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A Review on Electronic Medical Record System

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Abstract - In healthcare organisations, Electronic Medical Record (EMR) system is being used to capture, organize, maintain and retrieve patient's medical records. EMR system consists of a comprehensive database used to store and access patient's healthcare information. The EMR has replaced the existing paper medical records as the primary source of information for healthcare purposes for all clinical, legal, and administrative purposes.

***Key Words*:** Electronic records, electronic medical records, electronic records management systems

1.INTRODUCTION

Protection of records from destruction is an important task as they provide us evidence of legal status, ownership. Protection of records from destruction is an important task as they provide us evidence of legal status, ownership. If one uses electronic records, most of the records can be saved compared to paper records by maintaining backups at remote locations. ERM initially evolved from the archives management. Although, records in electronic form saves us from a lot of hassles compared to paper records but there are other factors to be considered in managing them.

2. ELECTRONIC RECORDS

Electronic records (ERs) are either born digitally or converted from paper records using a scanner or by data entry. ERs may be a combination of text, graphics, data, audio, pictorial, or other information representation in digital form that is created, modified, maintained, archived, retrieved, or distributed by a computer system. ERs are not just a collection of data but also the consequences of an event. Besides, records need to provide evidence of the content and structure of the document; the context of its creation is present and accessible.

ERs must adequately capture and describe the actions these represent. The record should not only preserve the 'content' but also the 'context'.

3. PATIENT RECORD

A repository of maintained information about an individual's lifetime health status and health care, stored such that it can serve the multiple legitimate users of the record is know as Patient Record. Traditionally, the patient record was a record of care provided when a patient is ill. The Patient record can be maintained either in paper based format or in electronic format.

4. ADVANTAGES OVER ELECTRONIC HEALTH RECORD FROM A PAPER-BASED RECORD

In traditional patient record, where static nature of paper format is used need maintain multiple copies of paper that used to record the information whereas in electronic health record data is recorded or stored in a single format for data entry and retrieval—an EHR is flexible and adaptable. Data may be entered in a format that simplifies the input process. Inaccessibility is a common drawback of paper records. In large organizations, the traditional record may be unavailable to others for days. Inaccessibility is a common drawback of paper records. In large organizations, the traditional record may be unavailable to others for days. Documentation in an EHR can be more legible because it is recorded as printed text
rather than as handwriting, and it is better organized because structure is imposed on input. The computer can even improve completeness and quality by automatically applying validity and required field checks on data as they are entered. For example, numerical results can be checked against reference ranges. Typographical errors can be detected via spell checkers and restricted input menus.

5. CHALLENGES OF CONVERSION TO EMR

However, there are some challenges while transiting to EMR. It takes time to convert records on paper to EMR The transition period for a small to mid-size clinic could be as much as 12 to 18 months so productivity of the staff could also be affected during that time. Transferring of information and cost involved within and different healthcare groups are other challenges for paper records conversion.

6. FUNCTIONAL COMPONENTS OF AN ELECTRONIC HEALTH RECORD SYSTEM

EHR is not simply an electronic version of the paper record. When the record is part of a comprehensive EHR system. There are various components and may contain mainly below:

Patient data

Any Clinical Support

Clinician entry

Access to knowledge resources

Various communication and reports.

7. ADVANTAGES AND DISADVANTAGES OF ELECTRONIC RECORDS

- Increase in speed of information exchange and enables users to conduct more advanced searches.
- Require little storage space resulting in cost saving. Magnetic discs and optical media provide even greater space savings.
- Storage cost is much less than the equivalent number of paper records.
- Easy to copy and take very small amount of time.

8. PRESERVATION OF ELECTRONIC RECORDS

ERs among all types of organizations, preservation of ERs is an important problem that many people are facing in the industry [6]. Preservation of ERs will focus mainly on the purpose, access levels and multiple access, and duration of the preservation period. The purpose refers to the owning organization's intention of preserving the records and the information content. Preservation of records is vital as they can be kept for future references. Level of access is also crucial for ERs. Level of access is also crucial for ERs.

9. LIFECYCLE OF ELECTRONIC RECORDS

ERs need to be actively and properly managed according to the established procedures. Figure 1 shows the various phases in the lifecycle process of electronic records

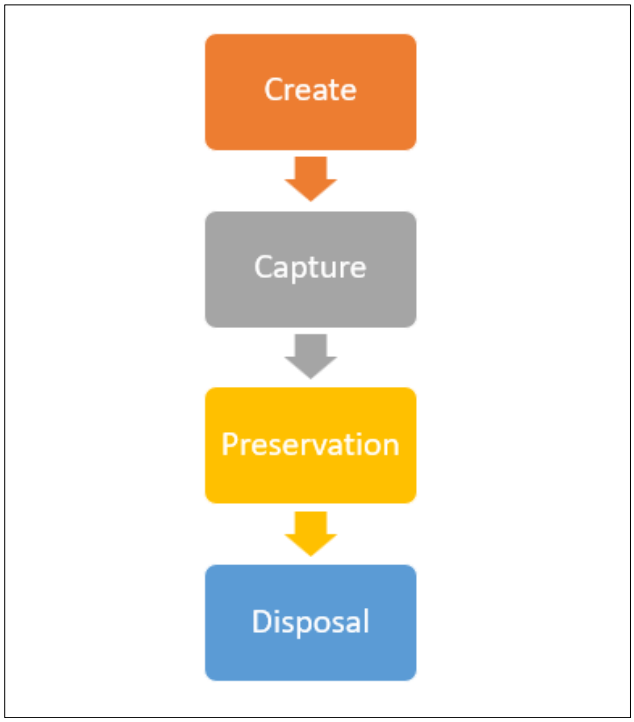

Figure 1

Create: Create refers to the initial creation of a record within an established Records Management System (RMS).

Capture: Capture Refers to the record or update the required information in to the Patient record.

Preservation: Preservation refers to the strategies and methods of migrating and keeping the records for future access by upgrading to the latest hardware and software platforms.

Disposal: Disposal refers to the process of transferring the records to permanent archives, preservation or for final destruction

10. CONCLUSION

The introduction of EMR has significantly influenced the management in filing, chart tracking, retrieving, sharing data, etc. of medical records. Once the medical records are in electronic form, in various operations the basic functions of Healthcare Information Management System (HIMS) would become very easy. EMRS allows concurrent access to the data on the medical records to multiple users. It also helps in saving physical housing space of the hospitals, which is an expensive component in all types of places. With the move towards a paperless environment, HIMS professionals will need to focus on efficient systems that provide accurate data timely, reduce space, and help in managing records innovatively. Besides the healthcare professionals, patients also reap the benefits of good EMRS in terms of better quality of care, improved drug safety and fewer repeated tests. Having a successful EMRS will not only capture, store and manage data effectively but also allow all authorized personnel to access simultaneously so that everyone will get maximum benefits from the system.

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