



Module 4 – Filing, Tracking and Retention of Health Records

This unit introduces the participant to different record identification and filing systems used in health record management. Record identification may be either alphabetic or numeric, and the filing system used is dependent upon the type of record identification system employed. Although many health care facilities have electronic health records, there are still some health care facilities that maintain patient records in a paper-based format.

This unit deals with various methods to identify and file patient records whether that be electronically or paper-based. The record identification and filing systems form the first step in a series of procedures in the management of health record services. A medical record has no value if it cannot be found when needed.

Careful planning of the record identification and filing systems to be used is of great importance. The choice of the system, however, also depends on the specific type and circumstances of the health care facility for which it is selected.

Planning of filing activities should also include a policy on record retention addressing both electronic and hardcopy records. Storage space for hardcopy records is generally a scarce commodity, so usage of it must be maximized.

Of note, this lesson recognizes that many lower and lower-middle income countries, as we as small island developing states, may be transitioning to electronic records. Thus, managing hardcopy or paper-based records is still a priority.

OBJECTIVES:

Upon completion of this unit, the participant should be able to:

1. Compare and contrast the different methods of record identification and list the advantages and disadvantages of each.
2. Give specific examples of serial and unit numbering.
3. Explain what is meant by a unit numbering system.
4. Compare and contrast filing systems for health records.
5. Explain relational numbering with advantages and disadvantages.
6. Define record linkage and explain how it is used.

7. Demonstrate an understanding of terminal digit filing and cite the advantages and disadvantages of its use.
8. Define a centralized filing system and outline the advantages of this system.
9. Describe the methods that may be used to assign patient health record numbers.
10. Explain the various control methods used to facilitate the location of health records.
11. State the general rules for record control in a hospital or clinic and the specific filing rules required to maintain an efficient health record service.
12. Identify and compare the different types of filing equipment used to file hardcopy health records.
13. Delineate characteristics which should be considered in choosing folders, guides and outguides.
14. Outline criteria which must be evaluated when establishing record retention policies.
15. Explain the storage options for health records with advantages and disadvantages.

A. RECORD IDENTIFICATION SYSTEMS

It is important that each record has a unique identifier, whether alphabetic, numeric or alpha-numeric (consisting of both letters and numerals). The collection of patient identification data and the assignment of a record number or verification of an existing record number should be the first step of every admission or visit to a hospital or health center. This is important to ensure that health records are accurately identified.

1. Alphabetic Identification

The simplest form of record identification is alphabetic, using the patient's name to identify and file the patient's health record. And because only the patient's name is used to identify the record, it is also the easiest method of record retrieval, as the master patient index (MPI) is not needed to cross-reference the patient's name to the health record number. The accurate spelling of the patient's name is of extreme importance. It is also important to create a system to track name changes, such as those resulting from marriage, divorce, or legal change. It is necessary to thoroughly train staff to verify patient names and spellings, and to accurately and consistently file the health records.

One concern with this type of record identification is patient confidentiality. Since the outside of the record is identified only with the patient's name, and not a number, the patient's identity is not protected.

This type of record identification system is most practical in smaller health care facilities with stable patient populations. In larger populations, multiple patients may share the same name which will increase the risk of misidentification. It is also most practical for facilities with little or no computerization.

2. Numerical Identification

A numerical record identification system requires that a unique health record number be assigned. It requires the use of a Master Patient/Person Index (MPI) to cross-reference

the patient's name with his or her health record number. In electronic systems, the MPI also supports accurate patient identification as well as record retrieval.

3. Alpha-Numeric Identification

Consisting of both letters and numbers, and often other characters and symbols such as punctuation marks and mathematical symbols.

There are two main systems of numbering patient records:

- Serial numbering
- Unit numbering

a. Serial numbering

With this method the patient receives a new health record number on every inpatient admission or outpatient visit to the hospital or clinic. That is, the patient is treated as a new patient each time with a new number, new index card and new record, filed totally independently from previous records.

Serial numbering is not used extensively today and is only useful in small hospitals with a low rate of readmission.

b. Unit numbering

The patient is assigned a unique identification number on his first contact with the hospital, whether it is for an admission, emergency room, or outpatient clinic visit. The same health record number is kept and used on all subsequent visits, whether as an inpatient, outpatient, or emergency patient. A unit health record number results in the creation of one central health record for the patient.

This number is normally related to one single record, where all the information on the patient is brought together. These data can originate from different clinics or units at different time periods. If a unit record is not possible, the unit numbering system can be used to link health records that are physically located in different places. Unit numbering supports continuity of care by helping ensure that information from all subsequent visits is associated with the same patient. This is important as electronic systems create and store information in multiple departments or applications.

1) The advantages of using a unit number for filing are:

- ☐ The number is unique to the individual and therefore distinguishes him/her from any other patient in the hospital or clinic.
- ☐ The number does not change regardless of how often a person is admitted to hospital or attends a clinic.
- ☐ Patients' health records are centralized in a single folder.

- ☐ This system provides the medical staff with a complete picture of the patient's medical history and treatment received over a number of admissions and attendances.

- ☐ Health records are filed in one place.

2) The disadvantages of using a unit number for filing are:

- ☐ Health records may become quite thick and additional folders may be required

- ☐ Space needs to be allocated to allow for the expansion of records as more admissions are added to a folder.

It is important to note that when a unit record is used, it is essential for all staff to check the Master Patient Index (MPI) before issuing a new record folder. This ensures that a duplicate health record is not produced.

c. Serial-unit numbering

Serial-unit numbering is an adaptation of the serial and unit numbering systems that combines both systems. With this system, the patient receives a new number on every contact with the hospital, but previous records are brought forward and filed under the latest number, so only one record will remain in the files.

It is necessary to leave either the old health record folder or an outguide (or tracer card), referring to the new record number, in the place from where the old records are removed.

1) The advantages of serial-unit numbering and filing are:

- ☐ A unit record is created.

- ☐ Record retention is easier, as records with lower numbers automatically remain in the old file.

2) The disadvantages of serial-unit numbering and filing are:

- ☐ Gaps are left in the file area when medical records are brought forward.

- ☐ Time is needed for back shifting and for cross-reference from old record and record number to the newest one. (Huffman 1994)

d. Conversion to a unit system

The change from one system to another should not be underestimated. It implies an increased workload, since two filing systems have to be used for an undetermined period of time. Many records have to be controlled and shifted, especially in the first months.

The steps proposed for a conversion are:

- 1) Select a date to make the change and begin issuing patients new unit numbers on that day.
- 2) Check if the patient already has a record (or records). Bring forward these previous records and file them under the new number.
- 3) It is best to convert the records of old patients to the new system as they come back to the health care facility, rather than attempt to convert the entire file at one time.
- 4) The Master Patient Index has to be adjusted or a new MPI started from day one of the changeover. As a dual control, empty folders of previous records or out guides (tracers) should be left at the original places in the old file, with cross-reference to the new unit record number.
- 5) After a predetermined period of time, the records still in the old file can be considered as inactive and eventually removed to inactive storage. This also applies to old MPI cards, if a new MPI was started.

2. Types of numbers

a. Sequential numbering

Records are assigned a sequential number in chronological sequence commencing at

1. For example, if the last number to be assigned was 010524, the number issued to the next patient would be 010525. This method is simple, easy to assign, and easy to control.

This is the way numbers are issued in both serial and unit numbering systems.

Often, when using a serial numbering system, some hospitals connect this sequential numbering system with the year as a prefix, for example:

05-0024, represents the 24th patient of 2005.

Other types of numbering are described below. They are not generally considered to be better than a straight numbering method, nor as commonly used.

b. Alpha-numeric numbering

This is a combination of letters and figures, for example:

AA 99 99 instead of 99 99 99

This method has the advantage of a greater capacity with the same number of characters, for example, letters: A-Z (26); figures: 0 to 9 (10).

This method, however, is not extensively used.

c. Relational numbering

Relational numbers are numbers that, totally or partially, have a certain significance in relation to the patient. There are various types of relational numbering systems that may be used, including:

1) Birth number

This number is derived from the date of birth. That is, the number is based on six of the eight digits of the birth date.

To these digits, other digits may be added. For example\ two, three, or more digits for the serial number (can be odd for males and even for females), a digit for gender, or digits representing a geographical code, for example:

50 06 24 1 05 2

Year Month Day Gender Serial Geographic Number Code

In addition, one or two check digits may also be included, particularly in computerized systems. The total number, therefore, could consist of 9 to 12 digits.

a) The advantages of using a relational number include:

- ☐ The record number has built-in information (age and sex).
- ☐ Easy to remember, because of date of birth. If difficulties occur in retrieving information from the MPI (misspellings, husband's name, common names, etc.), the date of birth gives enough information to find the record.

b) The disadvantages, however, must be taken into consideration, and include:

- ☐ Long number, increasing the risk of transcribing errors, particularly in non-automated systems.
- ☐ A limited capacity, since a maximum of 31 numbers can be used for the day digits and a maximum of twelve numbers for the month. Only the year digits have a range of 00 to 99.
- ☐ If the birth date is unknown, pseudonumbers (eg, 99 99 99) have to be used, and conversion procedures must be developed once the birth date is available.
- ☐ Folders and MPI cards cannot be pre-numbered.

Although useful for identification, it is not generally considered a good number for filing purposes.

2) Social security numbering

Social security numbers are used, mainly in the USA and in some countries where the social security administration operates health facilities but are also not recommended for filing purposes.

a) Advantages of using a social security number are:

- ☐ It is a unique identification number.
- ☐ No reference to the Master Patient Index is necessary, and therefore faster retrieval.

b) The disadvantages, however, outweigh the advantages and

include:

- ☐ Some patients do not have or cannot give a social security number at the time of their admission or visit (eg. newborns, children, patients from abroad). Pseudonumbers must be assigned if no actual social security number is present, and again conversion procedures are needed, once the real social security number is available
- ☐ Threat of identity theft.
- ☐ Control and verification of the number is out of the hands of hospitals using it.

The Social security number should not be used as a health record number (irrespective of the country) because of the privacy and security concerns.

3) Family numbering

Another type of number used is a family number. This type of numbering system is most appropriate for primary care clinics where all members of a family may receive health care.

With this system, one unit number is issued to a household, and extra digits are added to indicate every individual in the household.

Example: 01 = head of household

02 = spouse

03 = children and other family members (con't)

04

05

06

Examples:

Mrs. Mary Smith 01 6436 Pamela Smith 03 6436

Mr. Donald Smith 02 6436 John Smith 04 6436

All health records are then grouped numerically by families, but separate folders can be maintained for each individual patient.

a) The advantage of this method is that it is useful for ambulatory care centers, which emphasize the family as a unit (eg. family counselling).

b) The major disadvantage is that families change. Marriage and/or divorce cause changes of household number and/or extra digits. Plus, children become adults and have their own rights to control their data.

When it is important to link family numbers, a combination of a family number with another individual number is suggested. It is safer and easier to use.

3. Assignment of numbers

As previously mentioned, whatever method of numbering used it is important to have a unique identifier (medical record number) as soon as possible. The gathering of patient identification data and the assignment of a medical record number to new patients should be the first step of every admission or visit to a hospital or health center. How health record numbers are assigned is dependent upon whether the registration process and MPI are computerized or manual, and whether unit or serial numbering is used.

a) Manual system

In a manual system that uses unit numbering, the responsibility for number allocation is retained in one place, usually the health record department. This ensures that controls are in place to prevent more than one patient from having the same number, or that a patient will have more than one number. If a new patient arrives at a registration area, the health record department is contacted in order to get a new number.

The procedure for assigning numbers should be clearly recorded and monitored.

In a manual system that uses serial numbering, either the health record department may issue the numbers or the registration staff may be responsible. If the registration staff assign the health record numbers, predetermined blocks of numbers are often issued to patient registration areas having a high volume of new patients. The amount of numbers in each "block" should be determined by the activity of each area and should be limited and carefully controlled. Since each area is allocated a specific block of numbers, duplicate numbers should not be assigned.

b) Computerized system

The best system for number assignment exists in facilities having computerized registration and unit numbering. With computerized registration, number assignment in every registration area is possible because computer systems are available to check the MPI and to verify that the patient does not have an existing medical record number. As the patient is registered, the staff searches the computerized MPI database to determine if the patient has already been assigned a unit number. If so, the demographic information is updated as necessary, and the current visit information is entered. In computerized and integrated health information systems, accurate number assignment and MPI management are crucial to prevent duplicate records and to support continuity of care across departments and organizations. It is important to note, however, that if more people are responsible for assigning numbers, the risk of duplication will inherently increase.

4. Number control

It is important in both manual and computerized systems to have an established method of number control. Numbers should not be pre-assigned unless good control processes are in place.

In a manual system, this can be a permanent number index, or master control book, where all assigned and unassigned numbers are held. As a number is allocated, the

name of the patient is immediately entered beside that number. Date of issue is also recorded. In Electronic Health Record Systems (EHR) number control is managed automatically through MPI function within the EHR.

For example:

Number Name Date Where issued

102642 Brown, John 09/27/2004 Outpatient Department

102643 Miles, Andrew 09/27/2004 Outpatient Department

102644 West, Julia 09/27/2004 Admission Office

In computerized systems, a check digit is determined by performing some calculations on the basic number. Thus, check digit verification is a way of detecting errors caused by transcription of a data field or transposition in the use of the number. It contains information about the magnitude and the position of each digit in the field. Transcription (a wrong digit) or transposition (two digits reversed) errors lead to a calculation result different from the check digit, and therefore an error message will be printed.

The way a number is presented also adds to the efficiency of the system. For example, an all-numeric number, presented in a fragmented form (eg, 10 26 42) or in boxes helps to reduce the misquotation rate.

5. Record linkage or longitudinal records

The main goal of record linkage is the centralization of all medical data about a particular patient to enable essential information about that patient to be more readily accessible, and thereby creating a longitudinal record. . Currently, record linking is done through electronic health record platforms. In health systems, record linkage is important for supporting the continuity of care and information sharing across facilities. Hospitals and governments, concerned with an expanding volume of medical information. These may be physically located in different buildings or hospitals, within a city, state or province or across a country.

To link records or data within or between hospitals, accurate and fast patient identification and number assignment are of prime importance. As mentioned previously, in many countries a unique number, often based on the birth date, is assigned at birth, and remains the standard identifier during the individual's lifetime. This system readily enables record linkage.

The perfect standard identifier, and thus the perfect record linkage number, should be:

- ☐ **unique** (assigned to one person only)
- ☐ **universal** (covering the population involved, eg. hospital or nation)
- ☐ **permanent**
- ☐ **available** (it must be present on each of any pair of records to be linked)
- ☐ **economical** (it should consist of no more characters of information than necessary, as each character creates additional computer storage space).

It should also be noted that controversy exists surrounding the use of unique personal health identifiers because of the possible security issues, and many view it as a means of invasion of privacy.

B. FILING SYSTEMS

Record identification systems and filing must go hand-in-hand, as the filing system depends on the identification system used. Filing is the systematic arrangement of records in a specific sequence so that reference and retrieval are fast and easy. Daily procedures in many areas of a clinic or hospital can be severely affected by poor management of health record services. It is therefore the responsibility of the health information professional/health record administrator to establish systems and procedures to ensure the efficient production of health records for patient care, medico-legal purposes, statistics, teaching and research.

The health information management/record department may be judged on the efficient service it provides to the rest of the hospital or clinic. That is, health records must be readily available when required for patient care. Departmental efficiency and record

control are therefore two of the most important things to consider in the management of the health record services. Filing systems support hybrid (a combination of hardcopy and electronic or scanned records), paper-based, and electronic health records.

1. Alphabetical filing

When no health record number is assigned, and the patient's name is the only identifier, then alphabetical filing is the only possible method to use. Filing is by patient surname first, then given name, and finally middle name or initial. Records of patients with exactly the same name should then be filed according to their date of birth date.

This type of filing is time consuming and the risk of errors (change of name, misspelling) is extremely high. Moreover, there is no way to control the use of the file area as it is not possible to know beforehand where the next new record will be filed. Since names are not equally distributed, it is extremely difficult to avoid congestion areas and back shifting to open new file space.

Alphabetical filing is not recommended, and is only useful for facilities with a limited patient population and a small files area, with a very low patient turnover rate.

2. Numerical filing systems

If a numerical record identification system is used, then a numerical filing system is used. There are two main systems of filing records numerically: straight numeric and terminal digit.

a. Straight numerical filing

In this system, health records are filed in straight numeric sequence as follows:

8984 108264
8985 108265
8986 108266
8990 108267

This filing method reflects exactly the chronological order of the creation of records. Straight numeric filing is typically used when serial health record numbers are assigned, however, a unit health record number may also be filed in straight numerical order.

1) The advantages of straight numeric filing include:

- ☐ People are used to this "logical" order and training is easy.
- ☐ Easy to retrieve consecutive numbers for research or inactive storage.

2) The disadvantages, however, outweigh the advantages, particularly in large hospital health record departments. The disadvantages include:

- ☐ Easy to misfile, one must consider all the digits of the number in order to file the record.

❑ Easy to transcribe numbers where one digit is wrongly written or read, for example: 1 for 7

❑ Easy to transpose numbers (reverse digits), for example, record number 194383 is filed as 193483.

❑ The highest numbers represent the newest, and therefore most active records, causing a concentration of record activity in one particular area of the file room, where these records are filed.

❑ It is not feasible to assign filing responsibility to one clerk since most of the records and loose sheets are filed in the same area.

❑ In larger or higher-volume sites, straight numerical filing may not be as efficient because it concentrates filing activity in one area.

b. Terminal digit filing

1) Whether using a serial, unit, or serial-unit numbering system, the actual method used for filing is most important. In place of straight numerical filing, other methods have been designed to improve retrieval and filing efficiency.

In terminal digit filing, a six or seven digit number is used and divided into three parts.

Part 1 - The **primary** digits, which are the last two digits on the right hand side

Part 2 - The **secondary** digits, which are the middle two digits

Part 3 - The **tertiary** digits, which are the first two or three digits on the left hand side

For example, the number 14 20 94 is divided as follows:

14 - 20 - 94 Tertiary Secondary Primary

2) In the terminal digit file there are one hundred (100) primary sections ranging from 00 - 99. When filing, the clerk considers the primary digits first, for example, the number 14 20 94 will be filed in the "94" primary section. Within each primary section there are 100 secondary sections, also ranging from 00 - 99. The number 14 20 94 is filed in the 20 - 29 secondary part of the "94" primary section. Within the 20 - 94 section the record is then filed in numerical order by the tertiary number. The sequence of the file is as follows:

13 20 94 02 21 94 11 21 94

14 20 94 03 21 94 12 21 94

15 20 94 04 21 94 13 21 94

16 20 94 05 21 94 14 21 94

17 20 94 06 21 94 15 21 94

18 20 94 07 21 94 16 21 94

19 20 94 08 21 94 17 21 94
00 21 94 09 21 94 18 21 94
01 21 94 10 21 94 19 21 94

3) The file clerk considers the record number in parts, going from the right to the left. For the number 142094, he first locates the primary section (94). Within section 94 he looks for the secondary or subsection (20). There he files in numerical order, using the tertiary digit 14.

Adaptations can be made when more or less than six numbers are used.

For example:

02 - 44 - 87
107 - 09 - 14

4) The advantages of terminal digit filing include:

- ☐ Records are equally distributed throughout the 100 primary sections.
- ☐ Only every 100th new medical record will be filed in the same primary section of the file.
- ☐ Congestion of personnel in the filing area is eliminated.
- ☐ Clerks may be assigned responsibility for certain sections of the filing area.
- ☐ The work can be evenly distributed among file clerks.
- ☐ Inactive health records may be pulled from each terminal digit section as new ones are added, thus eliminating the need to backshift records.
- ☐ Misfiles are substantially reduced with the use of terminal digit filing.
- ☐ Terminal digits are useful in paper-based or hybrid-based systems as it reduces congestion and improves distribution of records.

4. Location of files

So far in this unit we have discussed how paper-based, hybrid, and electronic medical records are filed. Let us now look at where they are filed, meaning - are the files centralized or decentralized.

a) Centralized

The records of the patient are filed in one location, usually the health record department or a centralized health information system.

The patient may have different records (inpatient records, emergency record, ambulatory care records), but they are brought together in one unit record, or at least filed under the same number in the same place.

The main objective of the health record department is to maintain a continuous medical record of a patient, which is available at all times. The best way to achieve this objective is to establish a centralized unit record system.

In a centralized unit record system, centralization refers to filing a patient's inpatient, outpatient and emergency records in one location.

Centralization in an EHR setting means having a single long-term record for each patient in one EHR instance, not a physical location.

Ideally, for good control, all medical information about a patient should be stored in the one folder, in the one location or file. This makes retrieval of information easy because it is filed in one place under one number.

b) Decentralized

The records of the patient are filed in multiple patient care areas. This may be under the same unit number (linkage) or with totally unrelated numbers (no linkage).

In EHR settings decentralization refers to having separate EHR instances across different facilities and department.

It is a good policy to keep decentralized record areas under strict supervision by the health information management/health record professional. Decentralized systems allow for faster local access within departments but there's risks such duplication.

c) Comparison between a centralized and decentralized record system

Centralization has some significant advantages over decentralization:

- All information concerning a patient's care is stored in one place and open to all medical care providers.
- There is less duplication of information.
- Costs for creation and storage of records (space, equipment) are lower.
- Record control is easier.
- Implementation of overall administrative record procedures is possible. Standardized job descriptions and supervision of specifically trained personnel result in greater efficiency.

When the hospital is a large complex of different buildings or health care units, some degree of decentralization might be necessary for reason of record availability and accessibility.

In a large hospital there may be multiple and simultaneous requests for the same record. In those circumstances, centralization and unit records can cause disadvantages. In electronic health record systems, some limitations related to the issues surrounding paper-based records, such as filing and availability, are no longer of concern. However, organizations may still need to manage paper and electronic records across multiple care areas.

5. Other considerations in filing systems

a) Loose sheets

The filing of loose sheets or reports, such as laboratory results, x-rays, correspondence, and other late reports should not be underestimated. It is an important and time-consuming activity of the health record department.

Incoming loose reports can be divided into two groups, those with sufficient identification (record number and name), and those that need additional search time to find the exact record number using the MPI.

Loose reports are sorted by record number and, after verifying the patient identification data, are filed in the record. This should be done without much delay (eg. within 24 hours after arrival in the health record department). It is a typical job for the evening or night shift.

If the record is signed out, the loose report can be filed in the outguide (or tracer) and inserted in the record in the appropriate place when the record is returned. Some health record departments send loose reports for signed-out records to the place indicated on the sign-out slip or, if time permits, file the loose sheet at the place where the record is currently in use. This is not recommended, as control on their placement in the health record is lost. Within hybrid environments, loose paper reports may also need to be scanned, indexed, and connected to the appropriate patient record in the electronic health record system.

b) Voluminous records

A health record sometimes is very large.. It is then necessary to divide the record into volumes. The notation "Volume 1", "Volume 2" should be clearly visible on the folder and on the sign-out slip. When using "Volume 1 of 2", "Volume 2 of 2," it should be remembered that all folders must be relabelled when another volume is added: "Volume 1 of 3", "Volume 2 of 3".

One should also examine if it is necessary to send a complete, sometimes voluminous record to a specific ambulatory care area, or only the most recent or specific volume.

c) Special flagging

Special flagging is a good way of attracting the immediate attention of the record user to important information, for example:

- ALLERGY TO PENICILLIN
- PACEMAKER
- RENAL DIALYSIS PATIENT

The use of a bigger letter type, different color, or underscoring are methods to draw attention to the highlighted problems or events. This information should be shown on the health record folder cover, or the face sheet under a special heading.

In some countries printing these flags on the health record folder cover would be regarded as a breach of confidentiality. Instead an alert flag is affixed to the health record folder cover to indicate that there is important information (alerts, hypersensitivity reactions etc) in a specially designated place in the folder.

In electronic systems, the alerts are displayed to ensure patient safety while also reducing unnecessary disclosure outside of the paper record.

d) "Satellite" record centers

Although records are filed in a centralized way, there are some places in the hospital where it is necessary to keep records for a longer period of time. Examples are records of renal dialysis patients, kidney transplant patients or cancer patients having radiation therapy or chemotherapy sessions, or prenatal records of women who plan to deliver in the facility.

When a reasonable number of records are kept temporarily in a specific area, a so-called mini- or satellite- record center can be created to keep records orderly and neatly on shelves, as in the health record department itself.

It is important that the central health record department always know which records are located in these satellites. It is also important that these records are returned to the health record department for filing upon the death of the patient, or when the patient is discharged from the specific area of care.

C. RECORD CONTROL AND CHART TRACKING

Within the health information environment, the health record department must maintain control over all filing procedures and record usage across electronic, hybrid, and remaining paper-based workflows. All records being removed from file, for any reason, should be signed out and tracked as to its location. This process may be either manual or automated. This unit will first discuss some general policies and procedures relating to record control, and then the processes relating to both manual and automated chart tracking systems. An automatic chart tracking system can be a separate tracking app or can be linked to the organization's electronic health records. Whichever system is used, it is important that some system be in place to sign records out of the health record department to maintain record control.

Personnel within the hospital or clinic receiving a health record should assume responsibility for returning it in good condition and not sending it anywhere else without first contacting the health record department to have the location changed. If this step is not taken, they are still responsible for the record, and if it is missing, they will be the person responsible for relocating it.

1. Health record request policies

Certain policies should be determined by the medical record department and approved by the Health Record Committee relating to requesting health records. These should include:

- a) Records should not be removed from the health record department except for patient care.
- b) All records being sent to clinics or units must be signed out showing the patient's name, record number, date and the name of the clinic, doctor or unit whichever is appropriate. For electronic records, this requirement is met by having audit trails and timestamps.
- c) A timeframe must be set in which all records must be returned by the requesting individual, preferably by the end of the business day. Records of discharged patients should be sent to the health record department by the day following the discharge of the patient. The health record department staff should follow-up on any records not returned within the required timeframe.
- d) Records for research should be reviewed in the health record department, if possible. If space is not available, they must be signed out and be readily available if the patient presents for treatment.
- e) Where possible, patient services that are made on an appointment basis, such as for clinic visits, inpatient admissions, and outpatient surgery, should be known in the health record department within a specified period of time, a 24 hour period being a good minimum. This allows the health record department staff to ample time to retrieve old records for reference during the new encounter. This is also facilitated by ADT which stands for admit, discharge, and transfer, a common function in electronic records.
- f) Patient care areas are responsible for providing the exact and complete patient information needed to retrieve the health record. Computerized systems allow the medical record staff online access to the appointment schedules. In that case, the department staff can determine the time of printing the requests.
- g) Record requests for research or for administrative purposes should be considered as routine requests.
- h) "Stat" requests are non-routine requests, that must be processed as quickly as possible, and include emergencies, ambulatory care without appointment, and urgent hospitalization.
- i) Urgent requests are usually made by phone or computer, and health record personnel are required to complete the requesting procedures immediately.
- j) The health information management/health record professional should develop procedures in order to maintain complete control over incoming and outgoing records.

2. Health record requests

- a) Record requests are initiated electronically in most healthcare facilities. In cases where its paper-based or hybrid based the requisition slip is used, containing information on the patient's name and record number, the destination (the person or area requesting the record), the date and other headings as necessary, such as the name or signature of the requesting party.
- b) One copy of the slip is attached to the record and another copy becomes the sign-out slip, which is placed in an outguide (or tracer) that replaces the requested record in the file. No record may be removed from the file without being replaced by an outguide (or tracer) with a requisition slip. This is the most important rule of record processing. A third copy can be placed in a separate file for reference. It may be in an alphabetic file by patient name, or in a "tickler" file, in chronological order of the sign-out date. This latter file gives an indication of all records that are not returned within the established period of time.
- c) If a computerized chart tracking system is used, outguides (or tracers) are not necessary. This process requires only that a request be sent, the record retrieved, and the record signed out as needed in the system.
- d) The health record department should be informed when a record is moved from one area to another. This can be done by telephone, or better by using a transfer-slip, indicating patient's name and record number, date, previous and next destination. If a computerized system is used, only a phone call is needed and the chart's location updated. The chart's location should be updated promptly in the system.

3. Outguides (or tracers)

Outguides (or tracers) replace a record that is removed from the files for any purpose. They should be made of strong material, preferably colored. There are various types of outguides available. Some include pockets to store requisition slips and loose reports. Others are cardboard folders, which can also store requisition slips and loose sheets. Others are more sophisticated and expensive. All do the same job; they indicate where the record is when not in file.

Outguides (or tracers) also increase filing efficiency and accuracy by indicating where a record is to be filed when returned. When refiling, the requisition slip is removed and available loose reports are filed in the record.

4. Automated tracking systems

The requesting and tracking of records with the aid of a computer helps to reduce or eliminate some very routine jobs. An automated chart tracking system is a computerized database containing all of the information needed to process chart requests.

The computer can print requisition slips, sort them, store and provide information on the record location (i.e., incomplete file, 5th floor, Quality Management) and keep waiting lists of different requests. Whenever the location of the chart changes, such as a transfer of the patient, the computer must be updated. When records are returned, they are signed back in to the health record department.

When requests are processed through a computerized chart tracking system, the computer can produce a list of all overdue records (records signed out past the return policy).

The main purpose of this kind of automation is to reduce the delivery time from request entry to record receipt, and to speed up the sign in and sign out process. A number of record tracking systems utilize bar codes on the folders and bar code scanners to even more fully automate this process. Automated tracking systems include electronic requisitions, barcode tracking, audits, and integration of other health information systems.

5. Color-coding on file folders

Color bars are frequently used in various positions around the edges of health record folders. This is done to facilitate sorting, avoid filing errors, detect filing errors when these occur, and to aid in record retrieval. Color-coding is especially convenient for terminal digit filing but can also be applied for straight numeric and even alphabetical filing. Color strips on the edge of the folder will create distinct patterns of colours in various parts of the file.

The health information management/health record professional determines the numbers and colors used. Ten distinct colors are used to signify the digits 0 to 9. One or two color bars can be used to indicate the primary digits. In the case of two colors, the top color represents the first of the primary digits. In the number 14 20 94, the top color will indicate the "9" and the second color the "4". An additional color bar may be used to indicate the first of the secondary digits, e.g., the color will represent the "2" for the secondary digits "20".

For example: 14 - 20 - 94

- ☐ red band on top for "9"
- ☐ blue band beneath it for "4"
- ☐ green band to indicate the "2" in 20

Color-coding may also be used with alphabetical filing systems. In this instance, the colors would relate to the letters of the alphabet.

It is better to limit the total number of color codes on the folder to 2 or 3 to keep it as simple as possible and maintain the effectiveness of the color-coding system. The purpose is to avoid errors, not to create more of them.

Although color-based coding remains useful in paper-based filing systems, electronic systems rely on digital identifiers and alerts as well as tracking tools.

6. Transportation of health records

Transportation of records is a very important part of record handling. It is indeed not enough to emphasize a prompt retrieval of urgent requests without stressing the need for fast record transportation.

This can be done manually or automatically. Messengers can be employed to carry records to and from the health record department, or records can be automatically transported using "dumbwaiters" or electronic "conveyors". The messengers may be employees of the health record department (preferably) or part of a total hospital messenger service.

Frequency of delivery is dependent upon the amount of record activity, except for emergency requests, requiring immediate transportation. Within facilities that use electronic health records physical transportation is replaced by electronic record access.

7. Other record controls

a) Always keep unfiled records sorted by number. Records arriving in the health record department are not always ready for filing. They can be routed to a transcription area, to a record control area or elsewhere in the department. It is necessary to keep these records in filing order whenever possible. This makes the finding of a record much easier.

b) If 24 hour-staffing in the health record department is not possible, strict rules for non-office-hour requests should be applied. Everyone taking a record out of the file area in this period (e.g. emergency room personnel) should leave a message recording the patient's name, record number and the destination of the record, at a designated place to inform medical record personnel. This can be an entry in a log or a requisition slip. After-hours access should also be documented through the organization's tracking system, log, or other approved control processes.

c) Every record being processed on desks, tables or elsewhere should remain visible and not locked away. Availability of the record at any time is absolutely vital.

d) In larger departments, file clerks should be given responsibility for a specific section of the filing area or EHR system. HIM staff are responsible for maintaining organized files within their assigned area, which means having to keep their shelves neat and orderly and check regularly for misfiles or for records not returned within the prescribed time.

8. Other filing rules

a) When health records are returned to the medical record department they should be sorted into primary digit sections to help facilitate the finding if needed before they have been filed.

b) Only health record department personnel should be authorized to file and retrieve health records. In EHR systems, only role-based access should be provided according to the system configuration

c) Records with torn covers or loose pages should be repaired before filing. Procedures for filing and record control should support accurate indexing, tracking, and integration of documentation across electronic and paper-based systems. To support accurate and accessible patient records.

- d) Filing area personnel should be responsible for maintaining filing area and storage to be neat and orderly.
- e) Paper records should not be put in drawers but should be kept on top of desks while being processed so they can be found if needed.
- f) Staff should be trained to maintain control over the files and see that medical records are filed promptly.

D. FILING EQUIPMENT AND SUPPLIES FOR PAPER-BASED RECORDS

There are many storage options available for health records. Although many facilities have electronic health records, or are in the process of implementing them, most still have paper-based records. This section will cover the types of filing equipment and supplies needed to properly store paper health records.

1. Filing equipment

In purchasing filing equipment, it is necessary to determine the number of filing units needed. It is number of linear inches or linear meters of medical records must be measured, and then the number of filing inches or linear meters; or provided in the type of filing unit under consideration must be determined. Detailed information on calculating filing space will be found in Unit 8 on Planning a Medical Record Department.

a) File cabinets are the least efficient type of storage unit. Although they provide security for the records since they can be locked, they do not maximize the use of the floor space because of their size and number of available filing inches. Adequate aisle space between the cabinets must also be provided in order to allow the drawers to be pulled fully open.

b) Lateral open shelves are preferred as considerably more records can be filed on open shelves than in cabinets within a given filing area. Also the aisles between units require less space for shelves than for drawers. The normal aisle space for open shelves ranges from a minimum of 75 cm (30 inches) to 90 cm (36 inches).

For cabinets facing each other, a minimum of 1 meter (3 feet) is necessary. Management of records is much faster on open shelves as there is no need to open or close drawers and the file clerk has a better overview, when standing in an aisle. Guides can be easily seen in open shelves, but are almost useless in drawers. Open shelves are usually less expensive but drawer cabinets give better protection against dust and dirt.

c) Mobile or compressible shelves maximize the floor space. On the other hand it is usually very expensive and not very useful if several employees have to enter the files simultaneously, because of the limited access, as only one aisle is provided for several rows of shelves.

2. Filing supplies

a) Record folders

Record folders have a double role. They protect and identify the medical record. When buying folders one should look at composition, size, expandability, reinforcement and possibilities for tabs or attachments. A variety of folders are now available and include plastic, manilla or pressboard covers, large envelopes, folders with fasteners, with special pockets, with pre-printed colour strips and record numbers.

Usually folders can be purchased with the hospital identification and other information printed on the cover. A clear area for the patient's name and record number, however, should not be forgotten.

b) Guides

Guides should be placed throughout the files to assist finding and filing health records. The number of guides needed depends upon the thickness of the sections of the files. For medium thickness of records a guide after every 50 records is usually sufficient. For thicker records, more guides will be required. Usually with terminal digit filing two pairs of numbers appear on each guide. These are the secondary and primary digits.

For example:

20 21 22 23 24 25

94 94 94 94 94 94

The top number is the secondary number and the bottom is the primary number. To determine the number of guides, the following calculation could be made:

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

Example:

HIPAA

100000 records = 2000 guides 00 05 10 15

50 records between guides 94 94 94 94

Guides are extremely useful as they make the filing and retrieval of records easier by indicating the location of the record. They must be made of strong material, preferably in a different colour to the folders, so that they are clearly seen throughout the files.

Although guides remain useful in paper based filing systems, electronic systems use digital indexing and search functions to support record retrieval..

E. RETENTION OF HEALTH RECORDS

Retention refers to the management of records throughout their lifecycle, including active use, inactive storage or imaging, as well as destruction in accordance with the standards that are required. Cloud-based and vendor managed storage solutions are alternatives to offsite storage. It is generally accepted that health records should be kept for as long as they are being used for patient care, medico-legal and research and

teaching purposes. Minimum record retention requirements are generally addressed by statute of the applicable country.

If there are national legislated and legal minimum retention periods for health records, then these must be strictly adhered to.

If space is not readily available, a decision must be made to determine the length of time records should be kept in an 'active' file. After this time, they should be transferred to an 'inactive' area. This decision is based upon legal requirements, and is usually made by the facility's Governing Board on advice from its legal counsel, the Health Record Committee, and the health information management/health record professional. In a number of hospitals, the filing area space is limited; therefore many health record departments will keep a limited number of health records in an active file area, which is in or close to the department. Records that are considered to be inactive are then moved to another, more physically distant area. This area may be within the facility, or offsite at a space either owned by the hospital or stored at a commercial storage vendor. Typically, records are purged on a yearly basis and transferred to the inactive file. If a patient is readmitted and his health record is in the inactive file, it is "reactivated", that is, it is brought up to the active file and remains there for the next five years. In electronic environments, retention decisions about records may involve remaining in active clinical systems, or archived in document management systems (DMS), or retained in offsite digital storage.

The latest year of activity can be indicated on the record folder with special labels indicating the year of most recent activity. In automated systems the computer can generate a list of "older" records.

The next decision to be made is how long health records are to be kept in the inactive file. Are they to be retained or destroyed after a certain time? If they are retained, are they going to be kept in their original form or are they going to be processed e.g. scanned or microfilmed or stored in certified EHR or electronic data management system.

All these decisions must be made by the governing board of the hospital following discussion with the legal counsel, the medical staff, the health information management/medical record professional, and members of the Health Record Committee. Many countries around the world have national retention schedules for health records, which stipulate MINIMUM retention periods, but hospitals may keep records for longer periods.

The alternatives regarding health record storage are:

- ☐ Keep all health records indefinitely - adequate filing space must be available.
- ☐ Scan health records use electronic document management system (EDMS) or they are integrated directly into EHR,. Many hospitals that are planning on implementing

electronic health records will choose this option, as it begins the transition to the paperless record.

☐ Destroy all records after a certain time. This option can only be used after meeting the legal requirements for record retention of the state or country.

No health record department has endless space for storage of health records. Therefore, careful planning of record retention schedules is necessary in order to avoid overcrowded files.

1. Criteria for record retention

The length of time of storage depends on different criteria. Influencing factors in retention decisions are:

- a) The type of the health care facility and the resulting type of records. Some records (e.g. newborn records, psychiatric records) must be kept for longer periods.
- b) The level of activity (readmission rate for inpatients and outpatients). For example, patients with chronic diseases will have very active records
- c) The yearly expansion rate, that is, the number of additional entries that must be created annually, and the number of filing meters and digital storage space required.
- d) The cost of space, personnel, equipment, supplies, , off-site storage, etc., and the budget available.
- e) The amount of space available. The more space available, the longer records can be kept in the active or inactive file area.
- f) The volume of research activities. Universities and teaching hospitals have a lot of requests for older and inactive records for scientific and/ or evaluation purposes
- g) Regulatory requirements, such as the statute of limitations and other laws that may require retaining records for periods as long as 30 years

Other considerations could involve digital storage capabilities, system migration needs, data management policies, and archival accessibilities of electronic records in the long term

Based on all these factors a decision should be made whether a record is to remain active, inactive, or destroyed.

2. Methods of record retention

a) Inactive file area

Inactive records can be stored in an inactive file area of the health record department, or somewhere else within the health care facility, or even outside the facility in hired storage areas. Then, of course, messengers from the health record department or from the hospital are needed to bring records back and forth.

Sometimes commercial storage companies are involved. If this is the case, a contract is needed to determine responsibilities and duties of the company concerning storage, retrieval, delivery and confidentiality.

1) Advantages of storage of a complete record include:

- ☐ The record is retained in the original form.
- ☐ The ease of reference of the original material.
- ☐ The availability of the information.

2) Disadvantages include:

- ☐ Cost and space requirements.
- ☐ Deterioration of paper with time passage.
- ☐ Accessibility and possible fire hazard.
- ☐ Danger of loss or damage during physical transfer.

b) Microfilming

Another means of inactive storage is microfilming, requiring a minimum of storage space. Microfilming is a storage option that has been used for many years. It reduces the image of each document and places it on either a roll of microfilm or in a microfiche jacket. This can be done in-house or by commercial companies. Microfilming is now considered obsolete for new records in HIM practices.

1) Advantages of microfilming include:

- ☐ good alternative for inactive records
- ☐ reduced storage space required
- ☐ usually acceptable as legal evidence

2) Disadvantages include:

- ☐ cost
- ☐ accessibility
- ☐ possible fire hazard and deterioration over time.

c) Image-based storage systems

Digital document management is the current practice for both active and inactive record storage. Records are stored on secure servers or cloud platforms after being digitally scanned and sorted by patients and appointments in a computer system. You must adhere to certain rules when you store images which are making sure the images are

clear, organizing them by patient identification number and making sure to follow privacy and security rules.

SUMMARY

Record identification systems are either alphabetic or numerical. Which system is chosen is based upon the size and activity of the file, and the complexity of the healthcare organization. There are several types of numeric systems to choose from. The type of record identification system determines the type of filing system that may be used, such as alphabetic, straight numeric or terminal digit. The most important aspect of determining the filing system to be used is the ease in retrieval.

Written policies and procedures must be in place to control the request, retrieval, and return of health records. These controls may be in a manual system or an automated record tracking system or through access control functions within an EHR system.

Various options are available for storage of both paper-based health records and electronic health records. Active and inactive files may require different storage solutions, such as offsite or commercial storage facilities. File folders offer various features, such as color-coding to identify the health record number, reinforcement, and fasteners. Various options are available in choosing the filing equipment to be used, including cabinets, open shelves, and mobile shelves. For electronic health records storage solutions include on-premise servers or cloud-based storage platforms.

Record retention policies must comply with the applicable legal requirements and the individual needs of the facility. The Governing Board must approve the record retention schedule.

REVIEW QUESTIONS

1. What are the different methods of record identification used in health record practice?
2. What are the differences between serial, unit and serial-unit numbering?
3. Describe unit numbering.
4. Explain terminal digit filing and give advantages.
5. What is the difference between a centralized and decentralized health record system?
6. What control methods are used to facilitate the location of health records?
7. Who should determine record retention policies?
8. What are the general rules for record control in a hospital or clinic?

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