate or complete as necessary and desirable.

Types of medical record documentation analysis:

In quantitative analysis medical record practitioners use a list of recording requirements to identify deficiencies in medical record documentation. Medical record practitioners may also identify inconsistencies that are incomplete or inaccurate. This is quantitative analysis. This applies a knowledge of disease process and the policies and standards established by the health care administrators.

QUANTITATIVE ANALYSIS:

Quantitative analysis is a review of prescribed areas of medical record for identifying specific deficiencies in recording. Because the analysis is specially prescribed, it may be performed by specially trained

clerical level employees. The purpose of the quantitative analysis is primarily to identify obvious and routine omissions that can be easily corrected in the normal course of hospital procedures. This procedure makes the medical record more complete for future patient care reference, for protecting legal interest of the patient, physician and hospital and for meeting, licensing, accrediting and certifying requirements.

QUALITATIVE ANALYSIS:

Qualitative analysis is review of the content of medical record entries for inconsistencies and omissions which may signify that the medical record is inaccurate or incomplete. Such an analysis requires a medical terminology, anatomy and physiology, fundamentals of disease process, medical record content, and standard of licensing, accrediting and certifying agencies. Purpose of qualitative includes making the medical record complete for reference in patient legal interests, and meeting regulatory requirements. It also contributes background or supporting information for quality assurance and risk management activities. Quality assurance also assists in diagnosis and procedure coding specificity and sequencing which are important for ongoing medical research, administrative studies and reimbursement.

NUMBERING. FILING, STORAGE AND RETENTION OF MEDICAL RECORDS

Numbering

Medical records in most health care facilities are filed numerically according to patients' medical record numbers. Regardless of which of this system is a utilized medical record requiring new numbers should have them assigned chronologically, and this number should be common to all departments of the hospital. The important systems are:

1. **Serial Numbering**: In this method, the patient revives a new number on each time he is admitted or treated by the hospital. The use of serial number for filing of records results in the filing of record personnel should have to spend much time in gathering a patient's medical record. All the number assigned to a patient must be recorded on the card in the index card.
2. **Unit Numbering:** In this method the patient receives a number during his first admission or visit to a hospital. He retains that number on all subsequent admission or treatments. This method automatically attains a unit record. All admissions records are filed together in one folder and under one number.

3. Serial Unit Numbering: In this system filing all the records of previous admission of the patient are brought forward and filed under the latest admission number. The empty chart folder marked with a referral to the new number is a satisfactory out-guides to indicate the number under which the old record is filed.

FILING

There are three types of numeric filing system commonly used for filing of medical records.

- Straight numeric filing
- Terminal digit filing
- Middle digit filing

1. Straight Numeric Filing: The straight numeric filing system of medical records is the strict chronological order of filing according to the hospital number in an ascending order. This is very simple method to adopt and easy to operate, easy to train a new staff and the retrieval of records are also easy. The disadvantage of this system is all the records need to arrange serially before filing. Otherwise the chances of misfiling are more. The highest numbers, which are the most recent, represent the greatest amount of retrieval and filing

activity. Therefore, more activity and personnel will be concentrated in one part of the file area.

2. Terminal digit filing: Terminal digit filing is a method that provides equal distribution of medical records in filing units through out the file area. By providing an equal occupancy rate for shelving the records, terminal digit also permit more even workflow pattern. It is simple speedy and accurate method of filing based on the mathematical principle. In this system six digit number is used and divided into three parts, each part contain two digits. The last two numbers on the right hand side is known as primary digit the middle numbers are middle digit or secondary digit and the first two numbers are on the left side are tertiary digit.

In the terminal digit file section there are 100 primary sections ranging 0 to 99. When filing records the filing clerk considers the primary digits first, taking the record to the corresponding primary section. Within each primary section, groups of records are matched according to secondary digits. After locating the correct secondary digits. After filed in numerical order by the tertiary digits. The following sequence will occur in a terminal digit filing.

Example

00-01-25	00-02-25	00-03-25
01-01-25	01-02-25	01-03-25
02-01-25	02-02-25	02-03-25
03-01-25	03-02-25	03-03-25
04-0 1-25 and so on.	04-02-25 and so on.	04-03-25 and so on.

A file area will require a guide for every secondary in each primary section (10,000 guides). Thus there will be one guide for every secondary number, 00,01,02,25 etc in each terminal digit section. For particular section for primary number 25, the guide would read 00/25, 01/25, 02/25 etc

The advantage of this method is the records are evenly distributed among 100 primary sections. Only every 100^{th} primary section of the file and the distribution is perfect and extensive.

The work allocation to each clerk is proper and the supervision is easy and also effective. Misfiling substantially can be reduced. The disadvantages are training a new staff may takes long period of time that straight numerical system.

3. Middle Digit Filing: In this system the filing clerk files according to pairs of digits as in terminal digit filing system. However, the primary, secondary and tertiary digits are in different positions. The

middle pairs of digits in six digit number are the primary digits, the digits on the left are the secondary digits, and the digits on the right are tertiary digits.

The sequence of a middle digit file will be as following

01-25-96	99-25-96
01-25-97	99-25-97
01-25-98	99-25-98
01-25-99	99-25-99
02-25-00	00-26-00 etc

From the first example, it is seen that blocks of 100 records are in straight numerical order. This has several advantages. It is simple to pull up to 100 consecutively numerical systems to a study purpose. Conversion form a straight numerical system to a middle digit system is much simpler than conversion to a terminal digit system. Middle digit filing provides a more distribution of records than straight numerical filing the misfiling is reduced as in the terminal digit filing.

STORAGE

The medical record department must include sufficient space equipments to store patients' records so they are easily accessible when requested. Adequate filing when requested. Adequate filing equipment, lighting, temperature control, supplies, and attention to safety in the file

room all contribute to the productivity of filing clerks. Open-shelf file units and five drawer filing cabinets are the most commonly used storage units for medical records. Open shelf units are recommended over cabinets for the following reasons:

1. They are less expensive than filing cabinets
2. Personal can file or pull records faster because there is no opening or closing of drawers
3. Most importantly, open shelves accommodating more records in a given floor areas, as well as requiring less airless space

Guides should be placed throughout the files to expedite the filing and finding of records. The number of guides needed depends upon the thickness of the majority of the medical record in the file. There are two basic methods of filing records-centralized and decentralized.

Centralization means that all materials and information about a patient are tunneled into a single file held in a central location. A centralized file usually means that the patient, ambulatory care and emergency records are filed in a single central location.

Decentralized files result when certain parts are filed in another location away from central file area. In hospitals this usually means the

emergency record of a patient is filed where emergency records are stored, or ambulatory care records are filed in the ambulatory care area. Centralization has many advantages, some of which are listed here.

- There is less duplication of effort with record regard to creation, maintenance and storage of records.
- There is less overall expenditure on space and equipment.
- A composite record containing all available information is of greater help to the health care team than one in which parts are scattered in several places.
- Procedures and policies for record activity are standardized.
- Personnel may become more proficient in various file room functions and procedures.
- Record control and security are easier to maintain.
- Supervision of file room personnel is more consistent.

RETENTION POLICES

The length of medical record can retained in active and inactive storage will greatly depend on type of the 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 actions

by patients.

Since 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, it is ordinarily sufficient to retain the medical records of cases ten years after the most recent patient care usage in the absence of legal considerations. After the retention period inactive records may be destroyed provided that the institution.

1. Retains the basic information such as dates of admission and discharge, names of responsible physicians, record of diagnoses and operations, operative reports, pathology reports and discharge resumes for all records so destroyed.

2. Retains complete medical records of minors for the period of minority plus the applicable statue of limitations as prescribed.

3. Retains complete medical records of patients under mental disability in like manner as those of patients under disability of minority; and

4. Retains complete patient medical record for longer periods of time when requested in writing by one of the following:

    - ❖ An attending or consultant physician of the patient.
    - ❖ The patient or some one acting legally in his behalf.

- Legal counsel for party having an interest affected by the patient medical record.

INDICES AND REGISTERS

Hospitals maintain various indices and registers so that patient medical records and other information can be located and classified for patient care purpose, case studies, utilization management and other administrative purpose, and for compliance with state regulation or licensure requirements.

Mainly there are four types of indices that are maintained in medical records department.

- Patient alpha index
- Diagnostic index
- Operation index
- Surgeon index

PATIENT ALPHA INDEX

The patient alpha index is an alphabetical arrangement of cards according to names of the patients admitted to the hospital either as outpatient or inpatient. This is very important index and considered as the key for locating the medical record of all patients. This is a card with 5

inch x 3inch in size in which the sociological data of the patient is typed. These cards are filed in strict alphabetical order because these cards are the only source to find out the patient's record if the patient looses the identity card. Patient alpha index should contain sufficient information such as hospital number, name, date of birth, sex, address, date of registration or admission, name of attending physician, diagnosis, units etc.

DIAGNOSTIC INDEX

Diagnostic index, not only the key to locate the records of patients with various diseases for study and research purposes but also is useful in compiling certain statistics about medical care given the hospital. Although this index can be used to answer to simple statistical question, its primary functions are to produce records according to diagnosis and treatments, rather than detailed statistical information. Detailed statistics should be obtained through the medical records themselves, and the index should be used to locate them. The size of the diagnostic index is usually 8 inches X 5 inches and separate card is prepared for each disease.

OPERATION INDEX

This is an account of all operations performed in the hospital. For various type of operations in a given period can easily be accounted with

a short time. It is also in collection and compilation of operation statistics for research or study. The size of the index card is 8 inch X 5 inches. Basic data for any type of disease and operation index include the disease, injury, and procedures classification code, the patient's medical record number, sex and age of the patient, identification of physician by code number or name, dates of admission and discharge or year with length of stay in days.

SURGEON INDEX

A surgeon index is kept to provide a means of locating the records of patient's operated by the individual surgeon or as a list of patients operated by him. This index arranged alphabetically by names of surgeon and others who assisted the operation. The size index is 8 inch X 5 inches.

REGISTERS

The need to maintain certain types of registers or logs may be determined by the requirements for record control measures or by state regulations imposed on the hospital.

The patient register or admission register is a chronological list of patient names by date of admission as inpatients. Minimum data items required are date of admission, time of admission if needed, patient name

and medical record number. Additional items may include room assignment, sex and attending physician's name. If the admitting or medical record department prepared a daily list of admissions and hospital births, a copy may be filed to serve as an admission register. In some states, the hospital licensing laws may include requirements for a patient registration log (admission register).

The operating room register is a chronological list all operative procedures performed in the hospital's surgical suite. It is usually maintained in the operating room suite area and contains the date and time of the procedures, the name of the patient, the type of procedure performed, the type of anesthesia used, and the name surgeon and the anesthesiologist. The operating room register may be required by state regulations, however it serves the hospital as a valuable reference for certain types of statistical data on utilization of services and human resources.

The birth register may be kept in the delivery room area or in the medical record department. It may be simple or detailed, depending on the needs of the obstetrical service and the hospital. The minimum data would be date and time of birth, sex of newborn, whether baby was born live or still born, name of the mother, name of the physician or staff member in attendance at the time of delivery, and date when birth

certificate was mailed to the register of vital records. A birth register may be required for state vital record law.

A death register may be maintained in the medical record department, pathology department, or admitting office. It is chronological list of all patients who dies in the hospital or who were dead on arrival at the hospital. It contains the date of death, name of deceased person, name of physician who completed the medical portion of the death certificate and the name of the mortician, coroner or medical examiner who removed the body from the hospital.

A register is maintained in the emergency department to record patient's encounters by date. The minimum date items to be entered in the emergency service register are the date and time of arrival, name of the patient, and means of transportation to the emergency service, treatment or advice given, disposition and time of departure.

CANCER REGISTRY

The cancer registry requires maintaining an index of patient names and address for follow up studies on the outcome of malignancy, a statistical index on the type and site of malignancy with cross referencing to the patient's medical record and a patient's record of history and treatment, when applicable. A hospital that has no formal cancer program

need not maintain a cancer registry. In some states the cancer registry program is carried out at the state level and hospitals cooperate by submitting abstract data from patient medical record.

FORMS DESIGN AND CONTROL

Medical record practitioners are responsible for assisting in the design and implementation of effective forms for data collection and use. Well-designed medical record forms are important communication tools and ready references inpatient care and in review of care provided. Good forms can accomplish several purposes. They can 1) reduce writing time and avoid duplication of information and 2) standardize the information that is provided. Well-designed forms are also easier to complete.

The medical record practitioner assists the forms committee and hospital department by

a) Making a available the various requirements and status that may control the form in a particular state.

b) Being Knowledgeable about rules governing forms design such as quality of paper, spacing printing styles, logical sequence of medical and

c) Collecting sample medical record forms to assist in developing the

hospital forms.

FORMS ANALYSIS

A logical approach to form analysis is to review all the forms used in a certain procedure. Reviews should understand the procedure so that their analysis can be complete. One should need to know the answers to the what, when, who, how, and why questions for each step of procedures involving the form.

For background information related to procedures, the following sources should be checked:

a) Manuals, regulations which are describe functional responsibilities and procedures that relate to the forms.

b) Forms history file and forms subject file.

c) Completed forms which will show the types of errors made in completing.

d) Organizational charts which will show the relationships of the department responsible for the forms to other department.

The reasons for forms are:

- Existence of operational problems of backlogs, unusual time lags

repetition of numerous errors.

- Areas suggested for potential savings and improvement
- Suggestions made by the operating staff

PRINCIPLES OF FORMS DESIGN

Five major components usually exist on all forms. They are as follows:

Heading: Include the title and form number

- Introduction: Explain the purpose of the form. Sometimes the purpose is identified in the title.
- Instruction: Include items on have to fill in the form and what to do with the form.
- Body: Consist of the grouped or sequenced items for specified information desired.
- Close: Space for approving signatures.

The following principles are basic to good form design:

1) A uniform size of paper should be used. Standard size is 81/2 inch by 11 inch.

2) A uniform binding edge should be maintained.

3) A uniform margin should be maintained. Chart holders on the nursing unit should accommodate the uniform margins.

4) Depending on the whether the forms are to be typewritten, handwritten, line spacing as forms should be designed.

5) The quality and weight of the paper should be selected according to the record, the amount of use it will receive and whether both sides are to used.

6) Coloured forms should be selected carefully because problems can occur in photocopying or microfilming coloured sheets.

<u>The following principles are basic forms development:</u>

1. The study the purpose and use of the form and design it with the user in mind.

2. Design the form as simple as possible omit unnecessary information and lines.

3. Items should be listed in logical sequence

4. The horizontal space allowed for typewritten entries should accommodate the type size.

5. All forms should have the identification of the patient in a standard

location.

6. When uniform placement is possible, there should be a uniform sequence of common items on related forms.

7. Use standard terminology for wording instructions.

8. Form that requires recopying from other parts of the record should be avoided.

9. The name of the hospital should be pre-printed on all forms.

10. Forms should be designed to provide instructions on completion, which are placed on top whenever possible.

11. Answer boxes can save time in completing the data for a form and can reduce errors as well as provide uniformity of statistical items.

MEDICAL CODING

Coding is transferring verbal description of disease, injuries procedures and surgeries into numerical designations, which are the exact translation of the meaning of the diagnosis according to some established criteria. Placing a diagnosis in a class or group of diagnoses related to each other is call classification

Classification systems are used to organize health care data for

easy and meaningful retrieval. The most efficient classification system for hospitals is one that yields adequate information about large numbers of inpatients and permits retrieval of the maximum number of patient medical records with review of the minimum number of records. A perfect design for classifying diagnoses, surgical procedures and pertinent non-surgical procedures would anticipate every request for health data information and patient record retrieval in all hospitals that use it. Such a system has not been designed and may be impossible to attain.

Classification system presently used in the health care field range from those statistical in nature to those that are a catalogue of items for describing and recording clinical, pathological terms. Although one classification system predominates in hospitals, medical record practitioners should be familiar with the existence and purpose of other classification and listing system designed for use in the health care field. During the Sauvagean period, a person named Francic Bossier De Lacorix attempted to classify disease systematically and treatise was published under the title "Nostalgia Methodoica". In the 17th century Capt. John Grant of London began directing the attention of the world to morbidity and mortality statistics in his "London Bills of Mortality". This was the first real attempt to study diseases from statistical point of view. In 1837, Fair, Registrar general of England and Wales worked to achieve

better classification and international uniformity in the use of statistics. This has survived as the basis of international cause of death.

GENERAL PRINCIPLE OF DISEASE CLASSIFICATION

A statistical classification of diseases must be confined to a limited number of mutually exclusive categories able to encompass the whole range of morbid conditions. The categories have to be chosen to facilitate the statistical study of disease phenomena. A specific disease entity that is of particular public health importance or that occurs frequently should have its own category. Consequently, throughout the classification, there will be residual categories for other and miscellaneous conditions that cannot be allocated to the more specific categories. It is the element of grouping that distinguishes a statistical classification from a nomenclature, which must have a separate title for each known morbid condition. A statistical classification can allow for different levels of detail it has a hierarchical structure with subdivisions. A statistical classification of disease should retain the ability both to identify specific disease entities and to allow statistical presentation of data for broader groups, to enable useful and understandable information to be obtained.

INTERNATIONAL CLASSIFICATION OF DISEASES -9TH REVISION

The ICD- 9th revision was published in 1979. ICD-9 is primarily a universal classification system for grouping illnesses. Its secondary purpose is for use in hospitals disease indexing. The 9th revision of the ICD contains an innovation in that there are two codes for certain diagnostic descriptions in which contain elements of information both about a localized manifestation or complication and about a more generalized underlying disease process. One of the codes marked with a dagger (+) positioned in the part of the classification in which the diagnostic description is located according to normal ICD principles. That relating to the underlying disease, and the other marked with an asterisk (*) is positioned in the chapter of classification relating to the organ system to which the manifestation or complication relates. Thus tuberculous meningitis has its dagger code in the chapter for infectious and parasitic disease, and its asterisk code in nervous system chapter.

The necessity for this arose from the desire of specialists and those concerned with statistics of a medical care to have certain manifestations which medical care problems in their own right classified chapters relating to the relevant organ system.

The dagger and asterisk categories are in fact alternative

positioning in the classification for the relevant conditions, enabling retrieval or statistical analysis from their viewpoint. It is, however a principle of ICD classification that

he dagger category is the primary code and that the asterisk code is secondary, so it is important where it is desired to work with the asterisk code, and both are used, to use some special mark or a predetermined positioning in the coded record, to identify which is the dagger, and which the asterisk, doe for the same entity.

ICD-9 consists of two volumes-tabular list and alphabetical list of disease. Volume first consists of 17 chapters and 2 supplementary classification schemes.

1. Infections and parasitic diseases (001-139).

2. neoplasam (140-239)

3 .Endocrine, nutritional and metabolic diseases and immunity disorders (240-279)

4. Disease of the blood and blood forming organs (280-289)

5. mental disorder (290-319)

6. Diseases of nervous system and sense organs (320-389).

7. Disease of circulatory system (390-459)

8. Diseases of circulatory system (390-459)

9 .Disease of digestive system (520-579)

10. Disease of genito-urinary system (580-629)

11. Complications of pregnancy, child birth and peurperium (630-676)

12. Disease of skin and subcutaneous tissue (680-709)

13. Disease of the musculo-skeletal system and connective tissue (710-739)

14. Congenital anomalies (740-759)

15. Certain conditional originating in perinatal period (760-779)

16. Symptoms, signs and ill defined conditions (780-799)

17. Injury and poisoning (800-999)

Supplementary scheme are as follows:

The volume II consists of alphabetical index. The alphabetical index is essential to the tabular for clear coding. Alphabetical index consists of three sections.

Section first is the index of diseases, syndromes, pathological conditions, injuries, signs symptoms, problems and other reasons for

contact with health services (including 001-999 and V01-V82). Section two is the index of external causes of injury that is (fire, explosion, fall, assault, collision, submersion etc-E800-E999). Section three is the index of drug and other chemical substances giving rise of poisoning and other adverse effects.

STRUCTURE OF CODE NUMBERS

The basic number of digits applied to a disease condition is three, such as 410 acute myocardial infarction. In many instances, the code number is expanded by use of a decimal digit, .0 to .9 to amplify or permit greater detail in the classification of disease. Some codes are further subdivided into fifth digit classification. Resulting in a code number with a maximum of five digits.

Operative procedures are assigned two digits, such as 32 excisions of lung and bronchus. Here also decimal digits .0 through .9 are assigned to describe the precise procedures, such as 32.5 pneumonectomy complete. An additional decimal digit is assigned for designated procedures, creating a maximum four digit procedure number.

OTHER FEATURES

In addition to the code numbers for disease and operative procedures, the ICD-9 contains other options designed to display valuable

statistical data for those desiring this information. A supplementary classification factors influencing health status and contact with health service is provided to record patient visits for reasons not related to a particular disease or injury. Admission in a hospital for voluntary sterilization only is not a disease or injury and therefore is coded by using the supplementary classification. These codes are commonly referred to as V-codes, since the code number itself is always preceded by the letter 'V.

The E code classification of external causes or injury and poisoning (E800-E998) are used in conjunction with a disease or injury code number, as they only provide supplemental information to further explain the precipitating incident.

Four additional appendices are provided in volume first for reference purposes and coder information. ICD-9-CM is required for statistical reporting purpose by the national center for health statistics of the United States. For this reason, it is used extensively by hospitals and other health care facilities, storing and retrieving health care data.

ICD-ONCOLOGY

One area requiring specific detailed information on the effectiveness and outcome of treatment is the study of tumors or

neoplasm known as ***oncology.*** For adequate statistical information and follow-up of patients, a detailed classification has to be devised to record the numbers and types of tumor.

The ICD-O is divided into three sections. The site or location in the body which contains the rumor is assigned a code number (four digit code numbers which run from 140.0 to 199.9). The morphology numerical list contains code numbers which are used to specify the type of tumor found and its behaviour. The morphology terms have five digit code numbers which run from 8000/0 to 9990/6, the first four digits indicate the specific histological terms and the fifth digit after the slash is a behaviour code. An optional six digit may be added to the morphology code number which indicates differentiation of the tumor mass.

DIAGNOSTIC AND STATISTICAL MANUAL **OF MENTAL DISORDER (DSM)**

This classification is used in many psychiatric institutions and psychiatric units of hospitals for indexing records by mental disorders and for compiling statistical data on patient care. Since ICD-9-CM is required for use in Medicare and Medicaid reimbursement reporting, medical record practitioner in psychiatric institutions and hospitals with psychiatric units need working knowledge of both ICD-9 and DSM.

INTERNATIONAL CLASSIFICATION OF DISEASE -10™ REVISION

The ICD-10 comprises 3 volumes: Volume 1 contains the main classification. Volume 2 provides guidelines to users of the ICD. Volume 3 is the alphabetical index to the classification.

Most of the volume I is taken up with the main classification, composed of the list of 3characters and the tabular list of inclusions and 4 character subcategories. The "core classification"- the mandatory level for reporting. This core classification also list chapter and block titles. The tabular list giving the full detail of 4 character level is divided into 21 chapters. Volume 1 also contains morphology of the neoplasm, special tabulation list, definitions and nomenclature regulations.

CHAPTERS; The classification is divided into 21 chapters. The first character of a code is a letter, and each letter is associated with a particular chapter, except for the letter D used in both chapter II (neoplasm) and chapter III (disease of the blood and blood forming organs) and the letter H, which is used in both chapter VI (Disease of the eye and adnexa) and chapter VIII (DISEAE OF THE EAR AND MASTOID PROCESS). Four chapters (I, II, XIX, and XX) USE MORE THAN ONE LETTER. Each chapter contains sufficient 3 character categories, not all available codes are used, allowing space for future

revision and expansion.

Chapter I to XVII relate to disease and other morbid conditions and chapter XIX to injuries, poisoning and certain other consequences of external causes, Chapters XVIII covers symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified. Chapter XX, external causes of injury and poisoning. Finally chapter XXI, factors influencing health status and contact with health services.

The chapters are subdivided into homogenous "block" of three character categories. Within each block, some of the three character categories. Within each block some of the three characters are of single conditions, selected because of their frequency, severity or susceptibility to public health intervention, while others are for groups of disease with some common characteristic.

Although not mandatory for reporting at the international level, most of the three character categories are subdivided by means of a fourth, numeric character after a decimal point, allowing up to ten subcategories. Where a 3 characters category is not divided, it is recommended that the letter "X" to be used to fill the fourth position so that the codes are of a standard length for data processing. The fourth character .8 is generally used for other conditions belonging to the three character category, and .9 is mostly used to convey the same meaning as

the three character category title, without adding any additional information.

The fifth and subsequent character levels are usually sub classifications along a different axis from the fourth character. They are found in chapter XIII, chapter XIX and chapter XX.

Code UOO - U49 are to be used the provisional assignment of new disease of uncertain etiology. Codes U59-U99 may be used in research.

Chapter 1: Certain infectious and parasitic disease (AOO-B99)

Chapter 2: Neoplasm (COO D48)

Chapter 3: Diseases of the blood and blood forming organs and certain disorders involving immune mechanism (D50-D89).

Chapter 4: Endocrine, nutritional and metabolic disease (EOO-E99).

Chapter 5: Mental and behavioral disorder (FOO-F99).

Chapter 6: Diseases of the nervous system (GOO - G99).

Chapter 7: Diseases of eye and adnexa (HOO - H59).

Chapter 8: Diseases of ear and mastoid process (H60-H95).

Chapter 9; Diseases of the circulatory system (100 -199).

Chapter 10: Diseases of the respiratory system (JOO - J99).

Chapter 11: Diseases of the digestive system (KOO - K93).

Chapter 12; Disease of skin and subcutaneous tissue (LOO - L99).

Chapter 13: Diseases of the musculo-skeletal system and connective tissue (MOO - M99).

Chapter 14; Diseases of the genitor - urinary system (NOO - N99)

Chapter 15: Pregnancy, childbirth and peurperium (OOO - O99).

Chapter 16; Certain conditions originating in the perinatal period (POO - P96).

Chapter 17: Congenital malformation, deformation, chromosomal abnormalities (QOO - Q99).

Chapter 18: Symptoms, signs and abnormal clinical and laboratory findings. Not elsewhere classified (ROO - R99).

Chapter 19; Injury, poisoning and certain other consequences and external causes (SOO - T98).

Chapter 20; External causes of morbidity and mortality (V 01- Y 98).

Chapter 21; Factors influencing health status and contact with health services (ZOO- Z99).

ORGANISATION OF MEDICAL RECORDS DEPARTMENT

Organizing is the management function of distributing or allocation resources towards the accomplishment of the objectives defined in the plans. Organizing requires an understanding of the concepts of staffing and work distribution. Organizing, however, also includes the allocation of material, machine and space resources. Organization of a good, smooth running and efficient department is very hard task. Before starting a department there should be proper perception about the hospital and its coming future. Following are very important matters in the case of organization of department. There should be a medical record manager for guidance and supervision. The following points to be considered regarding the organization of the medical records department.

1. Planning
2. Organizing
3. Directing
4. Staffing
5. Controlling
6. Evaluation
7. Assessment and modifications <u>Planning:</u>

Planning is the most important function, yet often the most neglected. Planning may be simple and informal. There should be proper planning about its location, facilities, staffing etc. the centralized medical record department is more preferred. The department should be in a logically locate to facilitate the transport of files to various sections. The out patient department must be organized near the reception. All the investigations, accounting facilities etc. should be available near the out patient department. There should be proper guidance to near the out patient department. There should be proper guidance to patients for which name boards should be placed. In the medical record department, there should be enough space to files the records properly and its easy retrieval. The racks must be arranged in such a way that the filing clerks can pull out records without using a ladder, which saves time and work. Adopt filing methods to satisfy hospital needs. Before starting a department, the nature of filing and numbering pattern etc. should be understood. Plan a department is based on the need of a hospital.

Organizing;

There should be adequate staff for the smooth running of the department. The department needs more staffs if the out patient departments case files are also used. Based on the out patient departments the number of staffs increases. Computerization reduces staff strength and

filing works. During work into sections and then coordinating the sections is one of the aspects of organizing. Each section must be assigned responsibility for certain tasks and be given the authority to see tasks to their completion.

Directing:

The directing function of management involves getting all members of a work group to contribute effectively and efficiently to the achievement of the organization objectives. The scientific approach of directing, using pools of work simplification or methods engineering, and the humanistic aspects of actuating, including, leadership, motivation, communication, appraising employee performance, developing employee skills and appropriately compensating productivity and performance.

Staffing:

The number of staffs required for the medical records department depends on the nature of tasks taken by it. The allocation of work among staff has evenly distributed. There should be enough staff for the smooth functioning of the department. Computerization reduces staff strength and it needs computer experts. The staffs should be courteous with all other staffs and supervisors. It is the responsibility of the supervisor to evaluate the performance of the staff and gave instructions whenever necessary.

For 500 bedded hospital, there requires one supervisor, two assistants and one filing clerk, one coding and correspondence clerk and one helper. The staffing pattern differs from hospitals to hospitals according to the need of the medical record department.

Controlling;

Controlling is the feedback mechanism for planning. Controlling is determining whether the planning has been effective, whether objectives have been met and taking steps to ensure that objects are met. Controlling requires an understanding of what is necessary to meet the standards defined in the objectives.

Evaluation:

The hospital management committee and the medical record committee should evaluate the functioning of medical record department. For effective management, the result of evaluation must be studied and take necessary action in consultation with health care director.

Assessment and modification:

The medical record manager should constantly monitor the effectiveness of the medical records department frequently in order to take steps to improve it. For the betterment of the department necessary

modifications can be made without hurt other functions of the department.

PRIVACY AND CONFIDENTIALITY

The primary purposes of the medical record are to document the course of patient's health care and to provide a medium of communication among health care professional for current and future patient care.

Medical records containing information, which is both sensitive and confidential. Individuals have differing perceptions of the sensitivity of the information about themselves. For some an address may be sensitive, for others it may be the nature of their illness. It is generally accepted that information exchanged between patient and doctor should be confidential and there is an ethical expectation that doctors will respect confidentiality. If either the patient or the doctor suspects that the record may not remain confidential, the quality of the medical record and hence the quality of care may be suffer. Patients may be unwilling to divulge sensitive information that could compromise care decisions and put them at a risk. Clinicians may hold back from recording sensitive data so as to protect the patient care in some circumstance themselves.

In order to fulfill these purposes, significant amounts of data must be revealed and recorded. The patient must be assured that the

information shared with the health care professional should remain confidential, otherwise, the patient may with hold critical information, which could affect the quality of care, provided, the relationship with the provider and the reliability of the information maintained. Health records are used to provide a medium of communication for current and future patient care for a variety of legitimate reasons.

The medical record is used as a personal document and as an impersonal document.

AS A PERSONAL DOCUMENT:

The patient's record is a form of document, a historical record, the contents of which is not only for diagnostic purpose but it has a legal value too. As a confidential and privileged communication, The patient has a personal interest on the record and therefore it is not available to outside agencies such as insurance companies, compensation carriers or any other similar organizations except upon receipt of an authorization signed by the patient. Neither relatives or friends nor husband or wife have any right to review the record of the patient unless authorization received from the patient.

If the patient should be hospitalized under the care of another physician the second physician, should be allowed access to the record of

previous hospitalization. If the patient subsequently admitted to another hospital, a summary may; be sent upon request from the hospital. In such instance an authorization is not generally considered as information is being released in the best interest of the patient. When a patient personally requesting information, it is not always in the best interest of the patient to know all details concerning his illness. In such instance a wise policy is to consult the attending physician before releasing any information to the patient.

AS AN IMPERSONAL DOCUMENT:

When a medical record is used for the study research it is considered as an impersonal document. In such instance the medical record personnel need not exercise such caution as when it is used as personal document. Moreover only the physicians and other medical staff, students, use it, all of them are bound by the code of professional secrecy.

While compiling monthly hospital statistics the medical record staff use the medical record as an impersonal document an impersonal document in compiling case reports and the physicians use it for research. The users of the information may not divulge any information of the personal nature acquired by them in the practice of their profession. If the record is being studied for publication, the permission of the attending

physician may require the data for his own publication.

Health care facilities receive and respond to numerous requests for information from the health records in their custody. Clinical information that is considered confidential and requires the patient's written permission to release. These data include all items in the record relating to the patient's diagnosis and treatment and it is highly confidential. Many health care facilities consider due information as confidential and needs permission from the patient for the release must be granted by permission from the patient or by law. Release of information from the health record shall be carried out in accordance with all applicable legal, accrediting and regulatory agency requirements, and accordance with written institutional policy. All information contained in the health record is confidential and the release of information will be closely controlled. A properly completed and signed by authorization is required for release of all health information except the following.

- As required by law.
- For release to another health care provider currently involved in the care of the patient and for medical care evaluation.
- For research and education in accordance with conditions specified below:

Information released to authorization individuals/ agencies shall be strictly limited to that information required to fulfill the purpose stated on the authorization. Authorizations specifying any and all information or other such broadly inclusive statements shall not be honored. Release of information that is not essential to the stated purpose of the request is specifically prohibited.

LEGAL ASPECTS OF MEDICAL RECORDS

A great change has come about the attitude of the public towards hospitals and doctors in recent years and they have an increasing tendency to sue. For this reason the medical record officer and the medical record committee must analyze each medical record carefully to see that it substantiates all aspects of medical record. Because the medical record has both medical and legal aspects the medical record officer and the medical record committee and others employed in the care and safekeeping of medical record, should be familiar with the principle and administration of low applicable to them.

Indian evidence act of 1872, page 22 chapter 5 clarifies the admissibility of medical record as a medical, legal and confidential document and it can be produced as documentary evidence whenever necessary. In this act, "document" means any matter expressed or described upon by substance of means of letters, figures or marks or by

more than one of those means intended to be used for the purpose of recording matter.

TYPES OF CASES USING EVIDENCE FROM MEDICAL RECORDS

- Insurance cases.
- Workman's compensation cases.
- Personal injury suits.
- Malpractice suits.
- Will cases.
- Criminal cases.

INSURANCE CASES

If patient knowingly concealed his medical history and the insurance company, having learned of the fraud, sues to void the contract, the patient's history is usually used as a proof of the duration and character of his prior to disability. Medical record are also used in cases were actions are brought against an insurance company to collect for disabilities or medical expenses or personal accident liability policies.

WORKMEN'S COMPENSATION CASES

In most states a person injured in the course of his duties and while acting within the scope of his employment is entitled to compensation for badly injury and disability. The medical record such an instance is used as evidence before the state industrial commission to show the date of injury, the type and severity of injury, period of disability and the prognosis.

PERSONAL INJURY SUITS

In this type of suit the plaintiff in a personal injury suit claims to have been injured through the fault or neglect of another and brings his suit to recover damage thus sustained. The defendant to show how the plaintiff contended the injury was sustained when giving his history on admission to the hospital may use the medical records here. The patient may show the extent of the injuries, the treatment rendered and the duration of the case required.

MALPRACTICE SUITS

In a suit of this kind the plaintiff claims damages from a physician, a hospital, or the nurses for negligence in rendering care or for giving improper treatment. The record here used to show whether there was negligence and that treatment rendered was not adequate and proper.

WILL CASES

A patient might have made a will during his hospital stay. After the death of the patient an attempt may be made to set the will aside by seeking to prove the patient was mentally incomplete. The record is used here as evidence in such a case of shows the mental state of the patient at the time of making the will.

CRIMINAL CASES

All cases of accidents, assaults, serious injuries, suicide, homicide, poisoning, rape, drowning etc. are considered as medico-legal cases. These cases whether brought by police or not, must be registered as medico-legal cases.

Hospital records have been used in the following types of criminal cases.

- In murder cases to show that death did or did not result from natural causes.
- In assault cases, to prove the viciousness of the assault and extent of the injuries sustained.
- In rape cases, to prove the condition of the prosecutor or admission and also here history as related on admission.
- In mischievous acts cases, to prove the history given by the patient on

admission and the character and extend of the injuries sustained.

- In certain cases, to prove a difficult mental condition and to show that the defendant should be confined in an institution for the mentally ill or feeble minded rather than imprisoned in a penal institution.
- In conspiracy case, to show that a fraud as perpetrated on a person being used for damages.

PROCEDURE FOR MEDICO-LEGAL CASES.

- When the medico-legal case sheets and medico-legal reports are received from the casualty, affix the MLC rubber stamp. Check the medico-legal report duly filled in.
- Send the medico-legal information to the police along with one copy of the medico-legal report.
- Inform the police station regarding the admissions, discharges and deaths.
- Attend the court after obtaining permission from hospital authorities and produce records in the court of law as and when summons are received. In case, records have to be produced, make entry in the prescribed register, regarding number of sheets, number of laboratory investigation reports and other investigation reports, summon number, asked by whom how dispatched etc
- Keep all the medico-legal documents in the safe custody under the

lock and key. The lock should be sealed and the key should be deposited with the medical record officer.

HEALTH CARE STATISTICS

Statistical care facts set down as figures. Preparing statistical involves the collection, analysis, interpretation and presentation of facts as numbers. Statistics are as accurate as the original documents from which they are obtained. The medical record practitioner must decide whether or not the content of the medical records meet statistical needs. The hospital administration and governing board uses statistics to compare current operations with the past and as guide for future planning. The medical staff uses statistics to appraise its own performance. Reports complied for outside agencies and organizations on a local, state and national level are used accredit, license and approve hospitals and other health care facilities and distribute funds.

The important statistical data prepared are follows:

- Registration
- Admission
- Discharges including death
- Hospital death
- Hospital birth

- Autopsy
- Surgery/procedures
- Bed occupancy
- Average length of stay
- Hospital infection
- Investigations

COMMON HOSPITAL PERCENTAGES AND RATES

The hospital death rate is defined as the proportion of inpatient hospitalization that ends in death, usually expressed as a percentage. Counts of death occurring both within 48 hours and those over 48 hours of admission are currently needed. Deaths are included in discharges because, like discharges because, like discharges death are termination of inpatient hospitalization.

Patients who are dead on arrival (DOA) are not included when figuring these rates. Patients who die in the emergency room where there has been no administrative decision to provide them with room, board or continuous nursing are not included when figuring this rate. When such administrative decision has been made and the patient dies when receiving life services in any unit of the hospital other than the emergency unit, this patient is considered as a hospital patient and therefore hospital deaths are not included in the death rate.

1. Gross Death Rate: The proportion of inpatient hospitalization that end in death, usually expressed as a percentage.

$$\text{GDR} = \frac{\text{No. of inpatient death in a period X 100}}{\text{No. of discharge in the same period}}$$

2. Net Death Rate: The ration of total number of deaths for a period occurring in the hospital 48 hours or more after admission to the total number of discharges and deaths in 48 hours and over that period.

$$\text{NDR} = \frac{\text{Total deaths- those under 48 hrs}}{\text{Total discharges-death under 48 hours}} \quad \text{X 100}$$

3. Post Operative death rate: The ratio compares the deaths within ten days after surgery to the total number of patients operated upon for the period.

$$\text{Formula} = \frac{\text{Total no .of deaths within 10 days post operative period}}{\text{Total no. of operations done upon for the period.}} \text{ x 100}$$

4. Maternal Death Rate: This ratio represents maternal deaths for a period to the total number of obstetrical patients discharged. It includes only patient whose death is a result of an obstetrical complication of pregnancy, labour or the puerperium or from interventions, omissions or treatment. This is called direct obstetrical deaths.

$$\text{MDR or MMR} = \frac{\text{Total No. of direct maternal death}}{\text{Total No. of obstetrical discharges.}} \text{X 100}$$

5. National Death Rate or Infant Mortality Rate: This ratio reflects the deaths of infants born in the hospital to the number of infants discharged. Fetal deaths are included because they are not newborn inpatients. Infants

both outside of the hospital and admitted should be recorded as child inpatients.

$$\text{NDR or IMR} = \frac{\text{Total No. of new born death}}{\text{Total No. of new born infants discharged}} \times 100$$

6. Anesthesia Death Rate: This is the ratio of deaths caused by anesthetic agents for a period to the number of anesthetics administrated for the period. An anesthetic death is defined as a death that takes place while the patient is under anesthesia or which anesthetics or other agents cause used by the anesthetist or anesthesiologist in the practice of his/her profession.

$$\text{ADR} = \frac{\text{Total No. of deaths caused by anesthetic agents}}{\text{Total No. of administrated for the period.}} \times 100$$

7. Fetal Death Rate or Still Birth Rate: This ratio computes the number of fetal deaths to the total number of births in a given period.

$$\text{FDR/ or SRT} \frac{\text{Total No. of intermediate fetal death}}{\text{Total No. of births (intermediate and late fetal deaths)}} \times 100$$

8. Goss autopsy rate: No. of inpatient autopsies X 100

No. of inpatient deaths

9. Net Autopsy rate: $\frac{\text{No. of inpatient autopsies}}{\text{Inpatient death - unautopsied coroner}} \times 100$

10.Inpatient bed occupancy rate:

$$\frac{\text{Total inpatient service days X 100}}{\text{Total Inpatient bed count X No. of days}}$$

11 .Average length of stay: $\frac{\text{Total length of stay}}{\text{Total discharges}}$

12.Average Daily Inpatient Census:

$$= \frac{\text{No. inpatient service days}}{\text{No of days}}$$

13.Infection Rate Post. Op:

$$= \frac{\text{No of Infection in Post op. Cases X 100}}{\text{No. of surgery}}$$

14. Admission Rate: $\frac{\text{No. of Patients Admitted X 100}}{\text{Total Registration + Reviews}}$

15.Caesarean Section Rate:

$$\frac{\text{No. of Caesarean Performed X 100}}{\text{No. of Deliveries}}$$

ELECTRONIC MEDICAL RECORDS

Traditionally the medical record has been a collection or package of hand written or typed notes, forms and reports. automation has made possible to capture, store, retrieve and present clinical data. many computers offer on line systems that provide the hospital staff with direct access computerized database through decentralized communication terminals. some hospitals have personal computers at the patient bedsides, while others have pc`s at nurses work stations ideally the computerized system for medical records should be integrated with the hospital information system some of the advantages of EMR is that records are organized,legible and therefore likely to minimise misunderstandings as well as patient care errors. the health care

proffesionals especially nurses,are more productive as less time is devoted to paper work and also instant billing is possible.

in spite of he fact that many developments have occurred in computerizatin,still there is tremendous amount of manual recording being carried out such as medical and nursing care data which hinders integration of patient care information.thus the need for paperless medical records has become necessary

PAPERLESS MEDICAL RECORDS

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 integrted data in the least possible time at the required place/s.

To achieve this, there is a need to design a clear patient care management information ,which should assist in registration of total patient information at point of each transaction. the capture of data is recognized to be a key concern in designing a comprehensive heath information system (HIS) important elements are patient data from birth to death, retention, text, graphics, image, voice signals and alpha numerical dat. maximum benefits including improved quality care with reduced cost are only realized when the primary creators and consumers of information interact directly with a system. The world's first paperless

hospital was in gurated on 27th june 1994 in scotland wherein the electronic medical record (EMR) was already operational throughout of the facility.

To recognize the health care provider as major user and thus ease of use; the greater the need to share data and functions, the need for mor integration and to achieve a cost efficient heath information system (HIS) important features are user interface simplicity, comprehensive functionality, access to information in a variety of ways access to other database, expert systems, turning data in to information.

STANDARDIZATIN OF PAPERLESS HEALTH RECORDS

The history of medical records runs parallel with the history of medicine the present computer technology made it possible to convert the conventionally maintained hand written medical record in to paperless suitable standardization in order to achieve quick, efficient and maintain comprehensive health care information to meet the needs of community at large a system in which patient care management data entered directly into an electronic machine which is capable of accepting and retrieving the data in the least possible time at a required place.

OBJECTIVES OF ELECTRONIC MEDICAL RECORDS

- To reduce the effort and cost of manual documentation, preservation, processing and retrieval of heath information

- To avoid duplication of patient care records
- Multiuser facility
- To avoid delay in patient care
- Destruction of records by atmospheric conditions can be avoided
- To avoid misfiling
- To save space
- Legibility and health information

COMPUTERIZATION OF THE MEDICAL SERVICES

A Hospital information system(HIS) can be defined as a open system which attempts to integrate an communicate the outside and inside flow of information with in a hospital and provide the functions common for all applications the areas will functionally include, Medical information systems, Patient administration systems and financial or management systems. Earlier computers have been effectively used for administrative priorities and patient care aspect was limited to registration and admission procedures, but today the computer are under the transition to eliminate the paper based medical records. Better management begins better information. Information is too important to be left to specialist.it has developed into an issue of strategic management besides the final user can not be neglected. Today hospital needs to share information in all medical and other departments this information is neither administrative

nor medical.

Five major strategies are important to achieve that :

- To have a secure, reliable, online, clinical information system
- To connect and manage distributed information resources to health care providers or better decision making.
- To facilitate the hospital use of information technology to control cost and improve the management

Important reasons to convert first generation HIS into fully integrated clinical information systems are:

- To enhance patient information management
- To maintain comprehensive electronic medical record from the birth
- To assess the quality of the care
- To control the cost

ADVANTAGES OF COMPUTERIZED PATIENT'S CLINICAL RECORD

Good medical care requires comprehensive and accurate records than visits, investigation, immunization previously due to advancement of technology, high expectation of patients, malpractice, third party payers

claims and enormous cost to provide efficient health care. All these lead to effective methods of keeping the patient clinical records. The computer system must accomplish something better than the manual medical record and helpful to the physicians, nursing and other staff to improve their efficiency in providing better medical care to patients with reasonably low cost. While designing the compueter system, the following are some of the features should be imbibed in the computerized patient medical record.

BETTER MEDICAL CARE

At the outset the patient medical record should be properly organized and standardized to include drug information on patient medications, patient health maintenance, patient medical education, storage, maintenance and transfer of information when required.one screen concept :computer screen should contain the basic information needed for each patient encounter without browsing from one screen to another by providing the following basic information.

Patient complete identification and sociological data, problem list including history, acute, chronic illness and reasons for outpatient /clinical status, family history, patient important surgical information, list of current medication with dosages and instructions, list of drug allergies, important reminders thinks to be done later. this will help the staff to see

all important information on one screen.

Drug information screen should have potential drug indication each time a drug is entered automatically grade the severity of the interaction, graph showing the interaction between the drug and the disease, show pharmacology information of any drug interaction, indicate warnings between drugs and pregnancy, patients drug allergy warnings with specific drug or injection and side effects of patient medications, allows symptoms search. eg: when patient complaints of dizziness, does he mean vertigo, giddiness, orthostatic, hypertension etc. new drug information ,program should display all generic components of any combination drugs, provision to enter by either trade names, generic names or even common abbreviations such as ASA with cross reference age should be automatically calculated and placed on the patients prescription templates should show dosage including pediatric dosage by age or weight.

Health maintenance is divided in to individual health maintenance and group heath maintenance.it involved patient recall and reminders as well as educational and preventive procedures. for individual the computer should be able to search patients chart and identify patients need such as; any investigations are to be carried out in relation with age and sex (mammograms, pap smears, blood chemistry and other studies),

physician should be able to add additional heath care parameters if required. for all patients; able to search medically significant facts, patient with certain diseases to be recalled, capable of recalling patients with certain drugs and annual physical exams, etc. making mailing envelops and label for notification, analyze patients with different diseases .

Linkage, storage and transfer of medical information: computerized medical record system should have ability to network within the hospital departments and outside the hospital. portability of the chart by the patient using smart card or laser cards to carry by patient. computer should allow the patients record to be stored electronically or allow to routinely printed as a paper copy and still store patient basic data. linkage with laboratory, x-ray department and office billing system will enhance the hospital patient care system.

COST SAVING

Properly designed medical record system should include :avoidance of duplication in drugs hospitalization due to adverse drug reaction, lower malpractice premiums, saving time of doctors dealing with legal issues, preventing of duplication of procedures, tests, when visit other physicians, saving time of transcribing dictation saving of nursing and clerical time, increase productivity by medical, nursing and other staff will reduce the cost.

PHYSICIAN ACCEPTANCE

Computerized medical records should be able to retrieve by name, numbers or from pick list. move data fields, entering of information with ease with selecting pre-stored data prescribing medication ordering investigations, reading reports, accessing previous data and so on.

OFFICE CLINICAL EFFICIENCY

Allow all authorized persons to retrieve patient information, minimizes the chart retrieval, no missing or losing files, automatic entries of reports, ICD code numbers in the system facilitate easy coding.

CONCLUSION OF EMR

The object of using EMR is to assist the health care providers to reduce the number of errors as the computer system do not suffer from human weakness such as fatigue, failure and forgetfulness therefore perform better at certain moments or in specific environments where specialists are not available.

The efforts of any health care organization is to find ways to provide high quality health care while reducing ever rising heath cost. paperless medical records although consumes heavy budget initially, contribute significantly in improving hospital operation and bring down the overall cost considerably. In EMR system, the data is entered at the source, information become more efficient and accurate and overcomes

major disadvantages of conventional hand written medical record and provides comprehensive integrated information to one or several authorized users at the same time at different required locations. before implementing paperless health record systems, certain precautionary measures as suggested above have to be taken including training of health care provider, motivation, confidentiality and legality etc. more over ,standardized paperless health records, if properly designed and implemented, will achieve overall effficiency in health care delivery system.

TELEMEDICINE

Medical care and medical data are produced at any locations; hospitals, general practitioners, nursing homes, ambulatory health care centers e etc. patient with varying disabilities are often home bound and need constant surveillance the because if assisted they could lead better or normal social and economically productive lives. instead of moving the patient to the health care institutions, as it today largely the case, therapy and diagnostic procedures will be brought to the patient in some situations. heath care is becoming very specialized and delivered by a team of health care providers who need to share information .the one to one relationship that existed in the past between a physician and a patient being replaced by a one to many relationships.

The era of telemedicine revealing. although hospitals have higher telecommnications need compared with other business. although hospitals are just starting to implement LANs or integrate computer system within there own walls, they are already facing a growing pressure for data exchange inside and outside institution, and an increasing demand for communication of already digitalized data. new techniques and telecommunications facilities like integrated broadband communication (IBC) wide area networks (WAN) metropolitan area networks (MAN) offers new facilities for improving communication in the health care sector to create an internationally integrated health care environment.it is necessary to make to make a distinction between inter hospital and intra hospital communications. for the former LAN can be used, while for the later we need WANs or MANs.

Telemedicine is the integration of two well established disciplines, medicine and telecommunication. the investigation, monitoring and management of patients and the education of patients and health care staff using systems which allow ready access to expect advice and relevant patient information, no matter where the patient located. this means the patient will be treated in a familiar environment with additional facilities, eg. clinical findings are interpreted by experts located at remote centers of excellence ,even transcending national

boundaries if necessary. techinical elements that will contribute to telemedicine are not any network facilities but also patient data care (PDC) that can facilitate medical data transfer and information exchange, its infrastructure creates lots of advantages. medical expertise can be brought to remote areas where there is a lack of skilled personal.it will give opportunity to exchange information on special cases.it offers fast access to retrieve and update medical patient data.it offers an educational potential for patient and heath care providers.

SOME SPECIFIC TELEMEDICINE APPLICATOINS ARE

- Hemodialysis: which offers the facility to monitor patients centrally from a nephrology unit.
- Teleconsultation: which uses telecameras to allow professional at different locations to consult each other.
- Teleanalysis: which test the validity of blood and urine tests executed at remote laboratories.
- Teleobstetrics: which offers the possibility of monitoring fetal heart signals and newborn vital signs at home.
- Telencephalogram: which transmits EEG signals from remote hospital onto aneurology center.
- Telecardiology: which looks at the transmission of ECG signals from different locations into a cardiology center.

- Teleradiology: which offers the possibilities for image transmission including non-standard image formats, very high resolution, error free transmission and short transmission times

USES OF TELEMEDICINE

- Gives the opportunity the exchange information on special cases.
- To retrieve and update medical patient data and educational potential for patient and health care provider.
- Patient receives care in his own place, reduce travel itself.
- less expensive, monitory save
- rural economy and heath care strengthened.
- the average life expactancy increase.

ROLE OF MEDICAL RECORD DEPARTMENT IN **SCTIMST**

Screening of Referral letters.

In SCTIMST the role of MRD starts in the registration counter. As a referral hospital and a researching institute only cardiology neurology, radiology and neurosurgery patient can registered here. Accident cases and other emergency cases are avoided. So here is no casualty and When a patient here to registration he must bring referral letter to this institute from a MBBS doctor. He must write the patients name, age, sex, detailed

diagnosis or symptoms doubts about patient's illness, patients present condition and why the patient is referred to here, Doctor's name hospital/doctor's address etc. If the patient is sending the referral letter to the institution by post, then all the referral letters are passed to senior medical record officer, he then screened the letters and makes the arrangements for sending an appointment to all the selected patients with time and date for registration and examination by post or email. This avoids the unnecessary repeated arrival of patients and over crowding in the OPD's.

Registration:

New patients with appointment date and without appointment date first reports to Medico Social Worker with MRD's appointment letter in separate counters for Cardiology, Cardio-Thoracic-surgery, euro-medical (Neuro-medical includes Epilepsy cases, Kerala Registered Epilepsy pregnancy cases, Movement Disorder cases,) Neuro-surgery, Interventional radiology.

The medico-social worker supplies a social data form to the them from which contains Patient's full name with initial, Correct age at registration time, Sex, Religion, Occupation, Name of father name of husband/wife, Name of guardian (if applicable) Permanent postal address (House name, Place, Post office, District, State, Postal pin code), Monthly

family income from all sources, Nationality, Telephone number/mobile number, Eligibility for medical benefits if any, PAN number if tax payment, Driving license number, Passport number (must for foreign patients) Previous illness & Details of treatment, Name and hospital address /e-mail id of the doctor who referred you here. The patient or his close relative fills the registration data form and returned to medico social worker. Then MSW assess the patient about his socio-economic status. After the assessment, MSW categorize the patient into paying and non-paying group.

The non-paying group is "A" many poor patients come under "A" group. Many patients or their relatives deliberately hide their original economic status. But our MSW and MRD people will brilliantly find out their original status. Some times old patients of non- paying group are changed to paying category during their review in this way. Most of the staff in SCTIMST will aid MSW and MRD for making proper assessment by giving valuable information about the patient. This is because institute has not enough money to give free treatment for all patients. This system of categorizing is very helpful to poor patient.

Responsibility and duty of a Medical Record Assistance or Medical Record Trainee in the OP desk:

The MSW gives the patient his registration number, which is permanent to the particular patient then MSW passes the patient to MRD (there are three MRD sub division near to OPDs). The MRDs assistant feed the socio-economic details of the registered patients to the computer in correct for opening a new medical record. An identification card is given to the patient, which includes Patient's registration date, Patient's name, age sex, category, and address with an instruction to bring the card on every visit. Then an out patient record, referral letter, assessment sheet, social data form and patient's op small stickers are kept together in a green folder (which indicates that it is an op file only) and send to concerned OPD's. Doctors record the physical examination findings, diagnosis, investigation, and disposition of the patient in time. The patient must take next review date from the MRD after their check-up. Such medical records are analyzed by the MRA's to know the deficiency if any. Incomplete charts are separately kept in the class room in MRD for completion. Reminders are sent to the concerned persons to complete this within a week. International coding is done for diagnosis and procedure for out patient's record which is done only in 3-4 institutions in India.

Review

As explained the patients who need only further follow-up after an interval of particular period according to the severity of diagnosis are given a follow-up appointment by MRA as per the availability in the computer as programmed below. Appointment dates are given by staggered basis to avoid over crowding in OPD's. The appointment dates can be postponed when there is reasonable request from patients. MRO also postponed future admission dates for procedures and surgery in the same way.

Patients with appointment date first inform to the MSW for entering they have to do payment (for payment category only) for review. Then they have to report to MRD with appointment date computer print card. MRA receives the card and then asked them to wait in the OPD's. The concerned files then send to concerned OPD's. Although there is a definite number of appointments in each OPD's, but the patients may come in with out appointment date on emergency they are considered as without appointment cases. The doctors in OPDs must say whether the patient is sick or not, then they writes the with out slip, then the procedure is as same as that of with cases, that is the patient is send to the payment then asked them to inform the without issue to the information counter. The OP procedures starts just like the with appointment cases.

Admission

All the patients registered may not require hospitalization on the day of registration. Due to limited bed strength, only serious patients are admitted on the same day and others will be given a date after an interval according to the seriousness of the disease. The patients to be admitted must inform to the MRA with their Admission Discharge form, MRA gives a MRD number to the patient and asked the payment category to do payment. Then the patient/relative is asked to get signed in admission record to get their concern to do all necessary treatments including surgery to them. Then the Inpatient procedure is started. MRA should gather the changed patient data i.e. his present age at the time of admission and address. Additional information viz. telephone number of the bystander's, nearest police station etc. are collected by MRA from the patient or relatives because no relatives are (except babies or small children) permitted to stay with patients in the ward. All information is fed to the computer.

The MRAs issues 2 permanent passes for 7 days to the bystanders, if the patient is admitted more than 7 days they have to renew pass. At a time from 4pm-6pm 2 bystanders can visit the patient

- The MRAs then will collect all the new files and old files which are sent to the review.

Then he has to check the return files and send them back to filing desk in main MRD.

Filing Section

Four medical record assistance are assigned in the filing section. All the files from OPDs, wards (discharged files in patient's files), Files after studying purpose and others are collected together. Here is one important thing is that the files are checked by an MRA, and sorted and serialized them in ascending order of their number. Then entered it in computer then filed. During filing, the chance of missing files is more. As a result that chart cannot be traced out when the patient has come for review, so filing should be very careful and vigilant. In our institute we are following unit numbering system. Hence the chance of misplaced files is low. Some times thin charts may be incorporated with large one accidentally. Such charts cannot be traced out easily. Some times charts may be misplaced due to the negligence OPD people. But in our institute chance of misfiling is very less. The medical record assistance in filing desk duty should also take the next days with appointment files from the filing racks, and should sent them to the OPDs after sorting into clinic wise (Cardio-medical, CVTS, Neuro-medical, Neuro-surgery). And they must issue the without date files to the concerned OPDs.

Inpatient chart checking desk

Here IP files after discharge are given to the MRA. Adequacy, Accuracy, Reliability, Responsibility, and Confidentiality are result in ideal health care system. Good medical record means good patient care. The quality of medical care rendered is checked only through medical records. For maintaining accurate medical records, the following things are very important.

Check all medical records qualitatively and quantitatively and note the deficiencies. Then he has to code the file based on ICD-9 for diagnosis and procedure. MRA should write all deficiency of that chart on a check list then keep it in front of the IP file. Only completed medical records where stored in incomplete filing racks and respective personal upon call by Medical Records Officer completed it. If anybody seems to be disagree with the completion of files, first reminders was sent through corresponding heads of each departments, second through the Medical Superintendent and finally by Director. After completion the IP files are taken to then filing procedure.

Pruning

Pruning is the part of space management. Each record is examined and unimportant papers are removed. Most of the forms in OP records

were kept like Op face sheet, continuing sheets, important lab reports, socio-economic data sheet and referral letter. In IP, the admission records, histopathology records, scanning records, death certificates and autopsy records were kept.

In SCTIMST, the retention period is ten years. The records before ten years are kept in our research center i.e. Bio-medical Technology Wing. When such patients are come to hospital without taking prior appointment, their records are taken from bio-medical technology wing. We had maintained a pruning register so that we can easily identify pruned files. Pruning provides necessary

• Religion-wise analysis

A detailed list of death cases with cause of death and other data required is prepared monthly and circulated among all members of hospital management committee. The cause of death and other factors are discussed in the meeting and necessary measures are taken then and there. Statistics in relation to diagnosis, operation, operating surgeons, interventional procedures and other aspects demanded by residents, consultants, administrators and para- medicals are provided at requirement.

Assisting Doctor's study;

Post graduate students need the support of MRD for their study and thesis presentation. It is the duty of medical record personnel to make the charts available for them according to diagnosis wise etc. and issuing necessary statistical information to them from the medical records. An average 10,000 are retrieved for this purpose every year. MRD saves the doctors, institution from the consumer protection council. Doctor-MRD does patients' correspondence.

Patient's certificates;

Except Doctors Medical certificates for leave, all the following certificates are issued by SMRO.

- Financial assistance from Prime Minister's fund.
- Financial assistance from Chief Minister's fund.
- Financial assistance from organizations.
- Estimate for advance from departments.
- Train concession certificate.
- Treatment certificate for telephone, electricity etc.
- Attendance certificate.

Standardized forms control

MRD maintains all medical record forms in a stock room an issue to the wards, ICUs and OPDs once in a month. Medical records committee's approval is required whenever a new form is to be introduced. SMRO who controls the consumption of it prepares annual indent. He issues the forms to all ward and OPDs once in a week according to the convenience of everybody.

Death reports to the corporation:

Each and every hospital is responsible to send birth and death reports to corporation/municipality/panchayat in the scheduled period of 14 days for birth and 21 days for death. Thiruvananthapuram Corporation has supplied very detailed forms for sending those death reports to corporation. A cause of death certificate is given to patient's relatives for taking the dead body from this institute to their place. Recently corporation has introduced a new format in Malayalam additionally which shows the patients detailed data. Our MRD sends the death reporting forms promptly once in every 15 days with the signature of Medical Superintendent.

Discussion about the negligence, if any in death cases:

Department heads prior to this meeting peruses the death charts. On the day of meeting, HOD explains the various reasons for each death happened in their department. Professor of pathology explains about the autopsy details if it has done associated with HODs. There will be cross-questions from everybody for which the HODs reply. If the death is due to negligence of anybody, the committee submits the report to the Director for disciplinary action against the culprit. It is done in the good interest of the institution for offering better treatment with the advanced facilities. The accurate medical record maintained in the MRD are the tools for evaluation the quality care rendered to patients. So far 150 medical audit are conducted in SCTIMST successfully

Prolonged stay in the ward and ICUs:

HOD of the concerned department explains about the reasons for the prolonged stay of patients who are lying in the ward or ICUs more than 30 days.

Hospital Infection

The Professor of Microbiology who is the chairman of the infection committee explains the infection rate and the remedial steps taken.

Hospital Statistics:

The SMRO explains the monthly hospital statistics viz. admission, discharges, mortality rate, length of stay etc. in each service.

Complaints and Suits:

The complaints or suits against to doctors or institute if any will be brought to the notice of the committee members by SMRO and discusses in detail for necessary action.

MY TRAINING PERIOD AS **STUDENT** IN **MRD OF SCTIMST**

I joined here on 3rd January 2011 as trainee student in Diploma in Medical Records Science. I got rigorous training in all fields and work places of the Medical Records Department of SCTIMST, which includes

- Outpatient management
- Admitting office management
- Census preparation and analysis.
- Qualitative and quantitative analysis.
- Statistical data preparation and presentation.
- ICD coding
- Delinquent record control.
- Filing area management
- Pruning and assembling of disoriented medical record forms.

- Registration of vital events
- Medical record retrieval and retention
- Various correspondence
- Computerized appointment system with automatic token system
- Inactive record control and space management
- Incomplete control and reminders
- Surgical and procedural date scheduling
- Medical record forms control

OUT PATIENT DEPARTMENT

In SCTIMST, Thiruvananthapuram, the out patient department is well organized and it is divided into Cardio-medical, Cardiac-surgery, Neuro-surgery, Neuro-medical and Interventional Radiology. The patient first visit MSW's assessment. The MSW gives the patient his registration number, which is permanent to the particular patient then MSW passes the patient to MRD (there are three MRD sub division near to OPDs). The MRD assistant feed the socio-economic details of the registered patients to the computer in correct for opening a new medical record. An identification card is given to the patient, which includes Patient's registration date, Patient's name, age sex, category, and address with an instruction to bring the card on every visit. Then an out patient record, referral letter, assessment sheet, social data form and patient's op small

stickers are kept together in a green folder (which indicates that it is an op file only) and send to concerned OPD's. Doctors record the physical examination findings, diagnosis, investigation, and disposition of the patient in time. The patient must take next review date from the MRD after their check-up. Such medical records are analyzed by the MRA's to know the deficiency if any. Incomplete charts then presented to MRO. International coding is done for OP diagnosis for out patient's record which is done only in 3-4 institutions in India.

Review:

As explained the patients who need only further follow-up after an interval of particular period according to the severity of diagnosis are given a follow-up appointment by MRA as per the availability in the computer as programmed below. Appointment dates are given by staggered basis to avoid overcrowding in OPD's. The appointment dates can be postponed when there is reasonable request from patients. AMRO also postponed future admission dates for procedures and surgery in the same way.

Patients with appointment date first inform to the MSW for entering then they have to do payment (for payment category only) for review. Then they have to report to MRD with appointment date computer print card. MRA receives the card and then asked them to wait

in the waiting area. The concerned files then send to concerned OPD's. Although there is a definite number of appointments in each OPD's, but the patients may come in without appointment date on emergency they are considered as without appointment cases. The doctors in OPDs must say whether the patient is sick or not, then they writes the with out slip, then the procedure is as same as that of with cases, that is the patient is send to the payment then asked them to inform the without issue to the information counter. The OP procedures starts just like the with appointment cases.

Admission:

All the patients registered may not require hospitalization on the day of registration. Due to limited bed strength, only serious patients are admitted on the same day and others will be given a date after an interval according to the seriousness of the disease. The patients to be admitted must inform to the MRA with their Admission Discharge form, MRA gives a MRD number to the patient and asked the payment category to do payment. Then the patient/relative is asked to get signed in admission record to get their concern to do all necessary treatments including surgery to them. Then the Inpatient procedure is started. MRA should gather the changed patient data i.e. his present age at the time of admission and address. Additional information viz. telephone number of

the bystander's, nearest address, nearest police station etc. are collected by MRA from the patient or relatives because no relatives are (except babies or small children) permitted to stay with patients in the ward. All information is fed to the computer. The MRA issues 2 permanent passes for 7 days to the bystanders, if the patient is admitted more than 7 days they have to renew pass. At a time from 4pm-6pm 2 bystanders can visit the patient.

FILING:

Four medical record assistants are assigned in the filing section. All the files from OPDs, wards (discharged files in patient's files), Files after studying purpose and others are collected together. Here is one important thing is that the files are checked by an MRA, and sorted and serialized them in ascending order of their number. Then entered it in computer then filed. During filing, the chance of missing files is more. As a result that chart cannot be traced out when the patient has come for review, so filing should be very careful and vigilant. In our institute we are following unit numbering system. Hence the chance of misplaced files is low. Sometimes thin charts may be incorporated with large one accidentally. Such charts cannot be traced out easily. Sometimes charts may be misplaced due to the negligence OPD people. But in our institute chance of misfiling is very less. The medical record assistance in filing

desk duty should also take the next days with appointment files from the filing racks, and should sent them to the OPDs after sorting into clinic wise (Cardio-medical, CVTS, Neuro-medical, Neuro-surgery). And they must issue the without date files to the concerned OPDs. Within these two years of my training programme, I was in filing duty 8 months. I had filed about more than fifty thousand files.

REFEREES

1. Mr. N. G. Thampi
   Senior Medical Records Officer and Head
   Department of Medical Records
   Sree Chitra Tirunal Institute of Medical Sciences and Technology
   Thiruvananthapuram
   Kerala
   Ph : 0471 – 2524415

2. Mr. Jesudin M. Arul Redjvy
   Asst. Medical Records Officer
   Department of Medical Records
   Sree Chitra Tirunal Institute of Medical Sciences and Technology
   Thiruvananthapuram
   Kerala
   Ph : 0471 – 2524436