



Module 1 - The Health Record – From Paper to Electronic

In this first Unit participants are introduced to the health record, the forms within the record; documentation and content of a good health record, as well as the uses of and responsibility for a patient's health record.

Participants are reminded of the importance of health records in patient care and are encouraged to develop an acute awareness of all the essential requirements of an accurate, complete health record.

OBJECTIVES:

At the conclusion of this unit the participant should be able to:

1. define what is meant by a "health record"
2. explain in detail the reasons for developing and keeping health records
3. state five general principles of good forms design
4. list and describe the four component parts of a problem oriented health record
5. describe the benefits of a structured health record
6. state the value and uses of the health record together with the requirements for a good health record
7. state the purposes of a health record
8. describe the development of a health record from admission to the discharge of a patient in a hospital
9. design health record forms for use in a hospital or primary health care center
10. identify the purpose of health record forms and describe what information should be included on each form
11. identify who is responsible for the health records in hospitals or health centers and explain this responsibility
12. describe the activities of a Health Record Committee and state who should be included on such a committee.
13. identify the basic concepts and challenges of the electronic health record.

A. THE HEALTH RECORD

A health record is a written collection of information about a patient. It is derived from the patient's first encounter or treatment at a hospital, clinic or other primary health care centre. The health record is thus a record of all the procedures carried out on that patient, whilst he is in 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. As a document it may appear in many shapes and sizes with varied information related to the care of the patient recorded by many persons 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 systems, the information may be recorded digitally in a computer; the sheets of paper scanned onto optical media or the actual sheets may be microfilmed.

Huffman (1994) defines 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 standardised 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 sufficient forms to cover the needs of the 'centre', without unnecessary and useless forms. The forms should be of a standard size within each record system.

B. PURPOSE OF THE HEALTH RECORD

As indicated above, a good complete health record should encompass all information about a patient's health, ill health and treatment over a period of time and be readily accessible.

Health records are kept for:

1. communication purposes

2. continuity of patient care
3. evaluation of patient care
4. medico-legal purposes
5. statistical purposes
6. research and education
7. historical purposes

1. Communication purposes

Health records are kept initially for communication between persons responsible for the care of the patient for present and future needs. Many health professionals often see a patient. In a hospital the registration staff collects identification information and finds out the patient's financial status. While under care, others who may be involved in looking after a patient and who contribute to the health record include:

- all medical staff including consultants, physicians, surgeons, obstetricians, etc
- nurses
- physical therapists
- occupational therapists
- medical social workers
- laboratory technicians
- dieticians
- medical students
- radiologists, etc.

All the data collected about a patient must be recorded and coordinated. The findings of each professional must be available for others to perform their function intelligently, especially the doctor responsible for the patient who must make the final diagnosis and order treatment on the basis of all the documented findings.

This first use of the record is a personal one and is in the interest of the patient for both present and future care.

2. Continuity of patient care

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 current symptoms. Communications on the basis of the health record is essential between hospitals, clinics and primary health workers in contact with the patient. It is vital that the primary health worker, 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 information management department in a hospital or clinic, in this context, is as a service area, that is, medical records should be available for patient care whenever needed. 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.

3. 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 information management of a hospital must meet predetermined standards. Accreditation by this Board leads to increased status and is necessary for acceptance of post-graduate trainees in many areas.

Other methods of evaluation of patient care in hospitals include:

- a) Patient care committee - meets regularly and may review samples of records and evaluate the standard of care recorded.
- b) Peer review - Doctors of a service may evaluate the work of each other and the unit through the records.
- c) Hospital administrative committee - may evaluate the standard of care in a particular ward or by a particular physician or surgeon.
- d) Statistics - derived from records may also be used in assessment of standards. This may be within the hospital, for example, evaluating the infection rate in a particular ward or for a particular operation or between clinics, hospitals, states or countries, in which case the statistics are used by Government Departments such as the Department of Public Health, Bureaus of Census and Statistics or non-government organizations such as the World Health Organization. In most countries the Department of Public Health also requires notification of communicable diseases, such as tuberculosis, cholera, hepatitis, etc.

4. Medico-legal

Here, the main use of the record is as evidence of unbiased opinion of a patient's condition, history and prognosis, all assessed at a time

when there was no thought of court action, and therefore extremely valuable. It is used both in and outside the court for settlement of such disputes as:

- assessing extent of injury in accident cases
- establishing negligence or otherwise of the health professional or hospital in the treatment of a patient.

This assists in protecting the legal interests of the patient, hospital, and health professional.

5. 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. They are also used in planning for future development.

6. Research and education

In the past, health records have been mainly used in medical research, but demographic and epidemiological information contained in the record is more often used today for administrative and other public health research.

Analyses of the types of people, together with studies of the types of diagnosed illnesses within the hospital, a particular ward or clinic, are essential for planning future services and equipment. The turnover rate of patients is an indication of the numbers of staff required in all departments. The workflow of the hospital or clinic can be analysed once it is recorded in the medical record as it is added to by different health professionals involved in the patient's care. All this information shows the efficiency or otherwise of health planning and communication systems.

7. 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.

C. USES OF THE HEALTH RECORD

The uses of the health record can be divided into personal and impersonal

use depending on whether the user of the record is viewing the patient as a 'person' or as a 'case'. For example, the statistical, research and historical uses are usually impersonal, the name of the patient is not important.

In other cases the use is patient-oriented. When a record is to be used in a "personal" way; an authorization for release of information must be obtained from the patient, unless there is a legal obligation to provide information. The information compiled in the record is private and privileged and given to the health professional in complete confidence. This trusting relationship between health professionals and the patient must not be broken by revealing the contents of the health record to unauthorized persons.

In impersonal uses, however, where the name of the patient is not revealed, authorization is not usually necessary. It is usual to obtain the consent of the health professional in charge of the patient before allowing a record to be used for research. But remember that consideration must always be given to the patient's rights in any release of information.

D. DEVELOPMENT OF THE HEALTH RECORD

- a) The health record usually begins at the registration counter of the clinic or the admission office of the hospital, or the emergency room office the first time a patient presents or is brought in for care or is seen for the first time.
- b) The collection of essential and accurate identification information is the first step in the development of the medical record and will be discussed in full in the next Unit. The essential identification data includes the patient's:
 - full name (family name, given, and middle name or initial)
 - health record or hospital file number
 - date of birth
 - address
 - gender.
- c) If the patient is being admitted to hospital, the provisional or admitting diagnosis must also be included at this time, that is, the reason the patient is being admitted for care should be recorded. The patient is then sent to the clinic, emergency room or unit, whichever is applicable.
 - **In the clinic** - the nurses and doctors record the information collected at this time onto the forms provided, remembering to write the name and hospital file number on the top of every new form used. The person who provides the service should

sign each entry.

- **In the emergency room** - the same procedure as for clinic.
- **In the unit** - the nurse adds data relating to nursing care plan and doctors record their notes on a patient's:
 - past medical history
 - family medical history
 - history of present illness
 - physical examination
 - plan for treatment and
 - requests for laboratory, X-ray or other diagnostic tests.

The doctor continues to record, on a daily basis, writing notes on the patient's progress, medical findings, treatment (including prescriptions for medication), test results, and the general condition of the patient.

Nurses record all observations, medications administered, treatment and other services rendered by them to the patient.

Other health professionals record their findings and treatment as required during the patient's hospitalization.

- **At discharge** - when the patient is discharged, the doctor records, at the end of the progress notes, the condition of the patient at discharge, the prognosis, treatment and whether the patient has to return for follow up. In addition, the doctor should also write a discharge summary, and write, on the front sheet of the record, the principal diagnosis, other diagnoses and operative procedures performed, and sign the front sheet to indicate responsibility for the information recorded under his signature.

E. VALUE OF THE HEALTH RECORD

An accurate and complete health record is of value:

1. to the patient
2. to the hospital, clinic, or other health facility
3. to the doctor and other health professionals
4. for research, statistics and teaching
5. for patient billing.

1. The patient

As the health record contains a complete report of a patient's illness and results of treatment, it is of great value to the patient for -

- a) future care for the same or other illnesses
- b) informing them (by giving access) of their care and treatment, and
- c) as a legal document to support claims for injury, or malpractice.

2. The hospital, clinic or other health facility

The health record may be used by the health facility to evaluate the standard of care rendered by staff and the end results of treatment. If adequate records are not kept, the facility cannot justify the results of treatment. The health record is also of value to the facility for medico-legal purposes.

3. The doctor and other health professionals

The health record is of value to all health professionals caring for a patient. The patient may have been treated by them previously or by other health professionals. The health record enables pertinent clinical, social or other relevant information to be readily available for continuing patient care. In addition the health record is of value for review of certain diseases, treatment and response to treatment.

4. For medical research, statistics and teaching

In scientific research the health record is a major tool. The information within a health record supplies a practical and reliable source of material for the advancement of medical science. This information is also valuable in the collection of statistics on health care and the incidence of diseases, and for teaching future health professionals.

5. For patient billing

Without the information within a health record, payment for services could not be justified. Often the health insurance agencies require supporting evidence for claims - this evidence is found in the health record.

F. CONTENT OF THE HEALTH RECORD

As mentioned previously, a written health record should be maintained on every patient attending a hospital or clinic, or seen in a primary health care

setting. The patient may be an inpatient, an outpatient, an emergency patient, or domiciliary patient.

The health record stores the information concerning a patient and the care given by health professionals associated with the hospital or clinic. To be complete and of use for future patient care, medico-legal purposes, research and teaching, the health record must contain sufficient information to:

IDENTIFY the patient,

SUPPORT the diagnosis,

JUSTIFY the treatment, and

DOCUMENT the results facts accurately. (Huffman 1994)

For better patient care, only **one** health record should be kept for each patient.

Good medical care generally means a good health record is developed and maintained on each patient. An inadequate health record, that is, one that does **not** contain 'sufficient information to identify the patient, support the diagnosis and justify the treatment given (Huffman, 1994), may reflect a poor standard of care given by the doctors, nurses or other health professionals within the clinic or hospital.

The actual forms and their content make up a health record. The organization of data on each form, however, is determined by the needs of each individual health facility. Listed below are forms that are found in a health record.

1. Administrative Forms

- a. The **admission** or **identification** form, which should always be kept at the front of each admission or at the beginning of the outpatient or primary care record. This form contains space for identification and sociological data to positively identify a patient. The type of data recorded here is discussed in Unit 2.
- b. **Consent** forms are extremely important and should be part of every health record. The back of the admission form is generally used for consent and authorisation for treatment data. The form usually carries a statement indicating that the patient agrees to basic treatment.

Separate sections of the forms relate to the consent for release of information. When signed by the patient the health facility can

release information from the medical record to health insurance, workers, compensation agencies and private insurers.

The patient in the admission or reception office of the facility signs both these authorizations. The purpose of the forms, however, should be clearly explained to the patient by the staff collecting the identification and sociological data.

In the hospital situation, special consent forms are required for any non-routine diagnostic or therapeutic procedures performed on the patient. These forms provide written evidence that the patient understands the nature of the procedure, including any risks involved and likely outcomes, and consents to the specified procedure. The patient is asked to sign the form after having all details clearly explained to him/her by the attending doctor. That is, the patient gives *informed consent*.

2. Clinical Forms

Clinical forms for inpatients constitute the bulk of a patient's health record, and include the following:

- a. **Medical history, presenting complaint and symptoms** - This is usually divided into a number of sections and includes space for data relating to:-
 - presenting signs and symptoms
 - previous illnesses and operations
 - family history
 - occupation and social data
 - current drug therapy and treatment.
- b. **Physical examination**, which is used for the collection of baseline data about a patient presenting for care. The content of this form usually includes:
 - general survey and state of health of patient
 - system review - all systems checked
 - vital signs, such as pulse, respiration, blood pressure, temperature
 - provisional diagnosis.
- c. **Doctors orders or plan for care**

Once the data base has been established the doctor records the findings and writes a course of action outlining the planned care and treatment for the patient. These orders should be dated and

signed as should all entries in a health record.

- d. **Progress notes** - These notes indicate the condition of the patient and the response to treatment on a continuing basis throughout the admission. All health professionals should document the care they provide and the patient's response to treatment. Some hospitals use special forms for each specialty, which is not really necessary; as an integrated progress note is more effective.

Progress notes should be recorded at least once a day and more often in cases of acutely ill and critically injured patients.

- e. **Pathology, radiology and other special investigations** - Appropriate forms should be used to record special investigation such as pathology, chemistry, radiography. These forms are often mounted on a backing sheet or in hospitals with a computerized system cumulative reports are generated on a daily basis. Whatever the method it is important to make sure important findings are readily available in the record.
- f. **Nurses notes and graphic charts** - Appropriate forms should be used for all nursing care including bedside notes, temperature, pulse and respiration charts, blood pressure charts, medication and treatment charts. Most of these forms are designed in flow chart sequence.
- g. **Operative and anesthetic and recovery forms** - These forms are important for surgical patients and should contain consent for surgery, pre-anesthesia and post-anesthesia reports, the operation report, and other relevant data required.
- h. **Discharge summary** - All health records should have a final summary of the patient's hospitalization, which is usually referred to as the discharge summary. It should contain a concise summary of the patient's course of treatment and significant findings with treatment on discharge and follow-up arrangements.
- i. Other forms for special services such as **obstetrics, newborn and paediatrics, neurological, physiotherapy, occupational therapy, speech therapy, dental therapy, and short stay admissions**, should be available if required.

3. Outpatient and ambulatory care forms:

- a. Patient history and general findings similar to the inpatient form usually completed at first attendance.
- b. Clinical observations and progress notes.
- c. Pathology, radiology and other test reports as for inpatients.
- d. Special forms for individual specialties caring for ambulatory patients. These would include special diabetic forms, growth charts, home care plan for treatment, etc.

These are only a few of the forms used in health care facilities. Their production should be based on their need and the needs of the health professional caring for the patients. This need will vary from large metropolitan hospitals to isolated primary health care units. Both are important and simple forms should be available for use to meet the needs of the situation.

G. DOCUMENTATION AND RECORD STRUCTURE

1. The documentation of care given to patients during their stay in the hospital is an essential part of the provision of that care. The tool used for this documentation is the patient's medical record is the **WHO, WHAT, WHY, WHERE and HOW** of patient care, and to be complete, the medical record must contain:
 - a. sufficient information to clearly identify an individual patient
 - b. a comprehensive medical history, including:
 - chief complaint
 - history of present illness
 - family medical history
 - physical examination
 - c. detailed progress notes showing the course of the patient's illness, treatment and end results of that treatment
 - d. a discharge summary displaying comprehensive data to justify the treatment, support the diagnosis and record the end results (Huffman, 1994).
2. The content of a health record is developed as a result of the interaction of the members of the health care team who use it as a communication tool. Documentation may be organized according to the source of the data or by patient problems.

3. There are two basic formats that a paper-based health record may take:

a. Source Oriented Medical Record

In a source oriented medical record, the information about a patient's care and illness(es) is organized according to the "source" of the information within the record, that is, if it is recorded by the physician, the nurse, or data collected from an x-ray or laboratory test, usually in chronological order.

How effective is an average health record as a communication tool? Information goes in, but is it easily and readily retrievable? In many cases it is not, because the documentation is often unstructured and scattered in admission notes, medical histories, progress notes, nurses' notes, or in X-ray and laboratory reports, often without reference to the condition or problem to which it refers.

Many experts consider that the answer to this problem is to develop a health record that is structured, and facilitates easy access to information relating to care given to a patient during hospitalization.

Structure refers to a form, which has been planned so that the language and layout are uniform. That is, all persons using the form follow the same format and yet the structure of the record is adaptable to all situations. An example of a structured form appears in Appendix 2.

Structured records are more easily automated and with the present increase in the use of computers in health care, a change from a manual to an automated record system is easier if a structured record format was already in use.

A disadvantage of a fully structured health record, however, is that there is less room for individual description and health workers find it too restricting.

b. Problem Oriented Medical Record (POMR)

One form of structured health record developed to meet these criteria is the problem oriented medical record or the "POMR."

First designed by Dr. Lawrence Weed in the late 1950s, this concept requires the doctor to approach all the problems of a patient, treating each problem individually, in its proper context within the total number of problems and the inter-relationship of the problems (Weed, 1969).

The decision pathway used by the doctor in defining and handling each problem is clear and can be evaluated on the bases of all the facts available.

The problem oriented medical record has four parts:

- | | |
|------------------|----------------------------|
| ✓ DATABASE | Collection of data |
| ✓ PROBLEM LIST | Formulation of problems |
| ✓ INITIAL PLAN | Development of a care plan |
| ✓ PROGRESS NOTES | Numbered and titled |

1) Data Base

The first step in the establishment of a problem oriented health record is a comprehensive database. As with the traditional source oriented health record, the data base should include the chief complaint as expressed by the patient; a patient profile including history of the present illness, past medical history, family medical history, a systems review and results of a physical examination.

2) Problem List

Once the database has been collected, an assessment of the information is made and a problem list is developed. The PROBLEM LIST is kept in the front of the record and can be likened to a table of contents in a book. That is, the problem number and name are equivalent to the chapter number and title. The most conceptual difference between a source oriented and problem oriented health record is this PROBLEM LIST. Another conceptual characteristic of the POMR is problems are expressed at the level of the writer's understanding and do not include diagnostic impressions which are considered as part of the treatment plan.

Before progressing further we should clarify the term "Problem." A problem is anything requiring management or diagnostic workup, that is, a problem is anything that interferes with the health, well being and quality of life of an individual, and may be medical, surgical, obstetric, social or psychiatric.

When constructing a problem list, each problem should be dated, numbered and titled with problem status clearly defined as active, inactive or resolved. The function of a problem list is to:

- register all problems
- maintain efficiency, thoroughness, and reliability in treating the 'whole' patient
- communicate with peers, patients, other health professionals and with oneself
- indicate the status of problems, whether active, inactive or resolved
- serve as a guide for patient care.

3) Initial Plan

The development of the initial plan for the management of a patient's problems, as defined in the problem list, is the third step in planning patient care using a problem oriented health record.

The initial plan should be considered in 3 parts:

- Diagnostic (Dx) - that is plans for collecting more information
- Therapeutic (Rx) - plans for treatment and,
- Patient Education - plans for informing the patient as to what is to be done.

4) Progress Notes

The fourth step in the formation of a POMR is the problem oriented PROGRESS NOTES.

These should indicate:

- what has happened to the patient
- what is planned for the patient, and
- how the patient is responding to therapy.

Progress notes should contain four component parts:

- ✓ **S**ubjective part - written in the patient's own words
- ✓ **O**bjective part - the doctors observation and test results
- ✓ **A**ssessment of progress and
- ✓ **P**lan for continued treatment.

The progress note must be problem oriented. That is, since each

problem must be dealt with individually, each must clearly denote the problem by number and name and be divided into the four components or **SOAP** parts.

This structured type of progress note increases the doctor's ability to deal with each problem clearly and to show the logic of his thought process and decision pathways. If correctly written, both the current level of understanding of each problem and the management of each problem will be clear to everyone involved with the care of the patient, and in evaluating the quality of that care.

Some additional items may supplement the progress notes:

a) Flow Sheet

When dealing with multiple, fast-moving problems, the doctor may want to supplement the progress notes with the use of a flow sheet. Flow sheets provide the most appropriate method of monitoring a patient's progress, and are also used with source oriented health records.

Steps to be taken when designing a flow sheet include:

- ✓ define the clinical setting within which the flow sheet will be used
- ✓ define the clinical status of the patient to be monitored
- ✓ define the monitoring frequency of data collection required to give maximum care.

This is usually specified across the top of the page. The clinical situation in which the flow sheet will be used will usually dictate the monitoring frequency.

Flow sheets are a special form of progress note and may be added to the record if warranted, but do not necessarily need to be put into every problem oriented or source oriented medical record.

b) Discharge Summary

The final step in completing any medical record is the preparation of a discharge summary. In the problem oriented medical record this task is made a lot easier.

When dictating a problem oriented discharge summary, the doctor can briefly summarise the therapeutic outcomes, which

resulted in the resolution of a patient's specific problems. They can emphasise the problems NOT resolved at discharge and outline a diagnostic, therapeutic and educational plan for future care.

The logical display system used in the structured problem oriented health record starts with the database to collect information, followed by a problem list, which helps the doctor decide what is wrong with the patient. This information is placed at the front of the record so everyone caring for the patient is aware of all problems. From the database and problem list, the initial plan for treatment and diagnostic work-up is developed. That is, the doctor caring for the patient decides what to do. The next step is to follow through on the decision by recording problem oriented progress notes using the SOAP method for each individual problem. Progress notes may be narrative or in the form of a flow sheet.

The problem oriented health record is a useful communication tool because it encourages a clear display of medical data and communication between doctors and other health professionals. Appendix 3 illustrates samples of a POMR.

As mentioned previously, a structured health record enhances the application of computers in health record systems, clinical research and teaching. It also improves information retrieval for patient care evaluation and helps elevate the quality of patient care by treating the 'whole' patient and not just isolated incidents or episodes.

The use of a structured POMR, however, is not widespread, particularly in large busy hospitals. It is more widely used in small hospitals, clinics and primary health care centres.

No matter whether a record is source oriented or problem oriented the health information manager should assist medical staff and other health professionals by preparing well-structured forms to enhance data collection and easy access to information relating to patient care at all levels.

H. RESPONSIBILITY FOR HEALTH RECORDS

1. Medical and other health professional staff

The primary function of a hospital, clinic, or other health care facility is to provide high quality patient care to all patients, whether inpatients, emergencies or outpatients. The governing body of the facility, through

the administrator, is legally and morally responsible for the quality of care rendered to patients. This responsibility is in turn delegated to medical, nursing and other health professional staff. As the information within a health record reflects the care given to patients, it is important that the health information management professional understands the responsibilities within the clinic or hospital in order to assist the doctor and other professionals to maintain a complete, accurate and available health record.

Poorly documented clinical information is of little use to a patient during treatment, for future care or for evaluation of the care rendered. Alternatively, a complete well-written health record provides a clear picture of the patient's illness and course of treatment.

All health professionals, including doctors and nurses, can exercise their responsibility to ensure good quality health records through the Health Record Committee.

2. Health Record Committee

Doctors, nurses and other health professionals are responsible for the documentation of medical/health information that meets the required standards for accuracy, completeness and clinical pertinence. The Health Record Committee is responsible for the following:

- Review of health records for timely completion, clinical pertinence, accuracy and adequacy of patient care, teaching, evaluation, research, and medico-legal issues.
- Determination of the format of the complete health record, the forms used and any problems relating to storage and retrieval.
 - a. Membership of the committee should include:
 - the hospital administrator
 - representatives from medical and surgical service
 - a representative from the nursing service
 - representatives from X-ray, Pathology, and
 - a health information management professional.
 - b. Activities of the committee may include the following:
 - The committee should meet at least once every three months and more frequently if required.
 - The committee should establish and/or recommend policies regarding health record documentation.

- Members should study random samples of health records to monitor the quality of recording.
- Members are able to study the trend of clinical work in the hospital using statistics compiled by staff of the health record department.
- Members of the health record committee may wish to conduct retrospective studies or set up some prospective research.
- The health record committee should review all medical record forms, thus eliminating unnecessary duplication of information and attain uniformity of content, appearance, and size.

3. Health Information Management Professional

The health record is the property of the hospital or clinic and serves as a medico-legal document for the benefit of the patient, the doctor, and the hospital or clinic. The health record should contain sufficient information to enable another doctor to take over the care of the patient if required, and for a consultant to give a satisfactory opinion when requested. The responsibility for the accuracy and completeness of a health record rests with the attending doctor. The health information management professional is responsible to the hospital administrator for providing the necessary services to the medical staff to assist with the development and maintenance of a complete and accurate health record.

I. HEALTH RECORD FORMS

Let us now look at the design of the forms contained in the record.

Good forms design is essential in any office to assist in the efficient gathering of data and dissemination of information. Not only can it reduce the cost and time taken in processing forms, but it can also lessen the possibility of error or misunderstanding by staff or the public.

Workers in the health information management field should be aware of the variety of record forms, duplication, and lack of uniformity to be found in many hospitals, clinics and primary health service settings. It stands out quite markedly that there is a strong need for forms control, which, quite clearly, is a very large task.

Whether one works at the administrative or technical level, one should be aware of the essential and recurrent task of correct forms design so that, as

far as possible, they can ensure that all forms are neat, simple in appearance, easy to understand, interpret and document on, by users.

1. Definition of a form

A form could be defined as a prescribed written means of shaping information for communication.

Forms are used to collect, record, transmit, store and retrieve data. That is, they request action, record the outcome of the action, instruct and assist with the evaluation of data. When being designed, the needs of all health professionals involved with patient care must be taken into consideration, as well as the needs of health authorities requiring information about the incidence of disease, outcome of care, as well as demographic and epidemiological data. Forms may also be designed to accompany legislation.

Filling in a form is invariably the first step in data collection. The design of forms, their physical layout, the determination of the data to be requested, and the way, in which it is collected, has an impact the quality and quantity of data collected and subsequent information produced.

2. Forms design

a. When preparing to design a form one must consider the:

- ✓ **need**
- ✓ **purpose**
- ✓ **design**

Standards must be established so that consistency is maintained among forms. There should be fixed responsibility for forms design, so that individuals and departments cannot start their own forms in isolation.

b. The term forms layout refers to a number of issues and can be summarized as follows:

- how the information is displayed on the form
- how material is presented, provided it is consistent with efficiency and economy, attractive presentation is an important secondary purpose
- the order in which data will be requested, must also be considered along with the logical connections between data requested, the space between entries, whether columns, boxes, or highlighting will be used, the size and type of

print, and the need to allow adequate space for entries.

A well-designed form is appropriate to the work in which it is used, permits ease of entry, conveys information or instructions clearly, and is efficient to use. A form should be set out in an orderly way of thinking, for example, bracket all the information of the same sort in one area as a well-structured form points your thoughts in the direction of the information required.

Some forms summarize particular events or record data compiled from other forms, for example, a summary fluid balance form.

- c. Questions to ask before designing a new form include:
- ✓ What is the general purpose of the form?
 - ✓ Is the form really necessary?
 - ✓ What benefits will be derived from the introduction of a new form?
 - ✓ What information is to be provided and what is its general purpose and need?
 - ✓ What are the operations, through which the form will pass, for example, entry of data, sorting of data?
 - ✓ How is it (the form) going to be filed? Where will it be attached - side or top?
 - ✓ Who will the users be? When is the form to be used?
 - ✓ Where will the form be used and what will the associated working conditions be?
 - ✓ Are there any other special features, which need to be considered?
 - ✓ If a signature is required, is it also necessary to ask for the name to be printed?
 - ✓ Does the form state what to do with it when it has been filled

in?

- d. To summarize, the general principles to be considered when designing a form include:
- 1) All health record forms used in the clinic or hospital should be of standard size. They should also be readable, useful and allow for the standardisation of information. The kind and size of typeface, margins, ink, and paper colour and weight, should be standard within a hospital, clinic or primary health centre.
 - 2) All forms should have a **standard format** at the top to include the name of the patient, hospital number, ward, and name of attending doctor. This information should appear in the same place on ALL forms.
 - 3) The correct paper for the task of each form should be chosen with the aim for paper and printing economy.
 - 4) The persons who will be required to use the form should understand the language used on the form.
 - 5) Each form should have a descriptive **title**, e.g. nurse's bedside notes, laboratory reports.
 - 6) All forms should have simply printed **instructions** for use to ensure uniformity in the collection of information. If these instructions are detailed they could be printed on the reverse side or in a separate instruction sheet.
 - 7) Captions should clearly indicate the data to be entered, for example, just name is not sufficient, usually one wants "full name of patient, family name last". The use of boxes is also very good and saves time, for example, male and female categories may be set up in a boxed arrangement as follows:

M F

and the clerk then just has to add an "X" or a check mark.
 - 8) Forms should be **functional** and spacing should allow sufficient room to record the data being requested. If data are to be filled in with the use of a typewriter, this should be taken into consideration when planning the form.
 - 9) If one piece of data depends on another, put the dependent data after the other in the order to be filled in, for example, date

of birth - age; previous admission date. That is, group items into order of action and be logically consistent with related forms so that data are easily used after entry on the form.

- 10) If an automated or other type of embossed imprinting plate addressograph system is to be used, spacing on the form should be provided for the imprinting of patient identification.
- 11) The use of color is effective, but remember that different colored paper and ink will affect photocopying, microfilming and scanning in different ways. Color strips along the outside edge are most effective and help with identification of the form, but may be expensive.
- 12) For forms management, each form should have a reference or form number for identification and ordering purposes, and carry a notation as to date designed or date printed and name of printer.
- 13) For filing requirements clinical forms should be pre-punched for inclusion in the health record, and adequate space (margin) should be planned to allow for binding at top or side.
- 14) Instructions in conjunction with explicit headings must be carefully prepared so that the person filling in the form knows in advance what is required. General instructions may be required for the completion of certain forms, for example, patient identification forms.
- 15) If the form is to be put in an envelope, make sure it is the right size or that it will fit when folded. Suggest arrows on the form as to where to fold.
- 16) If photocopying, the quality of the copy will decrease each time it is copied. Best to keep the original and copy that each time.
- 17) A 'Forms Committee' should be set up (a subcommittee of the health record committee) to assume responsibility for forms design and production. The health information management professional should be a member of the Forms Committee and strict control maintained over the production of health record forms. Criteria should be established to analyse the need, purpose, use and arrangement of each form.

e. Specific technicalities

1) Spacing

- Printers allow 1/4" (5 mm) before they start printing, so leave 1/4" (5 mm) for the printer and design the form within that limit.
- Allow a 7/8" (20 mm) margin if holes are to be punched or the form is to be bound. Recommended margins:
 - At top 3/8" or 8 mm
 - Other sides 1/4" or 5 mm
 - Except filing margin 7/8" or 20mm
- Spacing for handwriting - in general, 8 handwritten characters to the 1" or 2.5 cms. However, it is important to remember that too much space seems to encourage bad handwriting.

2) Line spacing

Relate the form to the characteristics of any machine used to fill in the form so that the design is suitable to handwriting and machine entries, especially if it will be typewritten:

- for handwriting use 6 mm or 7 mm line spacing
- for typewriting it will depend on the size of typeface and line spacing should conform to the **THROW** of the typewriter (i.e. the distance covered by a turn of the roller). The form should also be designed to allow for the use of typewriter **TABS**.

Also, determine the **PITCH** or **FONT SIZE** (or width of each character) of the typewriter or golf balls used, usually 10 or 12 pitch preferred.

Allow 1 space on each side of a vertical line, i.e. leave 1 space between entries and the vertical line.

Extra space may be required to allow for typing near the very top or bottom, for example, a disease index card with tear off strip.

3) **Ballot box style** - for use with computerized data entry. Be

consistent with either left or right boxes on the form. Provide clear instructions if it should be checked off or crossed off. The format should make it very clear which box belongs to which question.

4) Identification

Remember, all forms should carry:

- an identifying title
- an identifying number of the form
- the name of institution
- the date of the last design review, particularly for forms used in data collections, which may change some data items each year.
- may include the date of last print run, to facilitate storage and assist with ordering and identification.

Identifying type should be punchy, explicit, tactful, boldly printed, with identifying numbers placed in a relatively inconspicuous part of the form.

5) Ink

Traditionally, almost all forms are printed in black, however, use of some coloured inks help to distinguish forms but often photocopy poorly. A strong colour contrast stands out. Consider the cost, but colour can be used effectively to group similar forms – for example anaesthetic, operation and consent forms with the same colour but different patterned borders.

6) Ruling

Thin lines are best used for column or caption break-ups and very thin lines for writing guides.

When designing new forms or reviewing existing forms remember to consult:

- those responsible for the form and its content
- those who will be entering data on the form
- those who do not enter data but who refer to it to gain information from the data.

Another important point to keep in mind is that successful implementation of a new or revised form is just as important as the analysis and design of the form. Often a form, which is badly

implemented and introduced to the users, is worse than keeping an old form. Therefore, evaluation and testing is an important part of forms design. You may ask the question "How can forms be tested?" To start with they should be tested in a realistic environment and secondly the end users should test them.

J. MEDICO-LEGAL ASPECTS

Health records should be kept for the benefit of the patient, the doctor, and other health professionals, the hospital or clinic for patient care, medical-legal purposes, research, statistics, and teaching. As a legal document, the record should have sufficient information to:

- identify the patient,
- support the diagnosis,
- justify the treatment, and
- accurately document the results

As discussed previously, the health record is the property of the hospital or clinic as the information it contains is an integral part of a person's life and may not be used without the patient's written consent. Patient consent is not always necessary, however, when the record is being used for statistics, research, or teaching, when the patient's identity is not known or sought.

Remember, the health record is a confidential document and the patient's right to privacy must be considered at all times. The information contained within the health record is a confidential communication between the doctor or other health professional and the patient. The patient should have access to the information which should be explained to him, if necessary, by the doctor or health professional responsible for his/her care.

If a request is made for the release of information, the authorization should contain the following:

1. full name of patient, address and date of birth
2. name of person/persons or institution to receive information
3. purpose or need for information
4. extent or nature of information to be released, including treatment dates
5. signature of patient or authorised representative
6. date of patient's or authorised representative's signature.

A letter from the patient which can be verified, directing the hospital to release certain information to a specified person or institution (eg. health insurance) is often accepted as proper authorisation as long as it is, or can be, verified.

In general, it is best to have written policies relating to the release of information and ensure that all staff are familiar with these policies.

SUMMARY

In this unit we have looked at the medical record, the forms within the record, content of the forms, uses and value of the medical record, medico-legal requirements, and responsibilities, and the need to have a well-structured, orderly, available medical record, regardless of whether in a hospital, clinic, community health centre, or other primary health care situation.

REVIEW QUESTIONS

1. In your own words, explain the uses, purposes and value of a health record.
2. List and describe the four component parts of a problem oriented health record.
3. What is meant by a "structured" health record?
4. Describe the development of an inpatient's health record from admission to discharge.
5. Who is responsible for the documentation, completeness and accuracy of a health record?
6. Who should be on a Health Record Committee? What activities would a Health Record Committee undertake?
7. Outline five general principles of good forms design/screen design.
8. Why is confidentiality and privacy an important issue in health record administration?

REFERENCES:

1. Davis, Nadinia, and LaCour, Melissa. *Introduction to Health Information Technology*. Philadelphia, PA: W.B. Saunders, 2002.
2. Huffman, Edna K. *Health Information Management*. 10th ed. Berwyn, IL: Physicians Record Company, 1994.
3. Abdelhak, Mervat, *Electronic Health Records: Manual for Developing Countries WHO*

4. Johns, Merida, ed. *Health Information Management Technology: An Applied Approach*. Chicago: AHIMA, 2002.
5. LaTour, Kathleen M., and Eichenwald, Shirley. *Health Information Management: Concepts, Principles and Practice*. Chicago: AHIMA, 2002.
6. Skurka, Margaret, *Health Information Management: Principles and Organization for Health Information Services*. San Francisco, CA: Jossey-Bass, 2003.

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