MODULE TITLE: HEALTH RECORDS MANAGEMENT

Introduction to the Module

The module is designed to equip the learner with the necessary knowledge, skills, and attitude to effectively and efficiently manage health records. . The module has units as follows:

UNIT 1 Introduction to Health Records Management
UNIT 2 Receiving, Registration, and Initiation of Health Records
UNIT 3 Creating and Maintaining Health Records Indices
UNIT 4 Scheduling and Follow-Up; Preparing of In/Out Clinic, Patients
UNIT 5 Admitting and Discharging Patients/Clients
UNIT 6 Storage and Retrieval of Health Records
UNIT 7 Acquiring and Maintaining Health Records Equipment
UNIT 8 Legal Aspects of Health Records
UNIT 9 Managing Special Records
UNIT 10 Managing a Health Records and Information Office
UNIT 11 Establishing a Health Records Department In a Health Care Facility
UNIT 12 Developing and Designing Health Record Forms
UNIT 13 Ensuring Quality Assurance in Health Care Services
UNIT 14 Introduction to Electronic Health Records

MODULE OUTCOMES

At the end of the module the learner should be able to:

1. Give an overview of the health records discipline and its organisation
2. Describe the procedures used in reception, registration, and initiation of patient/client records
3. Describe the appointment systems
4. Describe the various methods of creating and maintaining health records indices
5. Display ability to create and maintain health records
6. Explain the various procedures of clinic preparation
7. Describe the admission and discharge procedures
8. Maintain an efficient system of storage, retrieval, and control of health records
9. Explain the various systems of storage and retrieval of health records

10. Describe different methods of acquiring and maintaining health records equipment, health records forms, and office stationery
11. Demonstrate ability to acquire health records forms and equipment and office stationery and supplies
12. Describe legal aspects of health records
13. Enumerate the various notifiable diseases
14. Describe various types of special records
15. Describe how to establish a Health Records Department
16. Educate the community and other health workers on the importance of health records
17. Describe how to design and develop health record forms
18. Appreciate the importance of quality assurance in health care
19. Display thoroughness and efficiency in managing health records
20. Appreciate the importance of confidentiality in dealing with health records
21. Definition of electronic health records and electronic medical records system
22. Explain the concepts of electronic health records system

UNIT 1

INTRODUCTION TO HEALTH RECORDS MANAGEMENT

The health record is a written collection of information about a patient. It originates from the patient's first encounter or treatment at a hospital, health post or other primary health care centre. The health record is thus a record of all the procedures carried out on that patient, while he is in the hospital or under treatment at a clinic or centre. It should contain the past medical history of the patient, including opinions, investigations and other details relevant to the health of the patient. You might also hear patients referred to as “clients” in certain settings. Sometimes these words are used interchangeably.

As a document it may appear in many shapes and sizes with varied information related to the care of the patient recorded by many health care professionals in many ways. In physical appearance, it consists of a number of sheets of paper or cards and may be placed in a cover or envelope. In more advanced health care facilities, the information may be recorded digitally in a computer; the sheets of paper scanned onto optical media or the actual sheets may be microfilmed. (Microfilming is similar to taking a picture of the paper and storing it on a film strip.)

Edna Huffman (1994), one of the first medical record professionals in the U.S., defined a health record as "a compilation of pertinent facts of a patient's life and health history, including past and present illness (es) and treatment(s), written by the health professionals contributing to that patient's care. The health record must be compiled in a timely manner and contain sufficient data to identify the patient, support the diagnosis, justify the treatment, and accurately document the results."

The actual physical record should be of an acceptable size and standardized on suitable forms, as far as possible to enable interchange of information, from hospital to hospital, hospital to health centre, hospital to general practitioner or other primary health worker. The record must contain forms approved by the facility and the folder itself should be of a standard weight.

HISTORICAL BACKGROUND OF HEALTH RECORDS DISCIPLINE

Learning Objectives

The learner should be able to:-

Define health records

Give a historical background of health records discipline

Define a health records department

Enumerate the functions of a health records and information department.

Explain the various functions of a health records and information department.

Definition

A health record is any written document about a patient in a professional relationship with a doctor.

Historical Background

The history of Health Records runs parallel with the history of medicine. Records are necessary for the practice of medicine as medications are for effective treatment, and they seem to have been made from earliest antiquity.

The first real physician of health records in Egypt is Imhotep. He lived in the pyramid age (about 3,000 – 2500 BC) and was grand vizier, chief architect, and royal medical adviser to a Pharaoh of the 29th century before Christ. Imhotep has been credited with the authorship of the Edwin Smith Papyrus. This papyrus is one of the most valuable ancient medical documents that has come down to us and appears to have been copied about 1600 BC from an earlier original. This papyrus is a roll over 15 feet by about 3 inches wide and is made up of 12 sheets of the usual size. It is written on both sides and consists of 48 cases of Clinical Surgery.

In Greece Hippocrates, known as the "father of medicine" was born about 460 BC. He was the first to cast out superstition and to practice medicine on scientific principles. He was the author of the Hippocratic Oath, which is pledged by physicians and which states in part: "whatsoever in my practice or not in my practice, I shall see or hear amid the lives of men which ought not be noised abroad- as to this I shall keep silence, holding such things unfitted to be spoken". Thus originated the privacy of all information given to physicians by patients, eventually the Health Records per see was, also considered as privileged communication. Hippocrates kept detailed case reports of his patients.

In the 18th Century, Benjamin Franklin was one of the first leaders in the movement to establish the first incorporated hospital within the United States. This institution was known as Pennsylvania in 1751. Franklin served as secretary of the hospital, and many of its earliest records are in his handwriting.

In the 19th Century in 1821 the famous Massachusetts General Hospital Boston opened. Is has the distinction of having a complete file of clinical records, with all cases catalogued, dating from the day it opened.

In the 20th Century, it was not until the beginning of this era that medical records received serious consideration by other types of hospitals and especially by hospitals and medical associations.

In 902 the American Hospital Association discussed Health Records for the first time at a convention.

In 1948 Health Records Association was started in Britain.

In 1967 the Department of Health Records was started in Kenya at Kenyatta National Hospital, Nairobi.

In 1978 the Health Records and Information Technician Program was started at the Medical Training College, Nairobi.

In 1990, the Health records and information officers program was started at the medical training college, Nairobi.

In 2003, the certificate records program was started in the KMTC Muranga campus, 2008 Siaya campus in 2010 Msambweni campus,

In 2011,Kitui campus,in 2012 Bondo,in 2013 Webuye.

In 2009, a degree program was started in both Kenyatta University and Mt Kenya University.

In conclusion, the demand for quality information in both public and private health institutions for evidence decision making in managing health care services and resources prompted the increase of qualified personnel to run health information systems in Kenya.

PURPOSE OF THE HEALTH RECORD

As indicated above a good complete health record should encompass all information about a patient's health, ill health, treatment over a period of time and patient status at discharge . Health records are kept for:-

1. communication purposes
2. continuity of patient care/ treatment
3. evaluation of patient care
4. monitoring and evaluation of health systems
5. medico-legal purposes
6. statistical purposes
7. research
8. Education.
9. historical purposes

Communication purposes:-

Health records are kept initially for communication between persons responsible for the care of the patients present and future needs.

. Some of these people include:

- consultants, physicians, surgeons, obstetricians
- nurses
- physiotherapist
- occupational therapists
- medical social workers
- laboratory technologists
- dieticians
- medical students
- radiologists, etc.

Medical record staff will have access to the record to ensure that all documents are appropriately filed and organized and may also perform quality audits or research as requested by the facility or other agency.

Continuity of patient care / Treatment

The patient may be readmitted to the same or another hospital or visit a clinic where all his past medical history should be available for assessment in the light of their current problem. It is vital that the health care professionals, who is responsible for the patient as a whole, should receive information about a patient's hospitalisation as soon as possible after the patient is discharged from hospital.The main function of the health record department in a hospital or clinic, in this context, is as a service area, that is, medical records should be produced for patient care at all times and as quickly as possible. Also, discharge summaries and letters must be processed so that people outside the hospital may be informed of the patient's progress and their continued management after discharge.

Evaluation of patient care

In any setting in which an individual puts the responsibility for their health and well-being into the hands of others, there should be some mechanism that enables evaluation of the standard of care being given. In some countries, hospital medicine is evaluated by an 'accreditation' system. Surveys of each hospital are made and hospitals given 'accreditation' by a Board for a limited number of years, depending on the standard which they reach. Also, in some countries, the health record services of a hospital must meet predetermined standards.

The health records are first and foremost of value in the present and future treatment of the patient.

Medico-legal aspects:-

Occasionally, health or medical records are used to substantiate substandard care and are then used to bring a lawsuit against a

health professional in court in case of professional negligence or malpractice

The record also, however, protects the patients by documenting all injuries and diseases or conditions in the record so that there is no confusion about what happened to the patient.

Statistical purposes:-

Statistics are collected in hospitals, clinics and in primary health care centres. They may be used to tabulate numbers of diseases, surgical procedures and incidence of recovery after certain treatments; to assess areas which the hospital or clinic serves by collecting demographic details; or for public health or epidemiology. The morbidity and mortality statistics collected are used in planning health services activities, decision making, and day today running of the institutions.

Research

In the past, accurate recording of observation in the health record would lead to accurate information required for research, but demographic and epidemiological information contained in the record is more often used today for purposes. The MOH (Ministry of Health) will use data reported from medical records through the current HMIS reporting structure to compare diseases and conditions across hospitals in the country and, in turn, will report data to the World Health Organization for comparisons throughout the world. The facility where the data is collected should also use the information to improve patients.

Education

Health records can be used as an education tool or instrument. When the quality of health records is high the task of a learner is simplified and verse visa when the quality is poor the learners task is made more difficult and his progress is there for impended . The physician interested in a case may use the information from the records teach his students.

Historical purposes

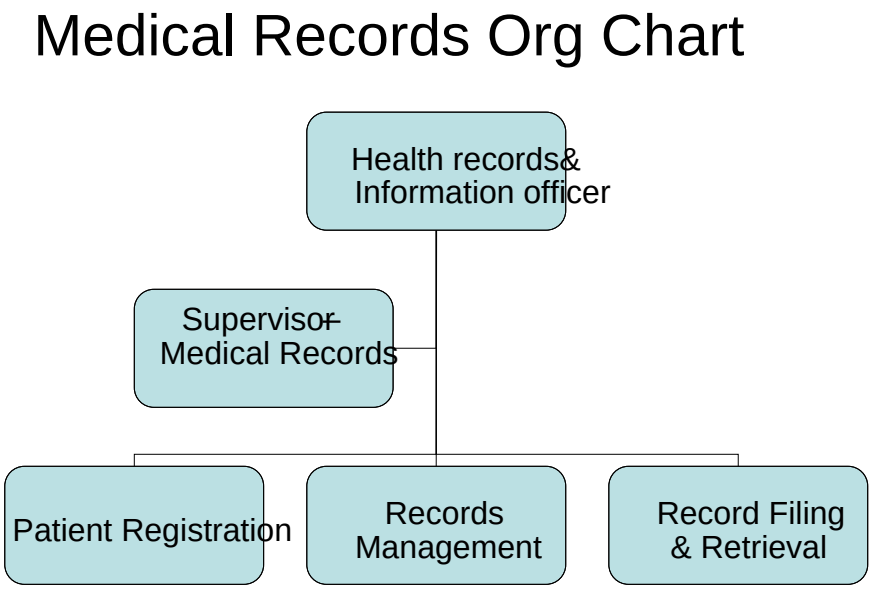
The record acts as a sample of the type of patient care and method of treatment used at a particular point in time. Because all information is recorded in the record, those treating the patient can go back to earlier visits to see previous methods of treatment. Patients themselves can also access their records to verify dates of visits and treatments they have received.

Administrative Purposes

Complete health records mean increased and deficient to the patient and to the public, these will help to avoid vexation, litigation, fair settlement of claims and capacity to answer enquiries on how the institution work. Equally complete health records will assist the administrators in the smooth running of the institution.

ORGANIZATIONAL STRUCTURE OF A HEALTH RECORDS DEPARTMENT

Since the department has a variety of functions, it is necessary to organize the department into functions with employees assigned to each function. In small facilities, several of the functions may be performed by one or two employees. However, an organization chart for a medical record department may look like this:



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The person in charge of the department may be called a “director,” “manager,” or “an assistant manager.” The number of staff or employees in each department will vary by the size of the facility and the numbers of patients seen in the facility. Some departments may have thirty (30) employees including managers and supervisors and others may have ten (10) or even fifty (50). Some large hospitals in other countries have as many as 100 employees. The number of employees may also vary based on whether the facility has a computer system or is using paper medical records. In a computerized system, manual retrieval of records is not necessary.

Organization charts will also look different in different facilities but it is recommended that the director or manager of the department report to the chief executive officer. It is also recommended that patient/client registration function report to the Director of Health records &information officer in charge.

FUNCTIONS OF A HEALTH RECORDS AND INFORMATION DEPARTMENT:-

THE VARIOUS FUNCTIONS OF HEALTH RECORDS DEPARTMENT ARE:-

(1) Reception
(2) Registration
(3) Admission
(4) Discharge
(5) Appointments
(6) Filing
(7) Tracing
(8) Follow-up of patients
(9) Clinic preparation
(10) Coding and indexing of diseases
(11) Collection, tabulation, analysis and dissemination of information (statistics)
(12) Maintenance of health records equipment
(13) Maintenance of the confidentiality of health records
(14) Manage special health records
(15) Design medical forms
(16) Ensure quality assurance of health records
(17) Develop and implement electronic health records systems
(18) Attending National, county and health facility meetings

1. **RECEPTION**

This is the reception of patients when they arrive in a health care facility. In this area the patient/ client is greeted and welcomed to the hospital.

2. **REGISTRATION**

Registration is thedocumentation of bio data of individual patients/client needed for his/her attendance

3. **ADMISSION**

Admission is the process of taking a patient to the ward for in-patient care and management, the registration details are used for admission. The admission details includes:-Names of the patient, sex, date of birth, marital status, physical address, occupation, name of next of kin/address, name of the ward, name of the admitting doctor, mode of payment,diagnosis.

4. **DISCHARGE**

This is a procedure carried out when a patient is supposed to leave the hospital after treatment, which is contained in the in-patient discharge summery sheet which indicates the mode of discharge.

5. **APPOINTMENTS**

This is a scheduling and follows up procedure given to the patient indicating the venue, date and time of clinic. Patients are asked to report to the various clinics on certain time and dates ready to be seen.

6. **FILING**

This is a procedure which either manual or electronic used to arrange the documents in a prescribed order or in systematic manner.

7. **TRACING**

This is a system with procedures for documenting maintains the movement of movements of all the documents pertaining to the health care which has been given to the patient/client.

8. **CLINIC PREPARATION**

This is a process of getting ready all the documents – 48 hours in advance before a patient attends a clinic.

9. **FOLLOW-UP OF PATIENTS**

There are some patients who need follow-up after they have been discharged from the hospital such as cancer cases.

10. **CODING AND INDEXING**

Diseases and operations and other procedures in medicines need to be coded and indexed using the international classification of diseases, ICD/EICD and the international classification of procedures in medicine ICP (WHO).

11. **COLLECTION, TABULATION, ANALYSIS, INTERPRETATION AND DISSEMINATION OF DATA**

Raw data collected form health records are put in tables, analysed interpreted and forwarded to the users.

12. **MAINTENANCE OF HEALTH RECORDS EQUIPMENT**

All the equipment used in a health records department must be maintained by the health records and information manager/assistant.

13. **MAINTAIN CONFIDENTIALITY**

All the information in a health records document is confidential and should not be handled by unauthorised persons or disclosed without due consent from the patient/client. All employees should be bonded by signing the secrets declaration form to undertake not to release any

information concerning a patients/client to unauthorized person. The case records should be kept in a secure storage system.

14. **MANAGE SPECIAL HEALTH RECORDS**

Special health records are a type of health records for patients/clients that are initiated and handled differently from other records, due to the nature/conditions of the ailments/diseases such as :-

1. Psychiatric records
2. Tuberculosis records
3. Maternity records
4. Sexually Transmitted diseases records
5. STI/HIV/AIDS
6. Accident & emergency records
7. Gender based violence Records
8. Medco legal Records

15. **DESIGN OFDATA COOLECTION TOOLS&DATA SETS**

All data tool/data sets are supposed to be designed by the health records and information managers in consultation with the information users. Data tools /Sets should be geared towards the measurement 0f a specific health indicator.

16. **MAINTENANCE OF QUALITY ASSURANCE OF HEALTH RECORDS: -**

Quality assurance is the process of monitoring and maintaining the timeliness, consistency, reliability, accuracy, accessibility and completeness of data.

The quality of the record will reflect the type of health care being rendered to the patient/ client. In order to maintain data quality

The following should be ensured:-

- Protect data generated by the database systems from deliberate bias, manipulation and/or falsification.
- Take appropriate security measures.
- Collect data using established and consistent protocols and procedures.
- Respect time schedules for data entry and reporting.
- Set goals for entering data within a set period of time.

- The health records documents are complete and accurate.

1. Routin1. Routine data quality Methods and process of conducting the 2. Data quality review meetings Frequency and structure of forums 3. Data quality supportive supervision Recommended steps 4. Data quality improvement teams Role and proposed team compositions data quality audits	**Methods and process of conducting the**
2. Data quality review meetings	Frequency and structure of forums
3. Data quality supportive supervision	Recommended steps
4. Data quality improvement teams	Role and proposed team composition

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RELATIONSHIP BETWEEN A HEALTH RECORDS DEPARTMENT AND OTHER DEPARTMENT IN A HEALTH FACILITY.

The medical records officer in a health facility is expected to co-ordinate the day administrative functions with other departments in a hospital. Some of the departments in a health facility are listed below:-

(1) Laboratory
(2) Radiography
(4) Orthopaedic
(5) Dental
(6) Physiotherapy
(7) Occupational therapy
(8) Department of Nursing
(9) ENT
(10) Supplies
(11) Accounts
(12) Transport
(13) Maintenance
(14) Nutrition

(15) Pharmacy
(16) Community oral health
(17) Patient support Centre
(18) VCT
(19) Youth centre

All this co-ordination is done to enhance the treatment of the patient. Therefore the patient stands in the middle and all these activities revolve around the patient/client. No one department is more important than the other; they should work together towards the achievement of this common goal.

QUALITIES OF A GOOD HEALTH RECORDS AND INFORMATION MANAGER/ASSISTANT MANAGER:-

Most of these qualities apply to all professionals in a health care delivery service. A trained health records and information manager/assistant manager should have the following qualities:-

(i) Integrity – Honest and upright
(ii) Adaptability – Should be flexible to the circumstances in an environment
(iii) Discretion – Ability to use his own knowledge to make decisions
(iv) Politeness - Humility / humbleness
(v) Calmness – A state of not being emotional in an emergency situation
(vi) Neat appearance – Smart and acceptable appearance in his work
(vii) Consistent efficiency – Effective and exceptional performance in his/her work.
(viii) Personal sense of vocation and service to the other health workers and thence the patient/client.

Health Records Ethics.

In Greece, Hippocrates, known as the "father of medicine" was born about 460 BC. He was the first to cast out superstition and to practice medicine on scientific principles. He was the author of the Hippocratic Oath, which is pledged by physicians and other health workers including health records personnel. It states in part: "whatsoever in my practice or not in my practice I shall or hear amid the lives of men which ought not to be noised abroad- as to this I

will keep silence, holding such things unfitting to be spoken". That is how confidentiality of health records originated and should be maintained until today.

DUTIES AND RESPONSIBILITY OF HEALTH RECORDS INFORMATION MANAGER/ASSISTANT MANAGER:-

The health records technician should be able to:-

1. Manage and organize health records and health information services.
2. Manage and maintain health records and information systems:

(a) Initiate, collect, store and retrieve health records

(b) Collect, tabulate analyse, interpret and store health information.

(c) Disseminate health information and provide feedback

(d) Establish good public relations

(e) Plan, supervise, co-ordinate work in health records services

(f) Maintain legal aspects and security of health records

(g) Maintain health records equipment

(h) Maintain health records indices

(i) Classify, code and index diseases

(j) Schedule patients appointments

(k) Edit records and provide quality assurance

(l) Provide first aid

(m) Receive, register and admit and discharge patients

(n) Establish mechanism for patients' follow-up

(o) Handle disaster and special records conduct/ participate in basic operational research.

(p) Participate in teaching health records and information students and other health workers and community on health records.

(q) Design various health/ clients forms

(r) Control client forms and finance

(s) Budget and control health records equipment, supplies and medical stationery.

UNIT 2

THE UNIT HEALTH RECORDS SYSTEM

INTRODUCTION

This is a Health Records system where one patient is given one number for the rest of his stay or attendance in one hospital ,otherwise known as a unique identifier, where the unit is the patient/client.

Learning objectives

Students should be able to:-

1. Define the unit systems
2. Describe the health unit system
3. Initiate the unit record
4. Prevent the duplication of the unit number
5. Describe the contents of the unit health records.

Definition:-

The unit system is a health records system in which all health records notes relating to one patient are contained in one case folder- the patient is the unit.

Initiation of the unit system:-

The change from the old system of numbering to the unit system presents no difficulties. From any given day it is simply necessary to assign a unit number to every patient attending for the first time. Thereafter, a six digit range of numbers is normally used ranging from 1 to 999,999. Some health records officers prefer to insert zeros at the beginning i.e. 000,001 but this arrangement is quite optional. When an old patient attends or is admitted at the first time his old notes are filed at the back of his new unit folder under the new unit number. Only the old records of the patients who present themselves after the appointed day are brought forward in this way the others, remaining in the old file under their original identification number. A tracer card should be replaced where the old record was indicating the new unit number.

Prevention of duplication

Duplication in the use of unit numbers can be prevented:-

a) Either by not giving the same number to two patients
b) Not giving the same patient more than one number

In addition to the above the patient can be asked whether he has attended the hospital previously during registration. Whether the patient says yes or no across checking can be done through the patient master index to ascertain this.

The unit number register

From the foregoing comments the importance of the unit system will be appreciated if the unit number register is maintained. In the unit number register the following information will be included:-

a) Full names of patients
b) Addresses
c) Dates of birth
d) Registration dates
e) Specialty to which they have been referred

The contents of the unit health record

1. The folder

When selecting a folder the following points should be noted:-

i. Strength of manila
ii. Method of fastening documents
iii. Clarity of numbering on the outside cover
iv. Cost of the folder

The folder should be made of tough manila with a gusset and single or double fold inside, through which are threaded metal or plastic prongs with which the loose sheets may be fastened into the folder.

2. The front sheet of identification sheet

This is the area where all the patients' social details are transcribed from the pre-registration form. The inside front cover of the folder is sometimes used for this purpose. Space should be provided to record several changes of address and change of a doctor.

A section is often provided here to list the consultants whose clinics the patient has attended or to whose wards he has been admitted.

It is important that all these facts should be readily visible to the doctor who is in charge of the patient, and who may wish to remind himself at a glance at the personal facts about the patient without hunting through sheaves of documents. Is also important that the information should be complete and accurate so that the person writing a letter to the doctor will address this correctly, or anyone writing to the patient will send the letter to the correct address.

3. Clinical history sheet

Two types of clinical history are in common use. In one, each consultant has his individual history sheets on which he only will write. A patient currently attending three different clinics will have three separate history sheets although these are likely to be filled next to each other. An alternative way is the continuous history sheet on which each doctor writes as he sees the patient. This achieves a chronological statement about the patient which would seem to have many advantages. If the continuous history sheet is used, it is important that different clinics that the patient has attended should be easily identifiable – perhaps by using different coloured rubber date / clinic stamps.

4. Continuation sheet

Some patients' attendance may be so short that their entire hospital episode is contained on one history sheet. This is not very usual, and continuation sheets are similar to history sheets but without any special printed identification of consultant or clinic which enables them to be used by all consultants.

5. Prescription chart

This chart makes formal provision for the doctor to prescribe drugs for in or out-patients. The form must always find its way back to the case folder from the pharmacy so that the doctor treating the patient can see what previous medication has been prescribed.

6. Surgical operation sheet

Special forms are provided on which operations may be recorded. They normally contain sections in which the names of all surgeons and anaesthetists taking part in the operation are to be recorded, and special remarks about drainage, blood loss, special recovery treatment etc.

7 Anaesthetic record

As aesthetic techniques become increasingly sophisticated and complicated, the need for a special form on which to record the relevant facts has been rendered ineffective. Most anaesthetic record forms contain considerable amount of detail, filled in by the anaesthetist during the operation and immediate post operative period

8. Temperature, pulse and respiration (TPR) chart

There are two usual versions of this chart. One is the b.d twice daily chart for the recording of the routine observations. Urine and stool details are usually recorded at the foot of the T.P.R chart. A separate chart is often used for 4 hourly recordings for more seriously ill patients. This is frequently printed on coloured paper, or in coloured ink, to make it noticeable.

9 Report mount sheets

Many reports which are smaller that the size of most forms have to be filed in the folder. They are usually mounted on a report mount sheet. These mount sheets vary in designs and methods of gumming. There are two possibilities, all reports may have a gummed edge and be stuck on the mount sheet itself, or may have a series of gummed strips on to which all reports will be stuck. Several versions of the mount sheet with gummed strips are available. The most popular and the most expensive has strips of self adhesive gum protected with greased paper. The protective paper is peeled off and the edge of the report pressed on to the exposed gum. This procedure is so much agreeable than having to moisten the edge of a form as is usually done, unhygienic ally, with the tongue-that its introduction is extremely popular with all members of staff who have fasten reports into notes. The forms are filed one above the other, but with approximately one quarter inch or one third inch of the lower edge left visible so that the date and type of report can immediately be seen. In this way, a dozen or more reports will be file on one mount sheet.

10 Consent Forms

Written consent has to be obtained for all operative procedures (which are technically an assault on the patient). For sterilization procedures, for post mortem examination-the consent has to be obtained from the patient, relative or parent (if the child is under 16). These forms are usually fastened onto a mount sheet, often separate one from those used for laboratory or other report forms.

11. Report Forms

All investigations-laboratory (Haematology, biochemistry, bacteriology, histology) cardiology, radiological results in some sort of report form that will have to be fastened into patients' notes. These reports are becoming rapidly a very special problem, as they swell the bulk of the folders in rapidly increasing numbers. Some laboratories issue cumulative report forms each on which in turn replaces all the reports that have been issued previously but unless the previous reports are conscientiously removed there is no reduction in bulk. Computerized laboratory reports have not yet provided an easy answer to this problem as storage space is within the folder.

12 Clinical photographs

When a patient has an unusually interesting condition, a clinical photograph may be taken. In plastic surgery, where the patient may pass through several stages of treatment, a photograph is often taken at intervals to record progress. Photographs may be kept centrally in the Medical Photograph Department, but they are frequently filed in the case folder, either mounted on card or in a special plastic folder with pockets for the storage of a series of smaller photographs or slides.

13 In-Patient Summary

After a patient has been discharged from hospital, it is usual for the registrar or consultant to dictate a "summary' (though this is frequently a substantial document) of salient points of the patient's progress while as an in-patient carried out operations or other treatment and condition on discharge are always included. A copy of this summary is often used as the hospital's full report to the general practitioner. The summary usually forms the document on which diagnostic coding is carried out.

14 Correspondences

Copies or originals of all communications from the general practitioner to the hospital doctor, and from hospital to the general practitioner must be returned. These will include copies of the discharge note, which is traditionally written by the junior hospital doctor on the day of the patient's discharge, to keep the doctor informed of the most important points about the patient's stay in the hospital until he receives full discharge summary.

These are some of the more important documents normally included in the case folder, but there will be literally hundreds more in use in most hospitals, their number and use depending on the type of hospital. Students will become familiar with these forms as with the case notes.

DIFFERENT TYPES OF HEALTH RECORDS-THEIR VALUES, USES

Learning objectives

The learner should be able to:-

1. Identify different types of health records
2. Explain the uses and value of health records in:-
   (i) Treatment
   (ii) Planning
   (iii) Research
   (iv) Teaching
   (v) Administration
   (vi) Monitoring and Evaluation

3. Explain the qualities and responsibilities of a Health Records/Information Technician

VALUES AND USES OF HEALTH RECORDS

Health records have various uses:-

1. Treatment

The health record is the first and foremost of value in the present and future treatment of the patient. The individual record is a reminder to the physician, surgeon, clinician, nurse, social workers or health records technicians of what he/she has personally observed during the patient's illness. It contains information of what has been observed by others. It provides or should provide the whole previous hospital record of the patient, so that every fact that may be important is permanently available for reference at any time. A complete record prevents duplication of work and effort and facilitates future care of the patient (patient follow up).

2. Planning

Health statistics and information gathered from the health records will definitely be very useful in the planning of health care services. It is very necessary that these statistics should be very accurate and disseminated promptly to users:- inadequate records mean incomplete statistics leading to improper planning of various activities in the health service.

3. Research

Accurate recording of observation in the health records will lead to accurate information required for research. They should contain that basic information that is required of them to meet the purposes for which they are intended, one being research. The methods of filing and retrieving should be systematic and simple.

4. Teaching

Health records can be used as an educational tool or instrument. When the quality of the records is high, the task of the student is simplified conversely when the quality is poor the student's task is made more difficult and his progress is impeded.

5. Administration

Complete health records mean increased and efficient services to the public, avoiding vexations, litigations and fair settlement of claims and capacity to answer queries about how hospitals work.

For the record to meet and be useful for the above purposes it should designed for the purposes for which it is to be used. It is important for the record to meet the requirements of both the clinician and the records personnel. The records also should be complete. To be

complete the records to meet should be complete. To be complete the records should be analysed quantitatively by the health records officer and qualitatively by the clinician.

RECEPTION, REGISTRATION AND INITIATION OF PATIENTS/CLIENTS RECORDS

INTRODUCTION

This chapter explains reception registration and how the patients/clients records are created.

Learning Objectives

The students should be able to:-

1. Define Reception, registration and initiation of a health record.
2. Receive patients/clients
3. Register patients/clients
4. Initiate patient/client records

1. RECEPTION OF PATIENTS/CLIENTS

Reception is the art of greeting and welcoming. The right person should be selected for this work, because he is the one who will interview the patient. He or she should have ease, assurance of manner and a pleasant appearance. He has to convey to the anxious patient that there is nothing to worry about; the hospital is smoothly run, created for his care. This is not a job for a neurotic or anxious person. It requires cool efficiency, the ability to convey confidants, patients and compassion- a very demanding combination of qualities.

2. REGISTRATION OF PATIENTS

Is the completion of a documentation of personal and health data before a patient is treated. Registration falls into two procedures – that for out-patients and the consultative clinics the registration should be carried out before the patients attends the clinic. The environment should be conducive and the patients should be interviewed individually and in privacy. The patient is registered, a file opened and an appointment is given prior to the clinic day. Another important factor that should be noted is that the patient should only be given one unit number and the patient should be asked whether he has attended the hospital before. If the answer is no is when a new number should be given to prevent duplication of numbers. Whether the answer is yes or no, this should be cross checked with the patient master index.

Types of Registration:-

There are two types of registration, namely-

- Centralised-this is where registration is done in area

- Decentralized-Registration is done in several service delivery points

TYPES OF HEALTH RECORDS

There are different types of health records:-

- Case records
- Outpatient records
- Diagnostic records

Case Records

These are records initiated for patients who get admitted into the wards or who continuously attend the various consultant clinics. The information that is contained in the case can be expressed verbally, graphically, diagrammatically or in a tabular form. This depends on the person taking in the information. The range of documents to be included in the case record also depends on the local requirements although certain documents are common in all hospitals.

Out-Patient Records

This includes all the cards that are used in the Out-Patient Departments, for example the Casualty Wards, Ante-Natal Wards, Immunization cards and any other card that may be used in the outpatient departments.

Diagnostic Records

These include notes on Radiography, Pathology, Electrocardiography and other investigations that are usually initiated by report forms. These forms are usually 6" x 4" in size and are available in all consultation rooms both in the Out-patient and In-patient departments in a health care facility. They could be different colours for quick identification.

3. **INITIATION OF PATIENTS RECORD**

The identification details that are taken during the registration time are used to create the patient's file. The registration details are:- **patient's full names, date of birth, hospital number given, address, occupation, marital status, religion, name of next of in, address of next of kin.**

Many hospitals have formed formal systems of pre-registration- this is sending the patient a simple form to be completed. This form will ask for all identification details to be confirmed. Any form used should be simple as possible to make it easy for the patient to complete it. This form when returned will be used to create the patients/clients health records. The use of mechanical documentation ensures continuing use of the same data throughout the patient's

stay in the hospital. The master index cards should also be created during the time that the record is being created and filed immediately. This will help to answer enquiries in case the patient happens to lose the attendance card.

UNIT 3

CREATING MAINTAING HEALTH RECORDS INDICES:-

Learning Objectives

The learner should be able to:-

1. Define various health record Indices
2. Explain the importance of health records indices
3. Describe the procedures used in creating health records indices
4. Describe various equipment used in storage of health record indices
5. Describe the techniques used infilling health record indices.

INDICES

There are various health records indices used and maintained in a health records department namely:-

1. The Patient Master Index
2. The Diagnostic Index
3. The Operations Index
4. The Waiting List Index

1. The Patient Master Index

Definition

The Patient Master Index is the alphabetical key to the numerically file case records.

Importance

This is a very important index in the case where a patient has lost his attendance cards. The following details must appear on any index card:-

- Surname
- First names
- Sex
- Hospital number
- Address
- Space left for change of address.

A typical layout of the card which measures 3” x 2½” or 5” x 3” would be

3”

Name of patient	Hospital No:
	D.O.B
Address	Sex
Space for change Of address	

2½

Creation

The Master Index card is created when the patient is being registered.

Equipment used for filing the Master Index Cards

- Cards
- Strip Index
- Elevator files

- Cartwheel
- Carousel type files
- Guide cards

Cards

Cards will be the basic record document in most master indexes. Generally a card must be of good quality for endurance

Drawer filing

Cards may be filled “blind” in drawers-filed one behind the other in an upright position.

Strip Index

A strip index as its name indicates consists of a series of thin wooden strips coated with paper on which details required for the master index are filed on metal panels. The strips are filed on metal panels with a fold of metal down each edge which holds the strips in place. The panels are hanged on a central revolving spindle so that they fan out like leaves on an open book. They may also be wall mounted. This is recommended for the waiting list and not the master index.

Elevator Files

In an elevator file the cards are usually filed in trays about a foot long and several trays about a foot long and several of these trays are files on a shelf in the machine. The machine looks like a large metal cabinet which may be up to five feet high and up to ten feet wide, with an opening at the top. In this opening two or three shelves with their trays of cards are visible. The largest elevator file would probably hold 900,000 index cards. The large files are electrically driven. If the card is wanted, the filing clerk presses a button indicating the shelves; the cards rotate until the correct one arrives at hand level. The clerk then looks in the appropriate tray for the card. Smaller elevator files are manually controlled.

The advantage is that there is speedy access to all cards while the clerk is comfortably sitting on a chair.

The disadvantage is that the machine is expensive and may not be afforded by some of the health facilities.

Cartwheel type files

In this type the cards are attached to a large upright central wheel which is rotated until the required section comes on top. This type of file is probably not suitable for a very large hospital.

Carousel type files

In this type the cards are housed in open metal boxes which are attached to a central upright spindle. The boxes can be swung out for use and then folded back towards the spindle when finished with. Because the boxes are attached right round the stem, several clerks can have access at once. The equipment is space saving considering the number of cards that can be housed.

The notes carrying a unique hospital number

There are always one or two departures from the unit system in hospitals which use this system. To maintain confidentiality, some of the departments like Psychiatry may keep detailed notes about their patients. But the Tunbridge report of 1965 and the Walker report published in Scotland in 1967 advocates the inclusion of all the patients' notes even if he attends any other speciality put together in one folder. We only need to mention this although this should not be the case.

Guide Cards and back stops

All the equipment described above except the strip index will need some guide card or back stop. The function of the guide card is to sub divide the file into reasonable sections, so that too much time is spent hunting through several hundred cards before finding the precise section of the file that is needed. Whatever type of guide card chosen, clear, bold lettering will aid both filing and finding of cards. Back stops are the pieces of metal that stop the cards in a drawer that is not full from sliding down. Back stops should be firm enough to stay in place when the drawer is closed too roughly, but mobile enough to be readily adjustable as the cards have to be expanded backwards.

Filing Techniques used in filing Master Index Cards

(a) **Sorting**

The most important step in filing is sorting-which means putting the cards into good order before being filed.

There are two methods of sorting most appropriate to a master index:-

(i) Use of sort-file –This is series of flaps each bearing a letter of the alphabet-arranged in a solid base.

(ii) Pigeon Holes- each lettered for the initial sorting of the index cards.

(b) **Filing**

This requires a lot of concentration. It easy to file in a card when the files in front and behind have been checked. This should be allocated to an experience clerk.

(c) **Checking**

It is obvious that mistakes do occur when one is filing the cards and therefore constant checking of file cards is required.

Reference to Index

Once cards have been filed and checked they should only be removed when the address needs to be changed. Cards should never be so packed as to prevent checking and filing. The most important thing to note here is that the master index cards should be filed strictly alphabetically and only one member of staff should work on the cards at any one time to prevent cards from being misfiled.

Diagnostic Index

The diagnostic index is to provide access for study purposes to the clinical data contained in the hospital records. A health personnel wishing to carry out a study on any particular disease can obtain from the index the case folder number of those patients who have been admitted or have attended an out-patient department with a particular disease in which he is interested. The disease index will provide the number of the relevant case records and may also provide some minimal data about the patient's age, sex, and outcome of the episode of treatment.

Equipment used to maintain the diagnostic index

(i) Vertical Index Card

(ii) Visible Edge Card

(iii) Computers

Operations Index

It will be possible for the Health Records and Information Officer to maintain an operations index besides the diagnostic index. Operative procedures need to be coded, just as do diagnoses. The code used is the classification of surgical operations.

Equipment used to maintain the operations Index

The information is recorded on the same media as the disease index. Identification factors records on the operations index: case record, number, sex, age, surgeon, outcome of episode and date of discharge.

UNIT 4

SCHEDULING AND FOLLOW UP; PREPARING OF IN AND OUT PATIENT CLINIC, PATIENTS

Learning Objectives

The learner should be able to:-

1. Define scheduling and follow up
2. Describe concept of scheduling and follow up
3. Explain the purpose of scheduling and follow up.
4. Describe the types of appointment systems
5. Describe different sources of appointments
6. Describe the equipment used to maintain appointments
7. Explain how to prepare a clinic

Definition:-

Appointment system is a systematic way of giving a specific date, time and venue of the clinic to an individual patient/client.

Concepts of scheduling:-

1. Patients should be distributed evenly to various clinics depending on the number that the consultants will be able to see.
2. The staff manning the clinics should ensure that they are in time so that patients are not kept waiting for long before they are seen.
3. Overloading of clinics should be avoided.
4. There should be a laid down policy on how to schedule current cases.
5. Staff working in the appointment area should be familiar with

the layout of the hospital so that they can give proper directions

to the
patients/clients.

Purpose of Scheduling and Follow up

1. To reduce patients' waiting time.
2. To provide an even spread of work over the whole clinic session. An appointment provides for even spread of work among the medical staff running the clinic.
3. To allow the hospital to prepare each and every patient in an advance so that delay for registration at the time of the clinic can be reduced.
4. To provide special clinic arrangements, for example recording of social history, weighing of patients, removal of plaster, pathological and radiological examinations.
5. To allow for distance and known transport difficulties.
   Allowance should be made by health records staff for such factors as the distance a patient has to travel, train and arrival and departure times, rural transport difficulties, availability of local ambulance to the health care facility. All these can consistently ease burden of attending the hospital.
6. To provide for teaching arrangements. A consultant may wish to select an interesting case to present to the medical students. This is simplified if an appointment system is well organized in the health institution.

Type of appointment systems

There are 3 types:-

1. Centralized
2. Decentralized
3. Combined.

Centralized

This means that all appointments for the various clinics are made in one central place.

Advantages

1. The Master Index will be near the area for quick reference.
2. Control of staff, stationery and equipment by the health records/information officer is easy.
3. Each of the appointment clerks become familiar with the working

systems of the various
consultants.

4. All Enquiries concerning appointments are referred to one place.
5. Urgent cases are channelled quickly to the respective clinics.
6. When one clerk is sick or goes on leave the other clerks continue with the work since they are all familiar with the work.

Decentralized

This is an appointment system which is carried on in different clinics.

Disadvantages

1. The Master Index is far from the appointment area.
2. Control of available resources is difficult.
3. When the clerk who mans the clinic becomes sick or is on leave the work come to a standstill.
4. Enquiries concerning appointments are directed to differentplaces.

Advantages

1. The clerk dealing with the appointments becomes familiar with the patients and knows them by name.
2. The consultant in charge of the clinic will know the number of patients on his list without having to walk or ring the central area.

Combined System

Some of the hospitals have the two systems combined. Return appointments being made in the various clinics and new bookings being done in the central area. It is the duty of health records/information officer to look at these systems critically to decide on which suits his hospital or health institution.

Sources of request for appointments

1. Patients telephoning personally to make appointments.
2. Physicians on private practice wanting to book appointments for their patients through telephone or writing.
3. Letter from other health institutions given to patients to comeand book their own appointments.
4. Patients already discharged from the hospital making return appointments.
5. Patients referred from one clinic to another.

Equipment used to record appointments

The choice of the equipment used will depend on whether the appointment is being made centrally or de-centrally.

(a) Loose leaf binder

(b) Visible edge sheets

(c) Diaries

(a) **Loose leaf binders**

Books vary in size and it is recommended that they be in loose leaf form to facilitate additions and removal of the sheets. The type used depends on local circumstances.

(b) **Visible edge sheets**

Sheets are cut out and by the use of cardex these sheets are fixed on the cardex and the information written on them can easily be seen when the cardex is open.

(c) **Diaries.**

Books that are bound can be used to write all the appointments for one consultant. The disadvantage is that one keeps cancelling the list the diary becomes untidy. Another disadvantage is that one cannot photocopy the diary direct. He has to write out other list from the dairy.

Clinic Preparation

Two days prior to the clinic all the clinic lists should be sent to the appropriate sections:- one to the clinic, one to the filing area, another to the consultant in charge of the clinical area. All the records and documents should be pulled out, all the pathological reports inserted in the correct files and kept in the pigeon holes for the clinic receptionist to come and collect. The clinic receptionist should make sure that all the documents such as x- rays are ready for each and every patient attending the clinic. The clinics are prepared two days in advance to reduce the patients waiting time before he is seen by the physician.

At the end of the clinic the receptionist should ensure that all the files are returned to the central library ready for filing.

UNIT 5

ADMITTING AND DISCHARGING PATIENTS/CLIENTS

Learning Objectives

The learner should be able to:-

1. Describe admission and discharge procedures and their sources.
2. Edit and audit the record
3. Collect, compile, analyze, disseminate and verify returns.
4. Code and Index
    1. Identify the types of records to be kept.
    2. Describe how appointments are made in this department
    3. Describe how patients are disposed of from this department
    4. Describe the legal requirements to be observed in this department.
1. Define a waiting list
2. Describe the functions of a waiting list.
3. Explain the types of waiting lists
4. Describe how to maintain a waiting list
5. Explain the methods of filing to be used.
6. Describe the procedures used in admitting patients.
7. Maintenance of bed bureau.

ADMISSION PROCEDURES

Patients/clients should be supplied with a booklet containing information about the hospital before they are admitted. If they are emergency patients then they should be supplied with the booklet after admission. The book should contain the layout of the hospital, visiting times for relatives and visitors. The wards should be easily be identified. Accommodation for relatives of very ill patients/clients, mothers, ill babies should be available. After admission

patients/clients should be guided to the ward by a member of staff to the sister or nurse responsible for reception and documentation of patients in the ward. This will ensure a feedback of information to the health records/information department.

SOURCES OF ADMISSION

Admissions can come from different sources:-

(i) Accident and Emergency department
(ii) Outpatient clinic
(iii) Other hospitals
(iv) In-patient waiting list

DISCHARGE PROCEDURES

Admissions and discharge registers should be maintained in all health institutions. The register should provide for full name of the patient, date of birth, admission date, discharge date, diagnosis and the length of stay at the hospital.

MAITENANCE OF A BED BUREAU:-

Hospital bed bureau:-

Definition:

A hospital bed bureau is a system used to manage the availability, allocation and utilization of beds by the hospital to admit patients from the waiting list. It shows the location of the bed in the ward, and when a bed will fall vacant for the next admission.

Maintenance of a bed bureau:-

A hospital bed bureau could either be managed manually or electronically. In the manual environment, the officer in charge of bed allocation monitors both admissions and discharges routinely in order to report on available beds and inform the officer maintaining the waiting list of such beds as and when they fall vacant or even project when beds are most likely to fall vacant. This is done by keeping a notice board with the location of all the wards and their bed capacity. The notice board has two colour strip cards which are put in pocket bags, red for occupied beds and green for vacant beds.

The electronic aspect is more user friendly because the patient waiting list is automatically integrated and interfaced (the whole process is on line and data is available to all at real-time)with the admission and discharge modules and bed availability can be accessed automatically as and when a bed falls vacant, the officer in charge of bed placement can therefore admit patients on the waiting list as beds become available .

EDITING AND AUDITING OF THE HEALTH RECORD

Auditing of the record is the arrangement of all the forms inside the unit folder in a prescribed manner. This can be decided by the hospital concerned. It can either be done chronologically or in order of speciality. This can be done by the ward clerks if they are available.

After the record has been edited it should be returned to the health records department. In the department the records should be cross checked with the daily bed returns to ensure that all records have been received in the records department.

After this, the records will be coded and then indexed ready for filing back to the library. The health records and information officer should complete all the information that is supposed to be contained in it is there. The discharge procedure cannot be complete until the record returns back to the file.

The patient is then given a return appointment to a consultative clinic and this is recorded on his attendance card. When the patient comes back to the clinic his record should be available in the clinic.

THE MEDICAL AUDIT

The Medical Audit has been defined as an "objective method for applying a yardstick to the quality of professional performance."

It is the method of evaluating quality of medical care given to a patient. It is a tool to enable the administrator and the medical staff to uncover inefficient service and to point away to an improvement of standards in the health facility- a tool of management. It is important to evaluate the care rendered to the patients in terms of lives saved, avoidable deaths and patients rehabilitated back to society. This evaluation is carried out by health records committee.

ACCIDENT AND EMERGENCY RECORDS PROCEDURE

After a patient has been seen at the health centre he may be having some ailment which needs immediate and urgent attention. Definitely the doctor will refer him to a hospital for immediate attention. He will find himself in an accident and emergency department. Also patients with any type of accident will be brought to this department directly.

Records to be kept.

Register

Firstly a register must be maintained at the Accident and Emergency department. The following information should be included in this register; name of patient, address, age, doctor referring him, time of arrival, brief description of injury, brief details of treatment, and the mode of disposal. The particulars of the person who has brought this patient to the accident and emergency departments must be taken also. If it is a police officer his number

must be recorded in the register. The register may be in loose leaf form or in bound volumes. From the register statistics of attendance will be compiled.

Clinical record

(i) Single card measuring 8" x5" or 6" x 4" on which the identification details are recorded. For an R.T.A (Road traffic accident) patient, time and place of accident must be given and the space left for the clinician to write on.

(ii) Two part card

A card with carbonized part made from N.C.R material. The card is made up in an envelope from so that x- ray reports and any other correspondence may be filled in it.

(iii) Thick paper envelope four and an eighth by five and three quarters inches (half the size of A4 paper). The envelope will serve as a card and a pocket for reports.

2**. Appointments**

Most patients attending this department rarely come back for return appointment. For those patients that need return appointments this can be carried out in two ways:-

(i) Appointment register may be retained by the receptionist and the appointment written on the patient's attendance card.

(ii) Pre-printed appointment cards for each day and time may be given to the patient. A different colour of the card could be kept for each day of the week and when a patient arrives seeking an appointment a card is simply pulled out and given to him.

3**. Disposal of patients**

Disposal of patients attending this department could be in one of these categories:-

(a) Treated to finality and discharged.

(b) Treated initially and referred back to the nearest health centre.

(c) Referred to an out-patient consultant clinic.

(d) Referred to a consultant clinic in another hospital.

(e) Admitted to the wards for further treatment. Here full documentation for admission will be carried out before the patient goes to the ward.

(f) Transferred to another hospital for further treatment.

(g) In the case of patient who has been brought dead (B.I.D) the doctor just goes to certify the death and the body is conveyed straight to the mortuary.

4**. Legal requirements**

It is important to note that the same legal requirements that are applicable to other health records as far as retention is concerned still apply in accident and emergency records. They may be retained for a minimum of six years after the last attendance. The records may be

filed numerically or alphabetically depending on the number of records created annually. At the beginning of the year, 1st January, a new file is started. The records should be kept o\in lock because most of these records are usually required in court and as much details as possible should be recorded. Most patients who have been involved in road traffic accidents need some claims in future. Therefore statistics for these patients may be sent to finance department so as to issue the necessary claims.

WAITING LIST FOR IN-PATIENT AND DAY CASE TREATMENT

A waiting list is an index of all patients waiting admission to hospital or waiting treatment on a day case basis.

1. **Functions of a waiting list.**

The waiting list must be organized that enquiries can be answered from individual patients wanting to know when they are supposed to be admitted in the health institution. Individual consultants would like to know how many patients are on their waiting list should immediately be furnished with such information. The main function of the waiting list is to be able to make full use of the available beds in a health institution.

2. **Types of waiting list**

The waiting list may be maintained in various ways:-

(i) Centralized waiting list

This waiting list is held in one office and contains the names of all patients awaiting admission under all the consultants in the hospitals.

(ii) Decentralized waiting list

The decentralized waiting list will be maintained in several places possibly each consultant's secretary, or an individual wards or individual departments.

Advantages of centralized waiting list

1. Gives a fair representation of all the demands being made on the in-patient facilities.
2. All enquiries are referred to one place.
3. Staffs dealing with the waiting list develop skills in dealing with enquiries, and in the maintenance of the waiting list.
4. Updating procedures such as change of address, death are easily carried out.
5. Checking admissions and discharges from the daily returns is easier.
6. When one staff falls sick or goes on leave another staff can carry on with the work.

Disadvantages of centralised waiting list

1. Consultants need to walk to the central office to select their patients from the waiting list.
2. The list become so big so that some patients may be left out of the waiting list

Advantages of decentralised waiting list

1. Consultants need not go to the central office to select their patients from the waiting list.
2. The secretaries get familiar with the patients and can call them by name.

Disadvantages of decentralised waiting list

1. Several staff will be deployed in the maintenance of the waiting list in different areas.
2. It will be very expensive since each department will need to use its own equipment.
3. A clerk will have to walk to the central records department to check for admissions and discharges from the daily returns.

3. **Creation of the waiting list record**

Most of the waiting list records are initiated at the out-patient clinics. Some other patients may come from another hospital and be put in the waiting list for another different hospital, where there are more beds or facilities. There are four ways in which information can be conveyed to the waiting list:-

(a) Card – The card is created for every patient who is to be put on the waiting list. This card will be filed and form part of the waiting list.

(b) The nurse or doctor may send a list of patients to be included in the waiting list to the records department for action.

(c) Letter – A consultant in one hospital may wish to include his patient's name in his waiting list, in another hospital for his name to be included in that waiting list. In this letter he will in clued diagnosis, and priority for admission. A case folder will then be created for this patient. The information to be included in this record are: the patient's name, address, title, telephone number, holiday dates, diagnosis, operation to be carried out, duration of stay in the hospital, name of the surgeon, or consultant.

4. **Method of filing**

A waiting list contains dozen names and needs two files:-

1. Alphabetical index of the names of all patients on the waiting list. These cards should not be removed until the patient is admitted.

2. Consultants list will make provision for date, time, and ward. These lists will have priorities indicated – routine, soon, and urgent.

These two files should be able to answer an enquiry from a patient and consultant.

5. **Filing equipment**

The type of filing to be used will depend on the size of the list.

(a) Visible edge card filed in trays

When this is used to maintain a waiting list may be in the form of manila flaps, with a rigid bar at the top and a transparent plastic pocket about half an inch deep at the lower edge of each flap. A card is inserted into this pocket and the flap is held in a metal tray in such a way that all the information in the plastics is visible. Date is put on the list, diagnosis, operation and admission priority is put to allow the consultant to select his patients.

(b) Strip index

A strip index is limited in space so that no space is left for change of address. It can only be used if the list is not too long. It has already been mentioned as one of the equipment used in the maintenance of the patient master index card.

(c) Diaries

Each consultant could have a diary for his patients put on the waiting list according to dates. Its danger is that a patient can easily be missed or overlooked on date which passed.

(d) Colour coding

Colour coding could be used to indicate soon, urgent and routine case.

6. **Procedures for admitting patients from list**

1. The patient is selected from the waiting list y the consultants
2. The clerk writes to the patient or telephones him inviting the patient to the hospital
3. The records are got out from the files and sent to the documentation office.
4. The waiting list card is sent to the admission office so that the patient is expected on the day he comes in. the admission office checks the record before the patients comes. When he comes his details are checked and confirmed by the admission office.
5. Patient is admitted and sent to the ward.
6. When the patient has been discharged his name is removed from the waiting list.
7. Certain checks are made on the waiting list to remove the names of the patient who have died to remove their names from the waiting list.

7. **Statistics**

Regular returns are compiled from the waiting list for hospital activity analysis. The procedures described above also apply to patients who come for day case treatment. Special letters are sent to these patients because of preparations needed if general anaesthesia is to be given.

UNIT 6

STORAGE AND RETRIEVAL OF HEALTH RECORDS

Learning Objectives

The learner should be able to:-

1. Define filing
2. Describe the three main filing systems.
3. Explain how to convert sequential filing to terminal digit filing system.
4. Describe the filing equipment use to file case records and X ray films.
5. Describe the ancillary equipment.
6. Define tracing
7. Describe different types of tracing health records.
8. Explain the advantages and disadvantages of each tracing system.

FILING SYSTEMS FOR CASE RECORDS AND X RAY FILMS

Filing is a systematic way of arranging documents to enable those documents filed to be maintained in good order. The library from which notes are readily available is a threat to the patient's treatment.

Filing Methods

There are three main filing methods used in an organized health records department.

(i) Alphabetical
(ii) Chronological
(iii) Numerical

(i) **Alphabetical filing system**

Alphabetical filing really has little place in any discussion of the filing of case notes. The main disadvantage of using this method of filing is that it grows very unevenly and spreading of notes or x- ray files can be very difficult if the file is used for many years and the number of files becomes very large.

(ii)**Chronological filing system**

This is a method of filing where records are filed using dates when the record was created. It cannot be used to file case records except that it can be used to arrange records inside the case folder. It is not recommended for filing in a big library.

(iii) **Numerical filing system**

In this system two ways of filing can be adapted:-

(a)Straight numerical

(b) Terminal digit filing system.

(a) **Straight Numerical filing system**

This is probably the filing system that comes automatically into people's mind:-12 3 4 5 6, 1 2 3 4 5 8. It is probably the most suitable method of filing for small records library where there is no necessity to go into the fairly elaborate detail needed to install a terminal digit system.

(b) **Terminal Digit filing system**

The filing system was first used in the United States hospitals and has been the standard method of filing in that country. Anyone starting a new records department would be well advised to start with it from the beginning. The main difficulties experienced with the traditional sequential filing system are:-

(i) Growth is at one end of the file because this is the busiest section of the library.

(ii) Gaps are usually left after weeding of notes

(iii) Transposition of figures occurs whenever one is dealing with big numbers.

Terminal digit filing system overcomes these difficulties. Its main principles are as follows:-

(i) The library is divided into 100major sections numbering from 00 to 99. Each major section is again divided into 100 sub-sections. This means that the library is now divided into 10,000 sections. Each section should be labelled properly.

(ii) The hospital number should be thought of as three pairs of digits e.g. 1 2 3 4 5 6 as 12-34-56. 56 is the terminal digit, 34 is the middle digit, and 12 is the primary or first digit.

a) The record will be filled in the major section appropriate to the terminal digit (last two numbers in section 56.

b) Within major section 56, it goes behind the sub-section guide appropriate to middle digit (middle two numbers) 34.

c) It is then filed in he order of primary digit 12.

(c) **Advantages of terminal digit filling system are:-**

i. New and old records are evenly distributed throughout the records library.

ii. Chance ensures that an equal number of records and loose filing returns each day to each major section. Trials have shown that where 1,500 records are filled daily, 150 records will be returned to each section daily

iii. There is no annual shift-back or closing up of notes after weeding, to make room for new records.

iv. Sorting notes is simpler.

v. New staff find the system very much easier to learn than sequential filing-probably because the library is much more static and the 00s are always in the same place.

vi. Fever misfiles occur. This is because the filing clerk is concentrating on only two digits at a time.

vii. Tracer cards can be written in advance when preparing a clinic.

(d) **Conversion of straight numerical filing to terminal digit order**

Before one changes from straight numerical filing system to terminal digit filing system, one should make sure that there is enough:-

- Space
- Manpower – trained
- Shelves constructed
- Medical forms
- Pre-printed folders

One day should be set on which to start the system. The first patient who comes should be issued with a unit number 00 and the second patient who comes next 01. This should continue until the number 999999 is reached. When an old patient has been issued with a number in the previous years comes, his record should be pulled out and brought forward to the new unit number. If a patient does not turn up, his record should be left in the old file.

(e) Filing equipment used to file case records and x-rays

(1) Shelf filing

This is the most used filling equipment and probably more suitable for filing large quantities of notes or x-ray films than any else. Metal is more suitable than wood. There are some advantages and disadvantages of shelf filing.

(i) **Advantages**

(a) Records can easily be filed and pulled quickly since the shelves are open.

(b) More records can be filed on the shelves than in the cabinets.

(ii) **Disadvantages**

(a) If the shelves are constructed high light cannot penetrate the lowest shelves

(b) If shelves are constructed high the shortest clerk has to climb the ladders or the kit stools

(c) Shelves are not dust proof

(d) Shelves are not fire proof

(e) Shelves are not water proof

Filing cabinets

Filing cabinets are recommended for smaller libraries. They provide ideal filing conditions:-

a) Good access
b) Dust-proof
c) Convenient height
d) Provide attractive appearance

Disadvantages

1. They take up ore space
2. More expensive than shelves

Suspended filing

This form of filing is never suitable for a large number of case records and x-ray films on the ground of cost and amount of space taken up. Basically it consists of manila pockets hanging from two metal bars and providing a v-shaped space into which notes can be filed. The metal hanging bars have flat tops to indicate the unit numbers filed in each pocket. Suspended filing can be installed in filing cabinets, with addition of special framework on which to hang the pockets or it can take place of the shelves in horizontal units.

Disadvantages

1. Provide less filing space
2. It is expensive to install

Advantages

It is ideal for filing administrative records where files are slim.

Mobile raking

This is the most economical filing method as far as space is concerned. A series of shelves, contained in a rigid frame with backing, are run on rails. One set of shelving is fixed and then there maybe three mobile sets

It will be immediately obvious from this that if all five sets of racking were static, far more room would be taken up by the gangways necessary to gain access to both sides of the racks.

Disadvantages

1. No gangways which could cause hold ups.
2. Access may not be possible by more than two clerks at a time.
3. The pushing of the racks could be a formidable task.
4. It is expensive

Advantage

It saves space

Circular, carousel filing

These units consists of a series of shelves or suspended files rotating round a fixed spindle- a large version of the carousel described in the section dealing with the master index. Their great virtue is that the files can be placed against a wall and rotated to bring the files that are needed to the front- they are therefore space saving. This type of installation is undoubtedly more expensive than many others. It should be looked at last for interest and for the space saving principle.

Elevator files

These are very large relatives of the elevator files described in the master index section. They are extremely expensive and quite out of the financial range of most records departments. However, they should be recognised as a possible form of filing.

The records are stored in boxes, on trays, as in the smaller index card elevator files. The difference is that elevator files for notes probably extend upwards for twenty feet or more. As the operator presses the correct button, the shelves will rotate until the correct one presents

itself at filing level. The argument for their installation apart from the convenience of never having to walk, bend or stretch to pull file records is that valuable ground floor space no longer needs to be allotted to the records library as most of the notes are stored on one or two floors above while still being available at the most convenient point. It is not possible to use this method in a busy library.

There are two other filing methods which must be referred to, but purely on a historical basis because they are unlikely ever to be used in modern records departments. They are:-

Bound volumes

These have been referred to already in the description of the unit system. As items of historical interest, and sometimes for clinical purposes, the bound volumes must be stored carefully but note will never again be kept in this form.

Box filing on shelves

When records are finished with, they are sometimes packed into cardboard boxes and filed on shelves. It is hardly necessary to point out that access to a set of notes that is packed in one cardboard box at the bottom of a pile of several such boxes is not easy to get at.

Dividers

Documents as heavy and at the same time as flexible as case folders and x-ray films need plenty of support. This is provided by dividers for any sort of shelf filing. Ideally these dividers are metal, and reach from the bottom of one shelf to the top surface of the shelf below, being firmly attached to both shelves. They thus provide support not only for the files but also for the actual shelf unit, by adding rigidity. The metal dividers can be supplied with a rolled edge similar to that used for the shelf units. Notes should be divide every 12” and x-ray films divided after 6” otherwise they soon “droop” and become permanently misshapen.

Colour coding

Colour coding can be applied to both notes for a variety of purposes. It is traditional that ten colours should be used for the ten main divisions of terminal digit filing. Thus each number 1-9 has a different colour. Colour can be used to identify a particular number except that a few individuals suffer colour blindness. Colour coding can also be used to indicate the year when the record was created. This can be affected by the use of coloured cello tape or adhesive levels.

Ancillary equipment

The efficiency of a well laid out, carefully filed records or X ray records library can be significantly increased if certain basic items are provided in addition to the most suitable type of shelving.

(a) Filing Trolleys

If clerks are to walk round the filing area with armfuls of notes, putting them down each time they withdraw or file a record they will be very tired by the end of the day. Trolleys should be strong and large enough to be able to carry heavy loads of case records and X ray films.

(b) Kik stools/ladders

These are necessary for the shortest clerk to climb on to reach of shelf as high as 7 feet. Any ladder or Kik-stool should be light and easily moved.

(c) Sorting equipment

Sorting equipment for case records and X ray films will certainly be some form of pigeon hole. It is usually very important that this vital task is not attempted with inadequate equipment.

Where terminal digit is used, it is desirable to have one hundred pigeon holes, one for each terminal digit. These should be clearly numbered. As the files come back to the library, form, clinics, secretaries, wards, they can be filed straight into the appropriate pigeon hole of the sorting unit. The filing clerk responsible for each section of the library will ten take on pigeon hole numbers, sort them out and file them.

(d) Preparation tables

These tables can be used for sorting the notes for filing for preparing the clinics. There should be enough space for each clerk and the table should be large enough.

TRACING AND RETRIVAL OF HEALTH RECORDS:-

There are three systems of tracing most commonly used in a records library.

(a) The common tracer card

Enough supply of tracer cards is kept in the library. When a record is removed from the filing area it is replaced by a tracer card. When the record is returned to the file the tracer card is removed and the notes filed back. The tracer card is cancelled and reused for another set of records-hence the adjective “common’. The common tracer card should be made of strong card as it may be used up to eighty times before it is full. The information to be recorded on the tracer card should be as follows:

Date

Destination (ward or clinic)

Hospital Number

Patient's full names

Reasons for extraction

Borrower's signature.

Some special mention should be made about the date. Where the notes are being extracted for an outpatient clinic the date recorded on the tracer card should be the date of the clinic not the date of extraction.

When the patient is being admitted, the date of admission should be included on the tracer card. If the notes are for research or for a letter to be written, the date should be the date of extraction. The tracer card should be one quarter inch larger that the notes so that it can guide the filing clerk of where the notes should be inserted.

Advantages of the common tracer card

1. I can be used 80 times for different patients.
2. A clerk can prepare a whole clinic in advance while seated.

It tracer cards are used for x- rays envelopes size 15" x 18", the tracer card should be more than the envelope so that it can act as a guide to locating the correct place and filing the films back. The same information will be recorded as on the cases for record tracer cards.

(b) Library tracer system

Each case record has a small pocket inside the cover in which is held a small card with the patients name and the hospital number at the top, and a series of lines below on which borrower and date may be entered, very much on the principle still being used by public libraries. When the notes are withdrawn from the file the card is marked with date and name of the borrower and filed in a small tracer card index. When notes are returned to file, the card is extracted from this index, the entry cancelled and the card filed into the pocket in the folder which is itself then re-filed.

Disadvantages

1. This system is recommended only for a small library.
2. There is no object left in place of the file to show where the record is.
3. Misfiling is likely to occur.

Advantage

Because the card is created permanently when the folder is created, the facts are always right.

(c) Personal Tracer Card

This card is created the same time as the case folder and identified with the patient's name and hospital number. It is filed inside the folder and is only taken out of file when the notes are taken out of the file. The same details as the common tracer card are entered onto it.
Advantages

1. When the record cannot be traced the details of the previous destination may give a clue as to the destination of the record.
2. No transposition of numbers since the number is created permanently on the card.

The importance of the tracer systems cannot be overstressed. It is no excuse that notes cannot be found because the tracer is out of date. This will not help the patient. Like any other procedure, the tracer must help to achieve instant availability of the patients' notes when they are needed.

UNIT 7

ACQUISITION AND MAINTAINANCE OF HEALTH RECORDS EQUIPMENTS

This is a procedure and it entails the following:-

- Needs identifications
- Specifications
- Requisition of quotations
- Opening of the quotations
- Selection of the qualified bidder
- Supply of the goods by the bidder and receipt of the goods by the hospital supplies department
- Authentication of the goods by the concern department
- Acquisition of the goods by the department by use of S11
- Installation of the machines in the department after they have been entered into their inventory.
- Finally, maintenance of the equipments is put in place and observed(see the public procurement act)

Management of Health Resources
Supply Chain Management
Unit Objectives

- **Identify the roles and responsibilities of various bodies and actors in the procurement framework and process**

- **Appropriately apply the steps in procurement procedure and guide implementation of these procedures in procuring goods and services**
- **Describe the Supply Chain Management including inventory and distribution management tools, disposal of stores and equipment by Public Entity**
- **Identify and address challenges related to supply chain management at the workplace**
- **Apply knowledge and skills to design a procurement plan for the investment /facility plan and/or priority project**

Unit 6: overview

- **Rationale and principles of procurement**
- **Procurement regulations and ethical guidelines for good procurement practices**
- **Roles and responsibilities of various bodies and actors in the procurement procedure**
- **Procurement procedures and variations at each stage based on the type of goods and services**
- **Procedures for contracting**
- **Supply Chain management tools for inventory, management, disposal of stores and equipment**
- **Investment plan application – designing a procurement plan for goods and services**
- **Challenges to supply chain management in health systems**

Current classification of procurement entities

Class A are Ministries and State Corporations
Class B are City Councils, Universities, Judiciary, Commissions, Colleges, Cooperative Societies, Parliament, Districts, Provincial Hospitals and SAGAs
Class C are Municipalities, County Councils, Urban Councils and Schools, District Hospitals, Sub District and Dispensaries, CDF

Anatomy of Kenya's Public Procurement and Disposal Act

The purpose of the Act

- To establish procedures to achieve the following objectives:
- To maximize the economy and efficiency
- To promote competition and ensure that the competitors are treated fairly
- To promote the integrity and fairness of those procedures

- To increase transparency and accountability in those procedures
- To increase public confidence in those procedures
- To facilitate the promotion of the of local industry and economic development

Application of the Regulations.

These Regulations apply to public entities as enlisted under Section 3(1) of the ACT that is-

- Any body using public assets in any form of contractual undertaking.
- Companies owned by public entity
- Any body in which the Government has a controlling share

Acquisition of goods and services not classified as procurement according to the Act (Section 4(2)

- Retaining of services of an individual for a period of term if the individual works as though one was an employee.
- Acquiring stores and equipment disposed by a public entity.
- Acquiring of services provided by Government or a department of the Government.

Conflict with other Acts

- This act prevails on matters of pro
  In relation to donor funds Conflict with international agreements
- The Act prevails except in instances of negotiated grants and loans.
  Conflict with Donor conditions
- Donor conditions to prevail with respect to procurement

BODIES AND ACTORS INVOLVED IN PROCUREMENT PROCESS: ROLES AND FUNCTIONS

Key Bodies and Actors: Membership, roles and functions

- Public Procurement Oversight Authority (PPOA)
- Public Procurement Oversight Authority and the Director General
- Public Procurement Oversight Advisory Board (PPOAB)
- Public Procurement Administrative Review Board
- Internal Organization of Public Entities
    - Procurement Unit
    - Procurement committee
    - Tendering committee

- Roles of Heads of Departments
- Evaluation committee
- Inspection and acceptance committee
- Disposal committee

There ought to be separation of roles to ensure that procurement contracting process is accountable .
Within a Public Entity the procurement contracting functions should hence be separated.
Why?:

- ❖ To avoid conflicts of interest.
- ❖ To promote the integrity and fairness of the procedures {(Sub-Section 2(c) of the Act}
- ❖ To increase transparency and accountability in the procedures {(Sub-Section 2 (d) of the Act}

Hence- A Public Entity shall establish a tender committee ,procurement unit and other bodies required under the regulations for making procurement decisions {(Subsection26 (4)}

Bodies involved in Regulation of Public Procurement

Public Procurement Oversight Authority (PPOA) – Functions

- Monitoring the performance of the public procurement system and report to the Minister (M&E)
- Assisting in the implementation of an efficient and effective public procurement system
- Preparation of manuals
- Providing advice and assistance to procuring entities
- Issuing directions to procuring entities
- Offering other functions provided under this Act.

Promotion of Professionalism

- The Authority to assist in the establishment of an examination body and professional association for procurement professionals.
- Training and professional development
- Ensuring engagement of procurement professionals

The Director General

- The Chief Executive of the Authority.
- Appointed by the Advisory Board

- Term of office – 5 years, renewable once.
- Conditions for termination by the Advisory Boards:

  Incompetence
  Infirmity
  Conviction
  Corruption
  Employed in other public office
  Bankruptcy.
  Sources of Funds

- **Funds of the authority**
  - Money appropriated by Parliament
  - Loans/grants
  - Revenue/fees for services rendered
  - Capacity building levy

Public Procurement Oversight Advisory Board (PPOAB)
Composition – 9 members appointed by the Minister from persons nominated by prescribed (private and public) organizations. (First schedule for prescribed organizations), and the Director-General.
Functions:

- Approve estimates of revenue and expenditures of the Authority.
- Advise the Authority
- Recommend appointment or termination of Director- General in accordance with this Act.
- Other functions and duties provided within the Act

Public Procurement Administrative Review Board
Continued from the previous Public Procurement Regulations. -Legal Notice No 51 of March 2001
Composition of the Board shall be as prescribed in the regulations.
The Authority shall provide administrative services to the Review Board.

The Internal Organization of Public Entities Relating to Procurement
Significance of the Internal organization
Decision making process

- **in a systematic and structured manner.**

Decision making structure

- Oversight function by the Accounting officer/CEO at PE level

- Establishment of Tender Committee, Procurement Committees and Procurement Unit
- Head of Departments participation in the procurement process.
- Coordination and Secretariat services offered by the Procurement Unit
- Establishing and staffing Procurement Unit with procurement professionals.

Planning.

- Planning Procurement annually within approved budgets

Compliance Responsibilities

- Accounting officers to ensure that the Act is complied with

Outsourcing of procurement by the PE or by the Authority

- To a Procuring agent who shall comply with the Act, Regulations and the Authority's circulars
- To another Procuring Entity
- ***NB**: Authority to register procuring agents*

THE TENDER COMMITTE

The Roles- Sub-section10 (2) of the Regulations

- **To review, verify and ascertain that all procurement and disposal has been undertaken in accordance with the Act, Regulations and terms set out in the tender document.**
- **To approve, select, award contracts to successful bidders where value exceeds threshold in 1st Schedule**
- **To ensure availability of funds for procurement under consideration**
- **To ensure intended payment not to exceed prevailing market prices**
- ***Pre- adjudication action: Procurement Unit to carry out periodic market surveys {(Reg.8 (3) (z)}.***

The Tender Committee: *roles*

- *Review selection of procurement method (most preferred-open tender)*
- *Ensure any other procurement method is in line with the Act and Regulations.*

Pre- adjudication action:

- *Selected procurement method is to be included in the Procurement Plan (Reg.21 (1) (h) and*
- *Complying with conditions for use of "Alternative Procurement Procedures " Part VI of the Act.*

- *Review and approve aggregations of procurement, packaging or use lots if proposed.*

Approve list of tenderers in case of restricted tendering pursuant to Reg.54 (3)

- *Invitation of tenders from at least 10 persons selected Sub-Reg.54 (3)(a)*

Fulfilling the conditions for use of Restricted Tendering Section 73 (2) of the Act.

Approve list of persons qualified to submit proposal pursuant to **Section 80 of the Act**

Pre- adjudication action: *Examination and evaluation of Expressions of Interest to determine qualification for invitation to submit proposal*

Approve negotiation under **Section 75 and 80 of the Act**

Pre- adjudication action:

- *Negotiation is allowed in respect of Direct Procurement (Section 75 of the Act) and*
- *In respect of Selection of the most advantageous proposal determined with regards to Section 80 of the Act.*
- ***NB:*** *Requirements for negotiation should be stipulated in Bid document or of Letter of Invitation as appropriate.*

- Approve: Amendments of contracts previously awarded by the Tender Committee in accordance with **terms and conditions in the Regulations**
- **Approve list of persons to be given Request for Quotation pursuant to Reg.59 (3)**
- ***Pre- adjudication action:***
- ***Selection of qualified persons from maintained list and/or***
- ***From knowledge of the market.***
- ***NB: Selected list of qualified persons can be supplemented by other known sources in the market***
- **To review the quarterly reports on quotations that has been awarded by procurement committee.**
- ***NB: This is in accordance with Reg 10 (2) (a) which states that Tender Committee shall review, verify that ALL procurements and disposals have been undertaken in accordance with the Act and the Regulations***
- **To undertake any other functions and duties as are provided under the Regulations or as may be stipulated by the Authority.**

The Tender Committee: Composition

Established in the manner set out in Second Schedule to the Regulations to consist of:

- Not less than FIVE members
- Have as its secretary, the procurement professional in charge of procurement unit

Categories of Tender committees in Second Schedule cover Procuring entities in

The Tender Committee: Proceduresfor meetings

Line with Section 3 of the Act- *Definition of Procuring Entities*
Tender committees' membership to include ***alternate members***
Only alternate member to attend meetings whenever the member is unable to attend
Quorum to be FIVE including the Chairman
Decision of the Committee shall be by ***consensus***
In case of no consensus decision shall bMembers may be ***paid honoraria***
The committee shall cause to be prepared the ***minutes*** *of the meetings*
The minutes shall include:

- *A register of attendance*
- *Date of the meeting*
- *List of all matters considered and decision made, reasons for rejections, clarifications, minor amendments*
- *A notes regarding evaluation*
- *Conflicts of interest declared and* ***any dissenting opinion among members***
- *Such other records as may be necessary.*

e made through ***voting by simple majority***
Where there is a tie during voting ,the Chairman shall have a ***second and a casting vote***
A member with interest (direct or indirect) in the matter being deliberated upon shall ***declare the interest*** *and shall not participate in the deliberation*
Procedures for meetings
Members may be ***paid honoraria***
The committee shall cause to be prepared the ***minutes*** *of the meetings*
The minutes shall include:

- *A register of attendance*
- *Date of the meeting*
- *List of all matters considered and decision made, reasons for rejections, clarifications, minor amendments*
- *A notes regarding evaluation*
- *Conflicts of interest declared and* ***any dissenting opinion among members***
- *Such other records as may be necessary.*
- ***Committee may also invite two more observers for contract with estimated value above Kshs 50 Million***

- ***At leased one observer to come from a recognized private sector organization or discipline relevant to the procurement under consideration***
- ***Failure of an observer to a meeting shall not nullify the procurement proceedings .***

The Tender Committee

Adjudication of evaluated bids to ensure:

- *Compliance with product specifications*
- *Delivery /Lead-Time.*
- *Supplier's economic standing*
- *Supplier's legal standing-whether qualified to operate as supplier/vendor of the proposed goods services or works or not.*

Adjudication of evaluated bids to ensure:

- *Supplier's relevant experience*
- *Supplier's technical capability to perform the proposed contract*
- *Supplier's responsiveness to the tender technical requirements*
- *Price for delivering the goods or rendering the services*
- *Total cost*

Procurement Committee

Roles

- *Responsible for procurement below the threshold for Tender Committee*
- *May approve or reject submissions with reasons.*
- *May approve submission subject to* ***minor*** *clarification by procurement unit*
- *Shall not modify any submission or reject submission without justified reasons*
- *Any rejected submission maybe resubmitted (with further clarity or details)*
- *Committee to provide explanations and justifications of its decisions.*

Composition

- *An official delegated the role of being a Chairman by the Head of the Procuring Entity*
- *The Finance officer or an officer carrying out related functions*
- *Three members appointed by Accounting Officer*
- *Secretary-an officer appointed by Head of Procurement Unit.*

Procedures for Meetings
Quorum*-Chairmanand at least two other members*
A member unable to attend a meeting may delegate authority to a appropriate official
The committee to ensure that the delegated authority is to an official with ***appropriate skill and experience***
Decisions of the committee shall be by consensus; otherwise the decision shall be through ***voting*** *by simple majority*
In case a of a tie in voting the Chairman's vote shall have as second or casting vote.

- *A member with interest (direct or indirect) in the matter being deliberated upon shall declare the interest and shallnot participate in the deliberations.*
- *The Committee may invite independent observer or member of procurement unit to explain submission or provide technical advices.*

The Procurement Committee to adjudicate evaluated bids to ensure:

- *Compliance with product specifications*
- *Delivery /Lead-Time.*
- *Supplier's economic standing*
- *Supplier's legal standing-whether qualified to operate as supplier/vendor of the proposed goods services or works or not.*

The committee shall cause to be prepared the minutes of the meetings
The minutes shall include:

- A register of attendance
- Date of the meeting
- List of all matters considered and decision made, reasons for rejections, clarifications, minor amendments
- A notes regarding evaluation
- Conflicts of interest declared and any dissenting opinion among members
- Such other records as may be necessary.

Evaluation Committee

- Established for each procurement within threshold of TC
- May comprise separate technical & Financial evaluations or Combined
- At least 3 members recommended by Proc. & appointed by CEO
- Technical evaluation in strict adherence to compliance & evaluation criteria as set out in tender docs
- Performed with due diligence within 30 days
- Independent evaluation by each member before sharing the ratings
- Financial evaluation within 5 days of completion of technical evaluation

Inspection & Acceptance Committee

- Composed of 3 members recommended by Proc. & appointed by CEO Shall:
  - inspect & test goods received
  - ensure compliance with terms & conditions of contract
  - accept or reject the deliveries
  - ensure correct quantity is received
  - goods meet technical stds
  - timely deliveries or note the delays
  - all manuals are received
  - issue interim or completion certs or GRNs

MEASURES FOR REDRESSING GRIEVANCES

Appeal Right

To redress meritorious grievances of candidates and correct system failures.

An Administrative Review Board may grand or recommend the following remedies:

- Declare the legal rule or principle that govern the subject matter
- Prohibit the procuring entity from acting or deciding unlawful
- Annul in whole or part an unlawful act or decision of a procuring entity.
- Revise an unlawful decision or substitute it with its own decision
- Administrative Review Board may grand or recommend the following remedies:
- Order that the procurement proceedings be terminated
- Review Board to make decision in stipulated timeframe.
- The decision to be final unless successfully reviewed by court.

Disposal of Stores and Equipment

What to be disposed of .

- **Stores and Equipment that are :**
  unserviceable,
  obsolete or
  surplus

Disposal methods

- As recommended by Disposal Committee subject to technical report

- **Disposal Committee**
  - To be established in accordance with the regulations

Disposal Methods

- transfer to another entity
- sale by public tender
- sale by public auction
- destruction, dumping or burying
- trade-in

There shall be a time limit for acceptance of recommendations of disposal committee by the Accounting Officer.

Restriction on disposal to employees unless as prescribed in the regulations.

MANAGING STORES

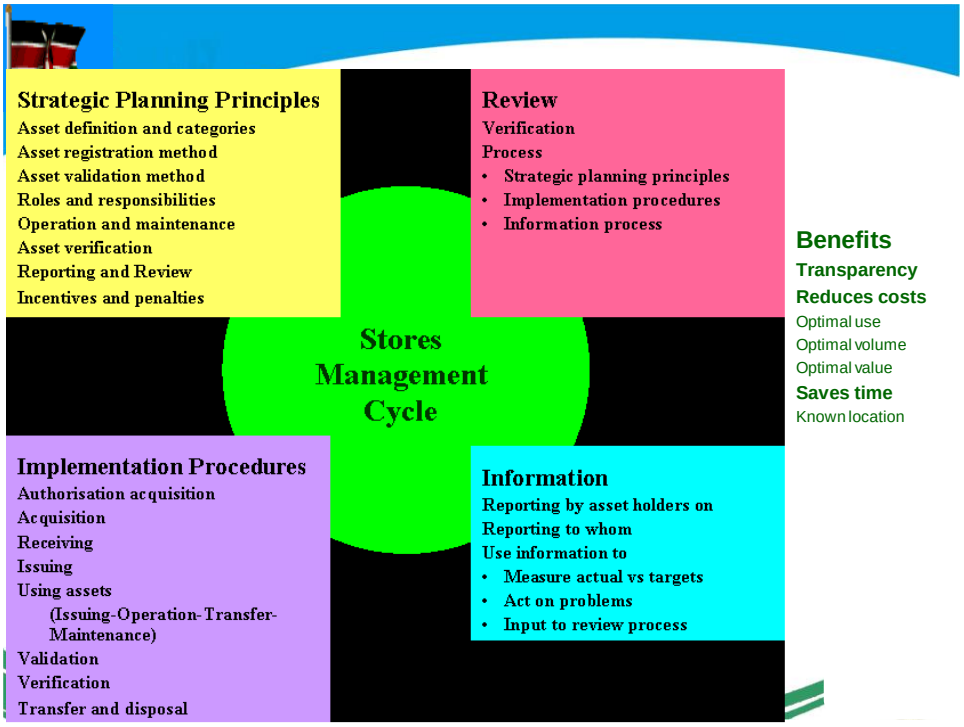
Items stored include:

a) Consumables – used within a short time(cotton wool, sutures, syringes etc)

b) Non-consumables – permanent and can be used for years

Procedure for equipment: deciding what to buy, ordering equipment, storing (recording, labeling and holding), issuing, controlling, maintaining and repairing

Store Management = Avail goods and equipment - in time -at the right place - at minimal costs



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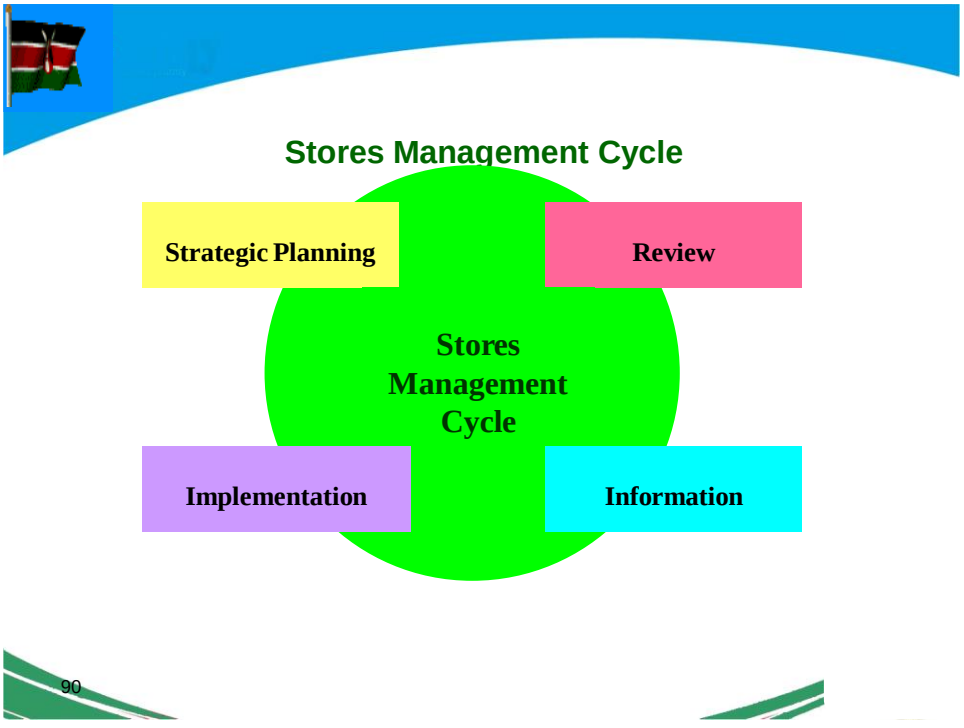

Stores Management Cycle Strategic Planning ¼
Strategic decisions on principles:

Stock levels policy
Stock storage system (Centralisation level)
Registration system
What finance is needed/available?
Stock validation method (e.g. at cost price, depreciated, etc.)
Outsourcing or in-house
Institutional organisation

Stores Management Cycle Strategic Planning 3/4

Based on an **assessment** of:

- What goods and/or equipment are needed?
- Legal and regulatory requirements
- How does a store impact performance? How measured?
- Organisation set-up
- Human resource requirements
- Risks and costs
- In-house or outsourced?

Stores Management Cycle Strategic Planning 4/4

Stores design
Decide location(s)

- Based on type stock (cold, size, climate, hazardous, sensitive)
- When needed and where?
- Legal and regulatory requirements
- Access
- Security and safety (hazardous goods, fire, accident, health)

Decide Storage/stockyard lay-out & equipment

- Legal and regulatory requirements
- Conditions for storing goods and equipment
- Access and efficiency of movement
- Energy supply - emergency back-up needed?
- Security measures to be installed

Human Resource Management

- Detailed organogram and job descriptions
- Recruit and manage staff (Number, qualifications, motivation, training, supervision, monitoring)

UNIT 8

LEGAL ASPECTS OF HEALTH RECORDS AND VARIOUS ACTS RELATED TO THEM

Learning Objectives

The learner should be able to:-

1. Concepts of professional ethics &legal aspect of health Records.

Confidentiality

Disclosure

Ownership

Retention

Security

Consent of Operations

Medical Records Ethics

Confidentiality(see government official secrets act)

Information concerning a patient is confidential and should not be released to any unauthorized persons. If a member of the hospital staff improperly discloses ay information concerning a patient whereby that patient suffers material loss, the patient can easily sue the hospital and the officer who is in breach of his duty had made any improper disclosure. If a hospital authority is to minimize its risk in the matter, it is suggested that it should have a rule for strict secrecy about all information regarding patients, their diseases, their affairs, and the affairs of their families obtained by any officer in the course of his duties. **Further it is recommended that:-**

- No unauthorized information should be given concerning patients or former patients.
- Apart from normal replies, and enquiries concerning the progress of a patient's illness is to be given except from instruction of the consultant.
- Case notes are not produced to unauthorized members of staff.

Disclosure of information

There are five main categories under which contents of patients records can be disclosed;-

(1) Consent by the patient which could be expressed or implied.

(2) If there is a court order.

(3) If the interest of the doctor or hospital cannot be otherwise safeguarded.
(4) If transference between hospitals, clinics or doctors in the interest of the patient.
(5) If there exists a higher duty than the private duty e.g. notification of infectious diseases, notification of births and deaths registration, and notification of poisons.

(a) **Disclosure with patient's consent**

A patient can give his consent for disclosure either expressly or implicitly. Implies consent arises only in certain limited circumstances as, for instance, when records are disclosed to another medical agency for purpose of continued treatment. Express consent is obtained when the patient signs a document authorizing the hospital to disclose his medical history for some specific purpose.

In general the consent form should always indicate the reasons for disclosure, and no disclosure should be made except for that reason. If the reason and purpose change, specific consent should again be obtained. Where a consent form reaches the hospital, the hospital is at liberty to disclose and the patient would have no ground for complaint if the disclosure was wider than he intended.

In cases where requests for clinical information are received from solicitors claiming to be acting on behalf of the patient care should be taken to make sure that the solicitors really are acting on behalf of the patient, and not, in fact against him.

Requests from insurance companies and similar bodies should only be acceded to with the patient's written consent but should be referred to the hospital authorities.

(b) **Disclosure by an order of court**

A court in the pursuit of justice may make an "Order for Discovery" or a Subpoena to produce case records. There is no question but that such an order must be obeyed. Generally the appropriate person to attend court and produce the appropriate record would be the Records officer. It is the original document that should be produced in court but if the original document cannot be traced then the court may accept the photocopies but photocopies must be certified to be the true copy of the original document.

(c) **Disclosure to safeguard the interests of a doctor or hospital**

If an action is brought against a hospital or doctor, then the disclosure of a patient's record may be done. Of equal importance is the fact that disclosure is permissible if the hospital is to work effectively. Disclosure of the contents of a medical record is necessary between departments or between members of medical staff in the hospital and this is justifiable of

course, as being in the patient's interests. Such disclosure if made publicly by any member of the hospital staff, resulting in the patient's interest being adversely affected could result in action for damages.

(d) **Disclosure in transfer of information between authorized medical agencies**

A doctor dealing with a patient has full rights of access to any clinical data made at the time (except of course, where patient has been referred for treatment who is acting for a third party). When a patient is seen subsequently by another, strictly speaking that doctor has no legal right of access to the notes made by the previous doctor.

(e) **Disclosure as a 'higher" duty**

The existence of the higher duty may be said to apply when the interests or needs of the public are better served if there is some relaxation of the private duty and in some cases there is a clear legal duty to give information which supersedes the doctrine of confidentiality. More common instances are in the following circumstances:-

(i) Notification of infectious diseases by medical doctors to local medical officers of health under the Public Health Act (1936).

(ii) Notification of the cause of death under the Births and Deaths registration Acts1836-1926.

(ii) Notification of the industrial poisonings under the Factory and Workshop Act 1901.

(iii) Radiation protection act

(iv) Mental health act

(v) Criminal procedure code(completion of P3 forms,post-mortems,consent for operation release of information)

(i) to (iii) above represent statutory obligations, whereas (iv) below are good causes. A statutory obligation must be complied with, whereas although a good cause should be there, there is no breach of law if it is not.

(IV Claims **for sickness benefits under the National Insurance Acts and work men's compensation act**

(v) Exchange of records between doctors for research purposes.

(vi) Disclosure to a central body for collective statistical purposes e.g. hospital activity analysis.

In the foregoing instances, it is plain that the disclosure is in the public's interest.

Ownership

The records do not belong to the patient even if fees have been paid. The records belong to the various health institutions which created them. In the case of government institutions they belong to the government. Case records of private institutions belong to the institutions because they have contributed to the creation of the records.

Retention

The Public Records Act stipulates that authorities responsible for public records have a duty to make proper arrangements for selecting those records which should be permanently be preserved and for disposal of the rest. There are some records that were spelled out by that Act and they should not be destroyed.

(a) Post Mortem books
(b) Summaries of clinical notes
(c) Discharge registers containing diagnosis

The rest of the health records in the folder may be destroyed. This should be done six years after the patient's last attendance. Each hospital should be able to decide on which records to be destroyed depending on the institution's demands.

Security

It is the responsibility of each and every health institution to ensure that there is security in storage and handling of health records. This security could be maintained by:-

(a) Providing adequate security in the departmental procedures and use of equipment.
(b) Instructing lay staff on the confidentiality of health records.
(c) Require all lay staff to sign a declaration of secrecy.
(d) Health records staff accepting responsibility for disclosure of contents of health records in their possession.

Consent for operations

It is legal requirement that a health institution should obtain consent from patient/ client before an operation or anaesthesia is administered to him in order to safeguard it. This only becomes difficult in the case of children and unconscious patients. In the case of unconscious patient, the surgeon should carry on with the necessary procedures. In case of somebody under 16 years it is necessary for parent or guardian to give consent. In case of emergency, consent should not delay the procedure because this could increase the risk. In case the operation is to be done on the child the father is the right person to give the consent but if the father is not accessible, the mother's consent would be acceptable. Failing that of the father, mother and then, a legal guardian would be obtained.

Married women would give consent on their own right just as single women. It is wise to obtain the husband's consent particularly where sterility may follow an operation. For mentally disordered patient the consent of the nearest relative should be obtained.

UNIT 9

MANAGEMENT OF SPECIAL HEALTH RECORDS

Learning objectives

The learner should be able to:-

1. Define special health records.
2. Describe types of special health records.
3. Describe the security and control of special health records.

The special health records are:-

1. Psychiatric records.
2. Infectious diseases records.
3. Accident &emergency records.
4. Tuberculosis records
5. Radiotherapy records.
6. HIV/ AIDS records
7. Maternity records.
8. Maternal &child health/family planning records.
9. Gender based violence Records

1. Psychiatric records

The way psychiatric records are maintained is different from the way the general records are maintained. This is prescribed in the Mental Health Act. The admission of psychiatric patients may be "informal or formal". Informal means a patient is admitted without legal or other formalities and the hospital has no right to detain him in the hospital against his will. Admissions are carried out in reference to the Mental Health Act. Discharge procedures are also carried out in the same act.

The records officer must ensure that the information inside the record is accurate. The same responsibility being carried out by the health records officer in a general hospital are the same ones carried out in a psychiatric hospital except for the addition to the special statutory work arising from the operation of the mental health act.

2. Infectious diseases.

There are many infectious diseases e.g. Tuberculosis, STI/HIV/AIDS, POLIO MYLITIS, MEASLES for each of these diseases, surveillance programsare put in place to identify that population and it requires complete documentation of cases. Since these are infectious diseases notification must be made to the “Medical Officer of Health. A register is maintained for this notification. Copies of the notification of new cases are sent to the various specific programs. A unit record is opened for this patient and the information contained in it should be very comprehensive.

The records belonging to these patients are supposed to be kept for long periods and therefore the case folder must be made for sturdy material to resist wear and tear. The notes should be written in foolscaps instead of a4 size papers.

3. Radiotherapy records

Radiotherapy department present a special records problem. All radiotherapy cases are supposed to be registered nationally for perpetual follow-up. These records could be filed in a separate area but given the unit number, and copies of the notes for the same patient from other units in the hospital incorporated in the same unit file. This should be a radiotherapy number given to each patient to be used for National Cancer Registration. This number is prefixed by the year of first registration and is used in all follow-up correspondences, until the patient dies. The prefix to the year of registration number is a precaution against confusion with unit number which will be used for treatment and all other occasions in the hospital.

Security and control of special health records

The special health records should be if possible locked in cabinets and the keys kept by the health records/ information officer.

Maternal &child health/family planning records.

The data from MCH/FP is very important since it is used to measure the following Global& national health indicators:-

- Child mortality rate
- Maternal mortality rate
- Child growth monitoring
- Family planning contraceptive consumption rate
- National planned hood growth rate.

Gender Based violence Records:-

These type of records are sensitive they contain serious personal and purely highly emotive and private information and are used for medico legal purposes; they also contain social cultural information which in some aspect are viewed as taboo and a source of cultural conflicts. The management of these records should therefore be handled strictly on the basis of the laid down rules and regulations in place for medico legal purposes.

UNIT 10

MANAGING A HEALTH RECORDS AND INFORMATION OFFICE

UNIT 11

ESTABLISHMENT OF A HEALTH RECORDS DEPARTMENT IN A HEALTH CARE FACILITY

Learning objectives

The learner should be able to:-

1. Carry out a needs assessment.
2. Describe the procedures in establishing a health records department.
3. Organize various sections.
4. Describe commissioning procedures.
5. Monitoring and Evaluation.

1. Needs assessment

A study should e carried out to know what is required in the building of a new department, the staff required, the equipment and the stationery that will be needed. This will require a lot of funds and therefore a lot of caution will be needed in carrying out this study. The only person to do this is the health records/ information officer because he is the one conversant with the layout of the department and what to put in the department. It important once the needs assessment ready a corresponding budget be prepared for cost analysis prior to acquisition of resources.

2. Design and layout

The layout of the department should take care of:-

1. Working space for all the clerks.
2. Storage space for equipment and files
3. Lighting and air circulation

The layout of an office can either hinder or promote the work. Consider the amount of work to be done, number of staff to work in it, placing the filing clerks where the files are. Ensure enough gangways at least 3 ft apart. Take into consideration telephone points, mail collection, electric sockets. Weigh out the pros and cons of private or open offices remembering that a supervisor needs an open office to co-ordinate and check the work being done. Look at all these with an open mind from the point of view of staff and the system.

1. Procedures in establishing a health records department

Before one establishes a health records and information depart he should consider two factors:-

1. The line of command
2. The number of staff and jobs needed to achieve the desired results

The most important function of a health records and information office is to store information when needed by medical and administrative staff. In view of this a list of jobs and staff to carry the out can be made. The line of commandment must be specified. The sections of the records department must be organized to fit one with another:-

(a) The objective should be efficiency, accuracy and speed.
(b) The function is to store and provide information.
(c) Line of command should be understood and known by all.
(d) Staff should have initiative and scope to suggest improvement.
(e) There should be co-ordination of sections and departments
(f) There should be continuity in the system so that work continues in the absence of some staff.
(g) Mobility- for staff to change and learn other jobs.
(h) Incentive – to know why the job is being done to satisfy achievement on completion.

Fire precautions

All offices should comply with fire precautions. Fire escapes and extinguishers should be labelled clearly. The health records and information officer should ensure that his staff

understand and comply with implications of fire regulations. Lectures on fire drills and precautions should be attended by his staff.

Security of information and property

The library must be secure during office hours and after hours. Only authorizes persons should have access during the night. It should not be a through way to other offices. Equipments like typewriters, Dictaphones, or machines that are very expensive and the records office should be under lock.

Proximity of Rooms

Rooms with related functions should be near each other.

Fittings

Telephones, electric socket outlets, hoists between floors, lighting acoustic filing on walls and ceiling should be fitted properly.

Special sound proofing

If the machines like those ones for mechanical documentation are to be used they should be installed on rubber pads.

Storage.

Enough storage equipment should be installed if the rooms are to remain tidy. Store cupboards should be lockable. Shelves should be at least I feet part and 7 feet high. Ancillary equipment should be added to the library.

Space

Detailed analysis of the following must be carried out before space can be allocated.

1. The nature of the function of the records department

Main functions being registration, appointments, medical secretariat, waiting lists, statistics, bed bureau, microfilming, mechanical documentation, library, storage for notes and X ray films.

2. The volume of work

This can be estimated by knowing the number of admissions, number of outpatient attendances, number of consulting staff, any special departments.

3. General operational policies

Is it a seven day health records services?

What type of secretarial services will be chosen?

How long are the records to be retained?

4. Internal communication

This is internal communications between records departments and other departments in the institution. The possibilities of physical communications are:-

(a) Any member can transport any item from one part of the department to another.

There could be a messenger to be sent from one department to another in the institution.

(b) A vertical hoist may be installed between one floor and another and by pressing a button to indicate the floor the hoist will stop.

(c) Intercom installed between sections

(d) Pneumatic tube systems are installed. It is important that they should be between the records library and the registration area and they are sited at convenient areas on the floors that are going to be served.

. The Architect's Plan

The Health Records and Information officer should know the architect's plan and advise accordingly.

6. Detailed planning of sections.

The "nerve centre" of the department is the library and should be allocated enough space. Retention period of the records department should be clearly laid down. The space for shelving must be properly calculated. The type of filing equipment must be known-cabinets, self-filing. The registration and appointment areas must be easily accessible to all out patients. It should be attractive to patient/clients for comfort and privacy. Open counters is agreeable to the patients.

The secretarial section may be centralized or decentralized depending on the requirements of the institution. The master index may be sited near the registration or appointment areas. An intercom can connect other distant areas of the department.

7. Planning individual rooms.

Individual rooms should be planned depending on the functions to be carried out in each unit. Furniture, lighting, telephones and electrical sockets should be fitted in appropriate positions in each room.

Monitoring and evaluation:-

Establishing a new Health Records and Information department should be viewed as a project, thus the need to monitor every aspect and stage of the implementation to ensure that

the plan does not go off truck. At the beginning of the implementation the modalities on monitoring should be put in place as well as an end of establishment evaluation protocol to inform on how well the resources were utilised and whether all the activities planned were done to specifications.(see project implementation concept and protocols)

UNIT 12

DEVELOPING AND DESIGNING HEALTH RECORDS FORMS

Learning Objectives

The learner should be able to:-

(1) Describe the basic principles of form design.
(2) Describe various medical forms used in a health records department.
(3) Explain procedures of pre-testing medical forms.
(4) Describe reproduction and costing of medical forms.
(5) Describe control procedures of medical forms.

Basic Principles of Form Design

Before one designs a form he should ask himself some questions as:-

(a) Is the form necessary?
(b) Is it the best form for its purpose?
(c) Is it easy to use?
(d) Are the instructions clear and unambiguous?
(e) Is there any unnecessary duplication with another form?
(f) How can be improved?
(g) Is it economical in terms of paper, printing and equipment required for its use?
(h) Can it be combined with any other form or forms, making it a multipurpose document?

There are basic principles of form design that should be in one's mind before he designs a form. These are:-

(1) Simplicity
(2) Uniformity of size and style- in particular the "standard' location of basic information on the form is important.
(3) Clear instructions on the form
(4) Information requested should be minimized, by pre-printing and multiple choice questions and answers.

(5) Layout should be eye catching (drawing attention) to special areas of interest) and easy to read.

Various medical forms used in health records departments are:-

Case folder

Should have the name of the hospital, the patient's name, the hospital number, and the information "highly confidential" enclosed printed on top of the folder.

In-Patient summary sheet

Contains complete clinical summary of the individual's stay and treatment given during the stay.

Letter of referral

This is a letter given to a patient by a doctor referring to a hospital or health institution for further management.

Prescription sheet

This is used for recording treatment and drugs given by the medical staff.

Mount sheet

This is for mounting x- rays, laboratory and other reports. It should be A4 size and made of heavy material.

History and continuation sheet

The physician continues to write the history of the patient's illness, the continued treatment.

Operation and anaesthetic record.

There could be special operation forms used for different operation purposes. The name of the surgeon and the anaesthetist should be recorded on this form.

Temperature, pulse, respiration and blood pressure charts

These may be destroyed after the patient's discharge; they are transitory records unless one is marked for retention by the Medical officer of Health. Fluid and Diabetic charts. These once could also be destroyed unless otherwise stated.

Nursing Record

Should be included in the unit record.

Notification of discharge and discharge letter

A letter of discharge from a health institution should be given to him and his doctor notified as well. In this letter the drugs prescribed to him should be recorded.

Report forms

The report forms should be gummed onto the mount sheets.

Post-Mortem reports

This should be the final document and should be filed in the unit file.

Medical social workers' report

This should be inserted in the case folder.

Pre-testing of medical forms

Before the form is used it may be tested by the users to see whether it has been appropriately been designed for the work it is going to be used for.

Reproduction and costing of medical forms

Very often "document reproduction' is interpreted as "photocopying'. This is only one method of document reproduction. When a machine is hired photocopying becomes more expensive than when it is bought.

Photocopying

Manufacturing are now supplying new models of photocopying machines at ever increasing rates.

Spirit and wax stencil reproduction

This is a very special yet versatile method of reproduction. The actual medium of reproduction is a sheet of paper with fine clay-like coating on the reverse side. This sheet is placed over the sheet of hectograph paper, the clay-like coating on the first sheet actually in contact with the carbon surface of the second sheet. These sheets are typed with the information or handwritten. From the master sheet copies are made clamping to a revolving drum moistened by a spirit solvent. As the machine and the dampened carbon impression on the master sheet is reproduced in mirror form on each sheet. From a well prepared master sheet 300 copies can be produced. Mechanical documentation uses this method also.

Other means of document reproduction

Other means of document reproduction are offset litho and typeset plates. Offset litho depends on reproduction by either metal or paper (plate). The plate is placed on the rotary press and copies are made. Typeset duplication equipment is the same as most professional printers still in use. It is expensive to install.

Before equipment for document reproduction is bought the following points should be considered:-

(a) What kind of documents need to be reproduced?
(b) Is the material likely to be done single or double sided?
(c) How many copies are required?

(d) At what speed are copies required?

(e) What quality of copy is required?

(f) What will be the capital and the running cost-(important to consider)

CONTROL PROCEDURES FOR MEDICAL FORMS

There should be strict control of all forms and records routine to prevent wasteful duplication in inefficient procedures. Obsolete and redundant forms should be removed from circulation and unsatisfactory forms amended where necessary. There should not be duplication of any forms. Forms used for ad hoc investigations should be withdrawn as soon as investigation is over.

The records officer should maintain a list of all the forms with a similar function to be kept together. This will give the records officer an opportunity periodically to examine, combine, simplify or eliminate the forms if necessary.

MODERN METHODS OF DEVELOPING AND DESIGNING MEDICAL FORMS:-

The current technological advancement especially in the field of ICT has made it possible to design, develop and produce health records and information forms (tools) for data capture electronically using computers. There are also software's that are specifically designed for this purpose. INcomputerised environment, where EMR /EHR or HIMS/IMS is used, data tools are predesigned and available for use, however, In a situation where one is needed to convert manual forms into electronic format, the health Records and Information manager should liaise with the software developer to ensure that all the data sets are availed in the data forms.

UNIT 13

ENSURING QUALITY ASSURANCE IN HEALTH CARE SERVICES

The learner should be able to:-

1. Define Quality assurance
2. Explain the importance of quality assurance
3. Describe the procedures in ensuring quality assurance.

Quality assurance is defined as the customer satisfaction process.

The importance of quality assurance is to be able to:-

1. Identify cases of patients who may be discharged from a health institution before being diagnosed.
2. Identify those patients who may have died and why.
3. The types and results of health care rendered.
4. The frequency of consultations.
5. The occurrence of infections on all cases.
6. Any other trends in the work performed.

Procedures in ensuring quality assurance

It is accepted that there are professional and consumer components in quality care. The six dimensions of quality that need to be recognized separately and each requiring assessment skills are:-

(i) access to service

What is our response to emergencies?

(ii) Relevance to need.

Do we adequately provide for the need of our community as a whole?

(iii)Effectiveness

Do individual patients receive an adequate standard of treatment?

(iv) Equity

Do all members of our community have access to facilities and services?

(v) Social acceptability

Do we provide for patients' privacy in wards and clinic?

(vii) Efficiency and Economy

Have we developed adequate measures of cost and performance?

The assessment of quality is both complicated and multi-dimensional involving the news to individuals and the much under questions of community need. Patients should be allowed to air their views on the services provided to them. How do we come across to our patients?

(i) Do we show concern about their feelings and about their need to be kept informed about what is happening to them?

(ii) Do we provide even the basic amenities to ensure that they are reasonably comfortable when waiting for treatment?

(iii) Do we provide adequate reassurance about the progress of their treatment?

Procedures in ensuring quality assurance in health records.

The health records department may carry out its evaluation of the services rendered to the patients through the Health Records Committee. The committee should see that the health records are complete. The committee should meet regularly and report regularly to the Senior Medical committee in the health institution.

The functions of the health records committee are;-

1. To recommend to the Senior Medical committee in the format of the health record.
2. To recommend policies for maintenance of the health record.
3. To ensure that proper filing, indexing, storage and availability of patients' records.
4. To advice and guide the Health Records officer, Medical staff and administration of the institution on the release of information from the records.

In order to evaluate the quality of the record, the Medical Records officer brings to the notice of the Senior Medical committee all records which do not meet the level of quality. The committee analyzes these cases carefully, and check a sample of those analyzed by the Medical Records officer as adequate. There will be selected at random from the discharges for the period, or specific types of cases, varying from month to month so that all types will eventually be analyzed.

The Medical Audit.

This has been discussed fully in the previous chapters. This is an "objective method for applying a yardstick to the quality of professional performance'. It is a method of evaluating quality of medical care given to the patient and it is used as a tool of management to enable the administrator and the medical staff to uncover inefficient service and try to raise the standards of care in health care institutions.

Ensuring Quality Assurance in Health Care Services

Definition of Quality Assurance

Over recent years, the quality of documentation in the medical record has become an important issue, not only with the need to promote better health care, but also, the need by governments to reduce health care costs. In some countries, when funding began to be based on medical record

data, it was found that more attention should be paid to the quality of the medical record and documentation of the original health care data.

In many countries, some problems facing administrators and government authorities include:
Poor medical record documentation;
Large backlogs of medical records waiting to be coded;
Poor coding quality; and
Poor access to, and utilization of, morbidity data.

To address these problems and improve the quality of data collected, and the information Generated from that data, quality control measures need to be implemented.

The Medical Record Department is often the first department in a hospital to introduce quality assurance. As the Medical Record Department has connections with most other departments within the facility, the medical record is the best place to check the medical care and treatment of the patient. It should be noted that quality checking of the medical record often results in action being required by staff outside the Medical Record Department.

One approach to quality checking is for the MRO to ask staff from other departments to check the services of the Medical Record Department using a check-list. The results of these quality checks (or audits) are kept on a chart (or graph) in the Medical Record Department. They should also be presented to the Medical Record Committee for review. As the results improve, the figures on the chart are a source of pride for the Medical Record Department staff. This process is often the beginning of a reciprocal quality-checking program with other departments, which could result in an improvement in the quality of procedures throughout the health care facility.

Areas in which the Health Records Officer can Evaluate Medical Records Procedures

There are a number of procedures in the Medical Record Department that can and should be evaluated. Some study questions that could be used to evaluate the work of the Medical Record Department staff could include:

- Are medical records filed promptly?
- Is the file room clean and tidy?
- Are Master Patient Index cards filed promptly?

- Are all discharges returned to the Medical Record Department the day after discharge?
- Are medical record forms filed in the correct order?
- Are all medical records completed within a specified time after discharge?
- Are medical records coded correctly?
- Are all discharges for last month coded by the middle of the next month?
- Are the monthly and yearly statistics collected within a specified time?

To conduct an evaluation study, the MRO should select a time period for the study (e.g., one-month), prepare a questionnaire, and determine the standard or acceptable level of compliance considered appropriate for the work to be studied. The results can be used to improve the services in areas below the required standard of performance.

Evaluating the Content of the Medical Records

The content of the medical record can be evaluated by reviewing to see if the following has been done:

- the consent form for treatment has been signed by the patient;
- patient identification details (name and medical record number) are correct and entered on all forms;
- doctors have recorded all essential information;
- doctors have signed and dated all clinical entries;
- the front sheet has been completed and signed by the attending doctor;
- nurses have recorded and signed all daily notes regarding the condition and care of the patient;
- all the orders for treatment have been recorded in the medication form and signed;
- medication administration has been recorded and signed;
- the anaesthetic form (if any) has been completed and signed;
- the operation form (if any) has been completed and signed;
- the main condition/principle diagnosis has been recorded on the front sheet;
- operations and/or procedures have been recorded on the front sheet; and
- the MRO or staff member responsible for coding has accurately coded the main condition/principle diagnosis and any other condition listed (if required).

Again, a study questionnaire should be prepared and a standard determined, e.g., 100% compliance.

Sample check-list or audit form:

	Yes	No	N/A*	Comments
1. Patient's first name present				
2. Patient's family name				
3. Patient's medical record number written				
4. Patient's address written				
5. Etc.				
TOTAL				

*N/A = not applicable

CONCLUSION

The on-going process of care delivery must not be disturbed by the quality assurance activities such as intensive observations of physician's behaviour.

No simple measure of the quality of care given to the patient is available. We have to live with the often unproved casual relationship between process and outcome measures.

Health records officers and clinical epidemiologists acting as health accountants should play an active role in quality assurance programmes without losing their neutrality.

More good health care trials and more efforts are needed to improve the effectiveness of the existing quality assurance programmes.

UNIT 14

INTRODUCTION TO ELECTRONIC HEALTH RECORDS

Any countries now have a number of computerized applications as part of a Health Information System (HIS) within the health care facility. The aim of health care authorities around the world is for the development of an automated patient information service that will increase the efficient retrieval of information for patient care, statistics, research and teaching. Health Information Systems are designed to integrate data collection, processing, reporting, and the use of information necessary for improving the effectiveness and efficiency of the health service through better management at all levels of health care (WHO, 2000).

An important point to remember, however, is that the use of a fully computerized system may improve the effectiveness and efficiency of a Medical Record Department, but ONLY where the basic manual procedures are already in place organized. and well

The development and implementation of computer applications require detailed planning and cooperation between the medical record officer, computer staff and the hospital administration. The first step in such an undertaking would be to review the existing manual system to define the data needs and determine the proposed data flow. Once this has been accomplished, the next step would be to design the data collection and reporting tools and develop procedures. These would be followed with a detailed program of education for all staff, particularly the persons who will use the system.

Medical record procedures commonly computerized in many countries include the

Master patient index (M PI);

Admission, transfer and discharge/death (ATD) system;

Disease and procedure index; and

An automated record tracking system.

Devise strategies in preparation for an EHR

When determining strategies in preparation for the introduction of an EHR system, it must be kept in mind that the institution/country is in the process of introducing a major change within the healthcare delivery system and managing that change effectively and efficiently will be crucial to a successful outcome.

Strategies should include the identification of critical factors to success.
They could include, but may not be limited to, a strategy for:
a) Patient identification
b) Documentation standards – for the exchange of information
c) Incorporation of provider signatures
d) Education and training of all staff – medical, nursing, administration, and clerical
e) Storing electronic health records
f) Risk management
g) Quality assurance
h) Personal Health Records – with the current trend for patients to be more involved in their own healthcare personal healthrecords are playing a greater role in healthcare in many countries

The Steering Committee will also need to determine how they will communicate the planned changes and market them to providers and consumers. In addition, work practice issues need to be addressed as well as possible issues and challenges that may cause problems and delay in implementation such as lack of available personnel with technical expertise to operate the system; lack of data processing facilities; and staff lacking computer skills.

a) Patient Identification
As mentioned many times, an essential step to be taken when preparing for the introduction of an EHR is to ensure that all patients are uniquely identified at all times. Some form of Unique Patient Identifier is essential to provide the linking mechanism that underpins the EHR. In many countries, national patient identification numbers are already being used. If this is the case in your country, you are already on the first rung of the ladder to implementing an EHR. If it is not possibleto have a national identification number, the current system used for patient identification should be used and adapted if required but if there are problems with patient identification that need to be solved before moving forward. As previously mentioned, identifying information should be stored ina Patients' Master Index (PMI) and would include demographic information such as:

- a unique patient identification number
- medical record/hospital number
- date of birth
- sex
- address
- And other specific demographic information.

Currently, many institutions have already automated their PMI. If this is not the case, an electronic patients' master index system is essential when considering implementing an electronic health record. Automation would require a group of programs, accessed by users via display terminals, and/or printing terminals. The programs would be designed to enable access to the information held on the PMI file, and to build or modify the file information as required by the institution.

b) Documentation Standards for Information Exchange

Just as there are a set of standards for manual medical records and medical record services, there also need to be standards in electronic health records systems. The Steering Committee needs to ensure that standards are in place to address definitions of data to be exchanged, the timing of the exchange, the management and integration of data to support patient care, and the evaluation of healthcare services.
There are several accredited standard-developing organizations operating in the international healthcare industry, the most well-known being Health Level 7. This organization and the standards they develop are known as HL7. These standards are developed to provide a structure that defines data and data elements and specifies how data is coded. Specifications developed by HL7 include the widely used messaging standard that enables disparate healthcare applications to exchange key sets of clinical and administrative data. Such standards have been developed specifically to create flexible, cost-effective approaches, standards, guidelines, methodologies and related services for interoperability between healthcare information system(HL7 2005). Theuseofinternationallyacceptedstandardsinindividualapplications will improve the integration of the application with other applications in the system. A decision needs to be made as to which, if any, standards organization the institution/government will use. In many commercial EHR systems standards are already imbedded within the program.

c) Incorporating Provider Signatures
In an electronic health record, as in manual records, treatment and medication orders must be signed. The authenticity of an electronic signature is extremely important particularly when the record is used for documentary evidence in legal cases. In an electronic system, authenticity is often easier with documents automatically stamped with date, time, and user identification. Some systems use the provider's password as verification of their signature. This is accomplished by requesting that the password be entered a second time for verification.
Some countries do not see this as sufficient and plan to use a digital signature created cryptographically. Cryptography keeps data secret through mathematical or logical functions that transform intelligible data into seemingly unintelligible data and back again so as to authenticate the user and provide non-repudiation. That is, it is a process that enables positive identification of the sender of a computer message so that the sender cannot deny sending the message

d) Education and Training
One of the most crucial issues when preparing to introduce a major change in any organisation is the training and education of users of the system. The change from a manual medical record system to an electronic health record system is a major change and many people – healthcare professionals, administrative, clerical staff – need to be thoroughly trained if the change is to be successful. Resistance to change or hesitancy in electronic documentation needs to be addressed and although some staff may still be hesitant, they may be willing to become involved. It is extremely important to gain the confidence of all staff particularly medical and nursing staff. As the major users of the system, doctors and nurses need to understand how the system will function and be confident that all legal and ethical issues will be safeguarded.

e) Storing Electronic Health Records
A strategy needs to be in place to address the storage of electronic health records. As for manual medical records, the electronic health record needs to be maintained in an accessible media for future retrieval for patient care and other uses such as research and teaching. The Steering Committee should identify whether previous health records will be scanned and included as part of the system, how they will be stored, and if the system will include emergency attendances. The strategy should include what type of media will be used to store the HER Primary storage is usually maintained in the central processing unit (CPU) with information readily available

online. When developing a strategy for storage, itis importanttorememberthat speedand backup are important considerations as it must fully support continuous and instantaneous access to data. Secondary storage also needs to be considered. An EHR system stores huge amounts of data and decisions need to be made on the type of storage device to be used. The better-known devices are magnetic tape, hard disk systems, and optical disks. The latter are well suited for storing multiple media including images such as x-rays. It may be on-line to the CPU for real time access or off-line requiring on-line loading.
Other questions and issues on storage to be addressed would include:
• What are the environmental conditions? Are there any physical hazards?
• What control will there be for equipment and media? Whomay have access?
• What contingency plans are in place if the system is down – secondary or back-up copy?
• What will the storage period for each record type be? – local laws need to be taken into consideration; and
• A plan is in place for the transfer of electronic health records to new media before degradation occurs.

f) Risk Management
A risk management strategy should be in place to address any foreseeable barriers to the implementation of an EHR. Elements of this strategy should include plans to:
• Ensure adequate funding is available to provide the source applications, hardware infrastructure and implementation resources with a funding/financial management plan in place to incorporate ongoing needs
• Ensure sufficient skilled resources, both human and technical, are available to provide program management during implementation and to give on-going support
• Develop and implement a marketing strategy to promote the benefits of the proposed EHR to consumers and healthcare providers such as brochures or a newsletter to keep personnel up-to-date with developments

g) Quality Assurance
This strategy should set out the aims of an EHR, which should include improving health outcomes, population health, and the management of health resources and services by:
• Providing better information for clinicians to make decisions about treatment and care planning
• Supporting a best practice, evidence-based health system
• Increasing access to information for medical audit purposes
• Providing decision-support to allow clinicians to make the best treatment decisions for their patients
• Ensuring the availability of medical alert and prescription decision-support to reduce adverse events
• Providing information to support an understanding of service utilization patterns and better service planning

h) Personal Health Records
A decision as to whether a personal health record (PHR) will be an integral part of the EHR plus the form it will take should be determined during the planning stage. In some countries a personal health record is provided via a smart card, like a plastic credit card. It is used to store patient information including identification and demographic details, allergies, and blood type, as well as current health problems and medications. They may also include the patient's photograph for positive identification. Patients carry their smart card with them when they attend a

healthcare facility and present it to the provider who processes it via an electronic card reader. The card is not part of an electronic network and provides detailed accurate information that is readily available. Such personal health records are popular in some countries and contain varying levels of information.

Develop policies for use in an electronic health record system.
Policy development is essential to ensure that existing policies have been revised and redeveloped to address the implementation of an electronic health record system. A policy is a basic guide of action that prescribes the boundaries within which activities are to take place. It is important to identify how the proposed automation of health records will affect existing policies and procedures and revise them accordingly. Some policies requiredmay include:

a.) Information Flow
In a simple EHR system the information flow for inpatients should be the same as for a manual system except that data will be entered at the nurses' or doctors' station in theward via an electronic device with other data transmitted electronically from other departments where the patient has received tests, treatment, etc. An existing policy on information flow should be reviewed and revised to incorporate electronic data entry. The actual entering of clinical data at the time the provider visits a patient has been an important factor that has restricted the implementationof a fully electronichealthrecordinmany institutions.
To overcome this problem, data entry has been improved by using a structured format that prompts the provider.

b.) Work Flow
Current work-flow policy needs to be reviewed and revised to meet the demands of the electronic system as there will be many changes particularly in theMRD. Work-flowvaries from one healthcare setting to another and needs to be clearly understood and documented before implementation.

c.) Content and Format of the Health Record
The current paper record content and format should be assessed to see if they are suitable for adaptation to the electronic system. Forms may need to be redesigned to enhance data entry. The record formatneeds to be of a kind that will ensure efficient retrieval of needed data. In a manual system, procedures should be in place to enable correction and amendments to data entry in health records with strict guidelines for correcting data and reports. The same will apply to electronic data entry. In paper records, corrections in a record entry are easily identified. This may not occur in an electronic record and the computer program should provide an audit trail that shows when changes were made and by whom. Policies on how data is to be validated also need to be in place as well as rules for the completion process following the discharge of an inpatient (that is, how clinicians complete their records). Completion of a health record by the attending physician should be done at the time of discharge.
Astandard form of patient consent for treatment needs to be designed with detailed policies and guidelines for its use, including how the patient's signature will be incorporated. In many cases the signed Consent Form is scanned and included in the EHR.

d.) Downtime Policy
A policy and procedure needs to be in place to address issues relating to downtime and backup. How the system is to be backed up is an important issue and implementation cannot take place until this has determined.

e.) Printing Policy
There needs to be a policy on printing documents. It must be determined for what purposes a record will be printed. Ideally, for patient care, all entries and retrieval of data would be via thecomputer. Copies will be printed and will be traced by an audit trail to identify users who have printed reports from the system. This is to ensure that the patient's privacy has been maintained.

f.) Retention Policy
It is critical to determine the length of time documents and data is to be retained. Information will need to be culled and a policy needs to be developed to cover what data will be retained and for how long. Other policies and procedures that may be unique to your institution and should be in place before proceeding to implementation should be identified and addressed.

Next Steps in the Planning Process
The next steps in planning for the introduction of an EHR would be to appoint a team to oversee implementation and establish a number of working groups to assist with the development of policies relating to specific tasks.

1. Appointment of an implementation coordinator and an implementation team
Skilled information management personnel and a well-trained technology workforce are essential for successful implementation of an EHR. An appropriate organisational structure also needs to be in place and key users made ready.
The institution/country should determine whether the Steering Committee will be given the task of implementation or a team of dedicated staff delegated for the purpose. Some members of the Steering Committee may be ready to move on as their specific task has been completed; some may not feel able to be part of the implementation team, while others may be both willing and competent to participate in the implementation. Given the critical nature of the implementation phase, however, two groups may be required – the
Steering Committee to see to the overall implementation and a dedicated team to undertake specific tasks as outlined in the plan. An implementation coordinator will lead the implementation team and may have a title such as Program Coordinator or Project Manager. This person may be a member of the Steering Committee, someone already on staff, or someone specifically employed for the task. Alternatively, theinstitution/country may wish to employ a consultant or outside advisor with abroad range of experience in health information management and electronichealth record implementation to assist the Steering Committee.
The implementation team leader will be responsible for coordinating the implementation of the new system. The person appointed or contracted for this role must be respected and valued by his or her peers, be a goodcommunicator, a strong leader with good negotiation and problem-solvingskills.
The implementation team (whatever its form) should include askilled workforce with the expertise to support the Steering Committee, implementation coordinator, and potential users. Remember that it isextremely important that all potential users are involved in the formulation ofpolicies and guidelines to foster participative decision-making – vital to the successful introduction of the new system.

2. Establishing a number of working groups for specific tasks

A number of working groups need to be identified and appointed for each specific responsibility such as a/an:

a.) Information Security Group – to deal with medico-legal aspects including privacy and confidentiality issues

b.) Education and Training Group

c.) Quality Assurance Group

More groups may be required and the Steering Committee, in conjunction with the implementation coordinator and team, need to identify areas needing special attention.

a.) Information Security Group – medico-legal aspects including privacy and confidentiality

The Steering Committee should appoint a team to develop and maintain a medico-legal checklist, incorporating government regulations, to guide the implementation and on-going use of the EHR. Remember that measures need to be directed at ensuring appropriate security and storage of information to prevent improper disclosure.

Within the institution/country an Information Security Policy should Executive Steering Committee Providers and users Implementation Coordinator Working groups Implementation be in place, with standards, implementation guidelines, and an action plan. Compliance with such a policy will safeguard the accuracy and completeness of information and ensure that:

• Only authorized persons have access to healthcare information

• Dependant privacy policy and related legislation are upheld

• Information is stored and handled in a secure manner

Implementation of an Information Security Policy will ensure that information related to health encounters will be protected from unauthorized access when the EHR is operational. It is important to remember that for a manual health record system the privacy and confidentiality of patient information in an electronic health record must be protected at all times.

b.) Education and Training Group

Atraining team needs to be in place to develop education and training programs. As previously discussed, on-site training is required to address work practice issues and develop a group of competent users, confident in their knowledge of the proposed system and ready to accept the change. The Steering Committee may identify the need to have more trainers than staff on-site during early preparation for the introduction of an EHR system.

Systems have been known to fail because individuals required to use the system have not been adequately trained and do not understand andthe system. They also may not have been involved from the beginning of discussions and negotiations. Training, however, should commence with the more interested users with keyboard skills and a better knowledge of computers who will subsequently be used to promote to the less interested, motivated or skilled persons. Remember, a key ingredient for successful implementation is user-involvement from the beginning. It is critical to success so too is training.

The first step would be to conduct a needs assessment to determine the level of training required for all data providers and data users. From this assessment, the Education and Training Group will be able to identify thetrainingneedsof users, determine contentofthe training program and methods of teaching and set up a schedule for classes. When the above has been completed the group needs to determine the location where training will take place and what hardware and software will be needed. It is also important to estimate the costs of training and how the programs are to be evaluated.

From the needs assessment it may be found that not all users need training at the same level and that different levels of classes need to be conducted. The first group to be trained should be the trainers and a program (specifically to “train the trainers”) needs to be designed and

implemented. This group will then take on the responsibility to train the rest of the providers and other users.
Training will be an on-going function and will not stop when the system is up and running. There will always be new providers and users requiring training before using the system.
It may be wise to consider some one-on-one training sessions for clinicians who may be reluctant or too busy to attend group sessions.
The training group would need to:
•Prepare a training program with clearly stated learning objectives. The program should aim at not only educating staff but also ensuring that the value of the EHR in healthcare delivery is understood.
•Starttraining sessionswitha "trainthe trainers" program to enable the development of a training workforce.
•Present the programs clearly and enthusiastically enabling handson experience.
•Encourage members of the health services to commit to reviewing work practices and endorse the changes required to implement the EHR for maximum efficiency gains.
•Prepare staff to participate in defining the new work practices and developing policies and guidelines to promote user-ownership and increase compliance.

c.) Quality assurance group
A quality assurance coordinator and team should be established to oversee that data collected and processed are accurate, reliable, and organized in such a way that they are both readily understood and available when needed by healthcare providers. To ensure that documentation meets the required standards, quality assessments must be undertaken beforehand and continued on an on-going basis.
Poor quality data is a major hindrance to planning and decisionmaking and data quality is an important concern for healthcare institutions and governments, regardless as to how data is recorded and processed.
As shown in the following diagram the working groups will be responsible to the Steering Committee and should report back to the Committee on a regular basis.
Remember that an essential requirement for the successful implementation of an electronic health record system is the cooperation and commitment of all staff to the new system, including administration, medical and nursing staff, other healthcare professionals, and computer and clerical staff. It also must be remembered that just selecting an electronic health record system that has been implemented elsewhere and expecting it to work for your institution /country could cause disappointment if it does not meet your perceived needs or available resources

Factors to be considered when developing an EHR Implementation Plan
When the type of EHR system has been determined, goals identified, issues and challenges recognized and addressed, some strategies devisedanddocuments relating topolicies and procedures covering the proposed EHR System prepared the next step is the development of an implementation plan.
Some factors for consideration when developing a plan for implementation are outlined in this chapter.
The implementation plan should show all steps required to move from a manual medical record system to an electronic health record system. A successfully implemented HER system should promote and meet the specific, stated EHR goals of the institution/country. Most importantly, it should also improve the overall performance of the institution and the services it provides.
A sound implementation plan can mean the difference between success and failure
A factor to be Considered It is extremely importantwhenplanningforachangetoan EHR to anticipate the impact of the introduction of work-flow, productivity, users, and patients.

There are many factors to be considered when developing a plan for implementation for example:
1. What computer systems does the institution currently have?
2. What form will the implementation take? Will it be phased in? How?
3. How will past data be integrated and old data retained?

1.) What computer systems does the institution currently have?
Determine iftheproposedsystemwouldbe compatiblewith electronic data systems (if any) already in use by the institution/country. They may include:
• Electronic Patients' Master Index (PMI) –As outlined previously, an electronic patients' master index system is essential and, if not already in place, should be the first step undertaken when changing to an electronic health record system.
• An Automated Patient Administration System (PAS) – This would also be critical for the effective operation of the proposed system. An admission, discharge, and transfer system enables staff to maintain a file on all patients awaiting admission, currently in hospital, transferred within the hospital, recently discharged or diseased. It enables authorized users to have direct access to the patient's information. It also automatically generates the bed census and other daily statistics required by the administration.
• Clinical Systems – In many institutions/countries, systems are already in place that are capable of reporting results – laboratory, pathology, radiology, treatment orders and medications, surgical reports, discharge summaries, etc. Some specialized units offer forms of clinical documentation may have already been implemented.
• Automated clinical coding and disease and procedure indexing – in many institutions/countries computer-assisted coding of diseases and procedures is conducted on-line. If this is not the case in your institution/country this is another important area to be developed and implemented. With such a systemthe use of a standard medical vocabulary is essential. With the use of automated clinical coding, data quality will be monitored automatically.

2.) What form should the implementation take?
The Steering Committee needs to determine whether they want to move into full implementation, have phased implementation, or start with implementation at a pilot site. The readiness of the site, readiness of all users to accept change, and the availability of funds for implementation are a few of the issues that may influence the
Committee in its decision on the form implementation should take.
• Full Implementation - In an environment with a strong technical infrastructure, the tendency may be for full implementation. Thiswould require detailed preparation with all technical requirementsin place and working telecommunication infrastructure fullyoperational, the system tested thoroughly, and all staff ready and fully trained. Ifthis is thedesiredimplementation,dataforall active patients must be uploaded immediately before the cut-off – that is, identification and demographic details of all patients currently in hospital uploaded into the new system. Decisions need to be made as to whether the electronic system will run parallel to the manual system for a trial period or take over completely from the manual one. Running parallel systems would ensure backup, but sometimeswhensystems running parallel it's oftendifficult to cut-off later. If the above issues have been addressed and the institution/ government see a possibility of successful implementation, it may be best to have a complete cut-off from the manual system upon full implementation of the EHR.
• Phased Implementation - The second option is to phase-in implementation unit-by-unit. This appears to be preferred by many institutions/countries thatrealise the introductionof an EHR system is an enormous task with significant change required. It may also be themost appropriate planfor developing countries. With limited resources, both technical and human, phased

implementation could help to manage the impact of the change. Initially, some institutions/governments may prefer limited implementation with a pilot program. A pilot program could enable the institution/government to determine the project's potential, assess its value, and determine the institution's readiness for the system, or buy time to gain user acceptance.
Otherreasons for conductingapilotprogrammay includedifficulty in managing a major change due to inexperience of the workforce and users, limited staff and technical support, insufficient funds for such a change, or uncertainty as to whether the new system will actually work.
The Steering Committee's decision on the form of implementation needs to be based on all the relevant facts and considerations, including costs, the readiness of the site, users and the system. If the decision is to phase-in implementation the first site should be carefully selected. The first site should be one that is self- contained with fully trained staff to test the system. The unit should not be too big or too small. Interest of users is another factor to consider when selecting each site and the order the EHR will be implemented. When the first unit has completed implementation the committee and implementation coordinator should be able to assess the impact on users and patients, work-flow, and productivity before the next phase is implemented. Once it is determined that the system is working well, the next unit or units should be phased in one-byone until all departments/units are online.

3.) How will past data be integrated and old data retained?

By this stage, the Steering Committee needs to have decided how past data will be integrated and old data retained. Questions and suggestions toconsider include:
• Will all old records be scanned and made part of the electronic record when the patient first presents for care after the new system is introduced?
• Will old records be scanned and kept in a secondary storage device and brought into the new system if and when needed?
• Old records will not be scanned but summary information of a patient will be entered into the electronic health record when the patient attends for the first with the new system in place.
• Old records will be scanned and remain in manual storage for a prescribed time before being destroyed. It is important to note that scanning past records could be very costly and that there are other options stated above. If all old records are scanned, a percentage of them will be records of patients who will never return to the facility.

Development of a Comprehensive Implementation Plan

When the form of implementation has been determined, the Steering Committee and implementation team need to ensure that the institution/government is ready to move forward. The next steps would be to:
a) Select the best system to meet the needs of the institution government
b) Determine that the required technological infrastructure is in place
c) Determine what clinical data capture and data retrieval is required and what current data collection is redundant
d) Ensure that important policies and procedures are clearly documented

a.) Select the Best System

Know what you want. There are many commercial systems available but individual institution/country requirements are different and the system MUST be able to meet local needs or be able to be adjusted to do so. That is:

• Select the EHR system that is right for your institution/country

What system will best meet the needs of the institution/government? The institution/government, through the Steering Committee, needs to determine whether they want to build their own EHR system, or buy or lease one from a reputable computer systems vendor. All have a significant cost attached. Building one's own system could be time-consuming and expensive but should enable the organisation to design one to meet their specific needs. This, however, would require a high level of expertise that may not be available in the institution/country.
Purchasing a system already developed and implementedelsewhere would have an initially high financial outlay. As there are many EHR systems on the market selecting the one most suitable would require detailed investigation to ensure that it will meet the anticipated definition, needs, and goals of your institution/country.
Leasing the EHR system would enable access to software applications managed off-site. The initial costs would be less than for the other two options but may prove more costly over a long period of time.Whatever system is determined must be compatible with systems already installed and also with other institutions with whom the institution wishes to share information and needs to interface with.
Athorough cost-benefit analysis should be conducted to compare the options against each other and the costs of any proposed system against the perceived benefits, so as to determine the value of the system to your institution/government.

• **Look at the total picture before committing to a specific system**
What you also need to know in selecting a system are the clinical information needs of your institution/country. That is, determine what is to be captured, stored, and viewed to support the EHR objectives. Developing a framework defining how clinical information is to be captured and represented such as lists, views, or reports in the proposed EHR is essential. The purpose of the framework is to help people developing or selecting the system to decide:
• What information should be recorded?
• How this information is to be described and classified; and
• What are the collection and retention priorities for information?

b) Technological Infrastructure

The technological infrastructure is how hardware and software work together. There are many types of computer system infrastructure and the Steering Committee should review the current (if any) infrastructure and determine what is needed to ensure that the right technical infrastructure is available for the proposed EHR system. Briefly, it should include:

•**A Central Processing Unit or operating system** – The central computer performs all processing and storage functions and sends and receives data to and from terminals and printers.

• **Input/Output devices** – Current devices, if any, need to be assessed to see if they will meet the needs of and are compatible with the proposed system. There are numerous devices availableand the type to be used must be compatible with the proposedsystem
• **Network** – If the institution already has a set of computers, ensure that they are linked to enable the sharing of software and data. It may be a Local-area Network (LAN), a Wide-area Network (WAN), or a Wireless Local-area Network (WLAN). An efficient EHR system depends on linking information from many sources. With an EHR system, two other network configurations using internet technologies are used, intranets and extranets:
An intranet uses Internet technology that enables users to find, use, and share documents.
Extranets are used to connect a given institution to its users and business associates outside the physical location of the institution – these would be necessary if a longitudinal health record was planned.

Supporting software – These are programs or instructions that direct the processing of data in computers.
Operating system software identifies input from external devices, sending output to terminal screens, keeping track of files, and controlling peripheral devices such as printers.
Application software makes applications perform their functions.
Application integration/interface is software designed towork togetherwithoutany external intervention. Interface facilitates the exchange of information across different systems.
Messaging standards are also called interoperability standards or data exchange standards.

c) Clinical Data Capture and Data Retrieval

What is required and what current data collection is redundant.

• Clinical Data Capture

This is where findings and actions are documented by providers healthcare and data obtained about a patient in real-time. How the data is to be captured is important and must not be complicated or time-consuming. Decisions need to be made as to how data will be entered and could include free-text entry or structured data entry from pull-downmenus. Most clinicianswouldprefer 'free text' by keyboard, dictation, voice recognition, or handwriting recognition. Technology is available for all these methods but there are a number of issues involved with their use and the Steering Committee/implementation team will need to investigate all possibilities and make a decision that will best suit the needs of the institution/government.

• Clinical Data Retrieval

When obtaining healthcare data in real-time, access menus and navigational devices are used, such as a mouse, keypad, and scroll keys and so on, used to move data through parts of a computer screen. They are important as they enable a healthcare provider to retrieve data directly from the system. This is another area that needs to be fully investigated so as to ensure that the system selected or developed will enable data to be readily retrieved for patient care.

d) Policies and Procedures

As mentioned previously, policies and procedures may need to be revised to encompass the change to an electronic system. The readiness of the institution/country for the change is extremely important and a change management strategy must be in place to ensure a smooth transition. Change management techniques should be used to help health professionals adopt a different form of documenting and using health information.

• Confidentiality and Security setup

As mentioned previously, security must be in place to ensure that all medico-legal issues including privacy, confidentiality, and security are addressed. Security arrangements should be clearly documented and communicated to all potential users.

• Education material prepared and training programs for users commenced

Education programs should start as soon as possible, but not too early that information is forgotten before it can be applied, to ensure that all users are adequately trained by the time the system is ready to 'go-live'.

It is important to remember:

The administration needs to plan, advice, and educate staff, and work with providers and patients to ensure a smooth transition. All the above factors need to be considered along with others that may identified and unique to your institution/country. The decision to go aheadcannot be rushed. The institution/country needs to ensure that all issues and challenges are addressed, policies revised, and staff trained. They also need to be clear as to where they are heading and confident that they are ready to move forward.

Implementation Plan

The Steering Committee, implementation coordinator, and team should now have a thorough understanding of the environment in which the system will be functioning; the information needs of the institution, functional requirements to ensure the system will work, and most importantly be confident in their ability to effect change. They should understand theoverall scope of the proposed system and have decided what information willbe loaded into the system before going live.

The decision to convert to an EHR all at once or in stages will also have been made. Assuming the decision was made to phase-in the system by unit or department a timeframe for implementation for each unit should be prepared. The first unit may take longer to implement the system than subsequent units. As the first implementation will be a trial, the plan may need to be modified before proceeding to other units. It is important for the implementation team to ensure each phase is functioning well before moving to the next unit or department.

There may be some unit managers who are ready and very keen to start while others may not be fully confident and wish to see how it works in other places before implementing. This should be taken into account when determining the sequence of units for implementation. When overall phasing has been determined and timeframes established, detailed tasks should be plotted on a plan. Remember that the plan could cover hundreds of tasks. It is a huge undertaking so successful implementation is particularly important. Thoroughly addressing all the relevant issues beforehand will help guarantee success.

Timeline for Implementation

The timeline forimplementation will vary from institution to institution and will be dependent onwhetherthe institution/country has decided to implement the EHR system all at once with a "big bang" or phase it in by unit/department over a longer period of time.

Each step of the implementation plan should have its own timeline to coincide with the overall project plan for implementation. The timeline or project plan should be mapped out on a large board. Quite often white boards are used to enable changes to be made if or when required. Items would include a detail list of EHR project tasks with a timeframe for each task. Implementation may take days, weeks, months or even years. A realistic timeline should be prepared if possible but everyone should be prepared for changes if problems or unidentified issues arise which may cause a delay in implementation

The plan should contain the steps previously discussed such as the:

Review of current medical record system

Identification and addressing of issues and challenges to beaddressed prior to implementation

Establishment of a Steering Committee

Preparation of a clearly defined statement of the type of EHR to be implemented

Identification of perceived benefits to the institution with the introduction of an EHR system

Preparation of a list of clearly stated goals and strategies for implementation

Review of current medical record policies and procedures anddevelop them to cover proposed changes

Appointing of an implementation co-ordinator and team

Establishment of working groups

Security and Confidentiality Group

Prepare a confidentiality, security and privacy policy

Education and Training Group

Prepare education programs

Prepare the education site

Identify participants

Commence training
Quality Assurance Group
Prepare quality assurance guidelines and policies
Determine record structure and content
Ensure a patient identification system is in place
Determine an effective means of obtaining the patient's informed consent
Introduce data standards and the use of a common terminology
Other
Determine technology infrastructure required
Cabling
Terminals
Other
Determine telecommunications infrastructure required
Determine how system will be phased in
In addition the plan should also include:
Site preparation; and

System testing.

1. Preparing the Site

The sites forimplementation need to be prepared. The extent of the system will determine the number of areas needing preparation. For example, will there be terminals for data entry and retrieval in all wards in the hospital, all outpatient rooms, and other patient service areas? Before the system can "go live", the technological infrastructure needs to be in place with data entry facilities in all point-of-care areas. For inpatients, theywould include the admissionoffice,wards, and other areas atthepoint-ofcare. For outpatients, they would require the reception area and all consulting and treatment rooms. All required cabling for all devices need to be in place and operable.

If a longitudinal health record is planned, data entry facilities need to be in place in all community care centres and outlying clinics. A detailed plan showing the infrastructure needs to be prepared and displayed.

2. Pre-test the System

When the site has been prepared with the appropriate infrastructure, the software in place, all issues relating to confidentiality and security addressed, and all users trained (including healthcare professionals, technicians and clerical staff), it is time to install and pre-test the system at a point-of-care area in conditions that closely reflect actual situations.

The decision as to where the system will be pre-tested should have been made using a set of selection criteria which include technical factors such as the level of expertise of the staff, infrastructure support, and staff support (WHO, 2004). In addition, different levels of staff need to participate in the pre-testing, especially health professionals who will be both providers and users of data. The length of time the system will be pre-tested needs to be determined. Finally, the system needs to be monitored during pre-testing to identify any problems and to enable informed decisions to be made with regard to further implementation.

Determine Readiness

Questions which should have been asked to determine readiness include:

• Are there any barriers still to be overcome?
•Has everyone who will be involved been trained and are they ready?
• Have anyproblems identifiedinthepre-test ofthe systembeen reported and corrected?
• Are we ready?

If all these questions are answered positively the system is now ready to implement.

System Start-up

The day selected to "go live" should be on a weekend or a day when there are few patients expected. The institution may be able to re-organise admissions and close some outpatient areas. This would need to have been decided much earlier. In addition, it is important that on the day all staff is available and ready with support personnel available to provide assistance as needed. If the system was purchased from a computer company, key members of their staff also need to be onsite. When all pre-requisites have been addressed, a detailed implementation plan in place, the site ready, all users and support staff trained and ready, and the system pre-tested, the next step is implementation.

It is now time to 'go live'! Correct course if needed, and enhance the system. As mentioned many times, a major change such as the implementation of an electronic health record system is an enormous task and the staffs needs to be on the alert for any problems which may arise. That is, expect the unexpected. When the first unit/department has gone live it is important to review and correct any identified problems or issues as soon as possible. If it is not what was expected, it is a signal for course correction. When problems are addressed and expectations met, the results can justify further enhancements to the system.

Conclusion

The principal benefits identified for the introduction of an electronic health recordsystemare:-
Supportingpatient careandimprovingthequalityof that care.

Accurate and timely health information, which is accessible when needed by both providers/users and consumers has great advantages for the healthcare of all individuals and would enhance the health and welfare of the community.

It will also enhance the productivity of healthcare providers in the delivery of care, and be a strong support to clinical and health service research.

Implementation of EHRs has been said to revolutionise how we collect, store, and use health information. Patients are expected to become more involved in healthcare decisions when electronic systems provide them witheasily accessible and accurate information about their health problems andcare. It is often advocated that healthcare practitioners tend to deliver better healthcare by being able to more efficiently provide up-to-date details of a patient's healthcare to others involved in treating the patient and by having better access to best practice and the latest research findings.

BIBLIOGRAPHY

1. Benjamin, Bernard 1980, Medical records William Heinemann Medical Books Ltd. 2nd Edition London, UK.

2. Huffman, E.K, Medical Records Management

3. , MEDICAL RECORDS JOURNALS BRITAIN

Learning Objectives

Students should be able to:-

1. Define a waiting list
2. Describe the functions of a waiting list.

3. Explain the types of waiting lists
4. Describe how to maintain a waiting list
5. Explain the methods of filing to be used.
6. Describe the procedures used in admitting patients.