

THE DIGITAL CONVERSION OF MEDICAL RECORDS



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Anyone who visited a physician's office recently will have noticed a change in the way that a doctor greets the patient. The healthcare provider now enters the room carrying a laptop and the visit begins with a few moments of silence as the physician reviews the computer to ascertain the patient's medical history. For you see, the days of the paper chart and the clinician handwriting an impression or diagnosis are a thing of the past. Healthcare professionals have transitioned to electronic medical records ("EMR").¹

I. AN INTRODUCTION TO ELECTRONIC MEDICAL RECORDS

An electronic medical record is a digital version of the patient's paper chart and represents a medical record for a single facility, such as the family doctor, group practice or hospital.² The electronic record will include such things as biographical information, the patient's past medical history, test results including blood and diagnostic studies, summaries of office visits, and other information relevant to the person's health. The document may also include reports or encounters with other healthcare providers.³ In turn, these records are organized in a data-gathering configuration that allows for the retention and transfer of confidential health information in a protected fashion.⁴

Numerous advantages are espoused for a digital file such as improved legibility of handwriting, increased quality of patient care, better departmental communications, less paper confusion and lost charts, instant

access to potential lifesaving information and the reduction in medical errors.⁵ Paper charts also had to be stored, so a dedicated space had to be maintained. Every time a patient came to the office, someone had to locate and pull the file.⁶ A computer based storage system eliminates these issues, provides instant access to a patient's records and allows the medical file to be viewed from a remote location.⁷

The digital version of a patient's chart, however, is not without problems. Setting aside the high startup and maintenance costs, there are privacy and security issues. For example, the American Health Information Management Association estimates that during a hospital stay, about 150 individuals will have access to a patient's chart.⁸ While most will have a legitimate reason for viewing the record, there is a paucity of laws that regulate who these people are, what information they may access and what they are able to do and not do with the patient's information once it has been seen.⁹

Medical errors have arisen because physicians have utilized the computer's cut and paste function to record office notes.¹⁰ It is estimated that between 74 and 90 percent of doctors use this function in their electronic medical records, and between 20 and 78 percent of physician entries are copied paragraphs.¹¹ This practice may save time but it compromises patient safety and prejudices the level of care since changes in the person's status between examinations may go unnoticed or not be properly recorded.¹²

II. OBTAINING ELECTRONIC MEDICAL RECORDS

Obtaining electronic medical records presents unique challenges not encountered with the paper file. Counsel must make sure that a complete copy of the patient's chart has been delivered. The electronic file should contain the same parts found in the traditional paper file, but that is not always the case. Some portions of the digital file will be combined and other parts will not automatically be printed.¹³ One must also be mindful that the patient's paper file may not have been completely converted to a digital file and some of those prior records may be missing. Therefore, any request for records should include a demand for all paper records as well as a printout of the electronic file.¹⁴

Some medical records departments may not treat electronic records as the equivalent of a paper chart and they may fail to copy electronic files in response to a demand for a hard copy of the records. Therefore, a request for the chart should contain wording that such demand includes "printouts of all patient records kept in electronic form or on computers, including all electronic medical records and health records."¹⁵ Counsel should also request an accounting of disclosures or the "private health information disclosure log."¹⁶ This is a HIPAA required list of where, when, what and to whom a chart has been given. This log is important because it will assist counsel in ascertaining what healthcare providers and attorneys have accessed the record as well as locating other copies of the chart for comparison purposes.¹⁷

Electronic medical records also lack uniformity in the computer printout. This is a reflection of the many different software systems being used with their own individual and varied platforms¹⁸ as well as the customization and upgrades that may change the look of the printed record.¹⁹ Furthermore, medical providers differ in the number of electronic medical record systems they may use. Some utilize a single platform while others maintain systems from a number of suppliers.²⁰ This absence of consistency may make it difficult for an attorney to develop a comfort zone or rhythm in reading electronic medical records.

There is one important advantage, however, that counsel should not overlook; the patient portal. This is a protected online website that allows patients to access their medical records at any time so long as

there is an Internet connection. The patient is able to view and print out the notes from visits, results of diagnostic and blood tests and discharge summaries.²¹ This allows the patient to print out a part of the chart and show it to the attorney without counsel having to order the information.²²

III. SPECIAL CONSIDERATIONS REGARDING ELECTRONIC MEDICAL RECORDS

Hospitals have made great progress in the conversion to electronic medical records. Frequently, they begin the switch with a few inpatient units to work out any complications before instituting the system hospital wide. Counsel will frequently see the inpatient areas "go live" several months before the emergency department, the procedural areas, the operating rooms or outpatient services. Unfortunately, this fractured system of communication can lead to errors in patient treatment.

Sometimes within the same facility, different departments are documenting the patient's progress on different software platforms. Common examples include the pharmacy, radiology (archived x-ray images), laboratory, cardiac catheterization lab, operating room, and ICU monitoring systems including remote telemetry monitoring and remote monitoring (telemedicine). Also, the medication dispensing system can generate reports that can be very beneficial to the assessment of a case. An example is a system called Pyxis which automatically dispenses medication.²³

Smaller hospitals may not have their own hemodialysis departments. Therefore, they generally provide space for a dialysis agency to provide inpatient treatments. These records become part of the patient's chart, but often they are in a paper format. Some hospitals do not permit access to their computer system by outside services.

IV. DECISION SUPPORT SOFTWARE AND ALERTS

Many systems have decision support software and alerts. These safety features provide "pop-up" screens or alerts to assist physicians in such things as medication dosing, dangerous drug incompatibility, and meeting core measures. Nurses also may receive alerts regarding critical laboratory results, overdue assessments and the like. Both physicians and nurses can choose to accept these prompts or bypass them.

It is an important part of discovery to ascertain what decision support and pop-up alerts are in use with the electronic record system. The information technology department should be able to provide a printout of when the prompts were generated and whether they were acknowledged or dismissed by caregivers.

V. COMPUTER DOWNTIME

Hospitals which have converted to a digital records system still have occasion to use paper documentation. One specific example is when “downtime” occurs. This can either be scheduled in order to perform maintenance or upgrades, or it can be catastrophic—an unexpected event with no determined end time. During this period, the staff must follow specific procedures which are variable depending upon the amount of time the computer system is unavailable. For short periods of two hours or less, the staff will jot down vital information and then back-chart it when the system again comes online. For longer periods, the healthcare provider will revert to previous paper charting methods. Depending upon the individual hospital’s policies, the staff may not have to manually enter this information into the computer and the paper record becomes part of the chart.

Unfortunately, computer downtime is an occurrence fraught with the possibility of errors. The timing of events when back-charting is sometimes dependent upon the staff member’s memory and is rarely accurate. Also, hospital personnel must remember to change the time in the computer to properly reflect the time of the event. Otherwise, the incident or recording will appear to have happened at a point later than it actually occurred.

A staff member working the subsequent shift may not know that there was a downtime and may not know to refer to the paper record to determine the proper timing of medication or results of point of care testing (for example blood sugar testing).

VI. LEGAL ISSUES INVOLVING ELECTRONIC MEDICAL RECORDS

A. Admissibility of Electronic Medical Records

Federal Rule of Evidence 803(6) deals with the admissibility of electronic medical records and makes them an exception to the hearsay rule if the record is created in the regular course of business and the healthcare

provider makes the entry as part of its regular practice. The record must also be authenticated by the records custodian or other qualified witness before it can be admitted into evidence.²⁴ Fed. R. Evid. 803(4) further allows statements made for the diagnosis or treatment into evidence if the declaration is reasonably related to the patient’s treatment and it depicts the medical history, symptoms or their cause.

The admissibility of EMR in state courts requires a review of each jurisdiction’s rules of evidence but some states have passed legislation on the issue. For example, Indiana has enacted the Hospital Medical Records Electronic Data or Electronic Image Processing Statute.²⁵ This law provides that entries made in hospital medical records may be authenticated by showing that:

- The electronic data processing equipment is standard equipment in the hospital;
- The entries were made in the regular course of business at or reasonably near to the happening of the event or order, opinion, or other information recorded;
- The security of the entries from unauthorized access can be demonstrated through the use of audit trails; and
- Records of all original entries and subsequent access to the information are maintained.²⁶

Based upon this Rule, the recording of an electronic hospital record is considered an original written record and printouts will be treated as an original record for evidentiary purposes. Nevertheless, there are two things which may influence the admissibility of the chart; whether the note is medically relevant to the treatment and whether the entry is one of fact or opinion.²⁷ Likewise, North Dakota provides that an electronic medical record, whether in written or printed form, shall be considered an original record for the purpose of its admissibility into evidence.²⁸ Several states, however, do not specifically address the issue but have passed laws requiring electronic medical records to be treated the same as a paper version. North Carolina permits the creation of an electronic version of a paper chart, but it must be kept in a legible and retrievable format and the law allows for their authorization by a written or digital signature in lieu of a signature in ink.²⁹ Furthermore, the legal rights

and responsibilities concerning records created or maintained in an electronic format shall be the same as those medical records embodied in paper or other media.³⁰ Louisiana's law applies to digital technology in general and notes that an electronically digitized copy, when satisfactorily identified, shall be considered the same as an original, and shall be admissible in evidence. La. Rev. Stat. Ann. §44:39.

B. Audit Trail

A digitally created document is easy to change and leaves no telltale sign that the record has been altered. Just look at the practice of law. Forms can be duplicated and reused in a different case and documents can be corrected multiple times with no evidence of the modification. Does this ability to alter the document jeopardize the integrity of the electronic medical record? Can a healthcare provider erase or change an entry to eliminate any evidence of a mistake?

This problem was considered by HIPAA, which requires that every healthcare provider who uses a computerized medical record have a system in place that creates a written record detailing all electronic entries as well as every access to the digital chart.³¹ This ensures that the EMR cannot be altered without detection at a time subsequent to the entry.³² One limitation, however, is that the log cannot show what was recorded in the chart before it was changed.³³ This record is known as an "audit trail" and it is a chronological listing that protects against the modification of an electronic record without leaving behind a sign of the alteration.³⁴ As noted in *Fundamentals of Law for Health Informatics and Information Management*, an audit trail³⁵ is a "record that shows who has accessed a computer system, when it was accessed, and what operations were performed."³⁶ To provide an example of an audit trail, let us look at a pathologist who inspects a specimen and makes a diagnosis that is posted in the electronic medical record. The audit trail will show the date and

time the results were posted as well as the name and time of any person who subsequently logged into the record to review report.³⁷ The audit trail cannot be deleted, so all transactions dealing with access to the chart will be permanently listed in the log.³⁸ Therefore, counsel should consider requesting a copy of the audit trail if the authenticity of an entry is in question.

Not everyone, however, believes that the audit trail provides the necessary protection to guarantee the accuracy of the record. Critics assert that the correctness of an audit trail may be undermined by the ability of the healthcare provider to turn off the audit function, modify the software, or make alterations either deliberately or as the result of an error.³⁹ It is, therefore, important to use the discovery process to determine whether the audit trail is a complete and accurate depiction of a patient's medical chart.⁴⁰

VII. CONCLUSION

The advent of electronic medical records has provided many benefits to patients and clinicians alike, but it also has created new challenges for attorneys. Many physicians and lawyers who have worked with this new digital system do not like it for a number of reasons.

Demands for discovery must include the many details specific to the EMR, such as inquiries regarding computer downtime during the plaintiff's treatment, audit trails, decision support, alert data and information from other applicable software applications that were in use. Counsel should also request all policies and procedures related to electronic documentation.

The bottom line is that electronic medical records are here to stay so counsel must become familiar with the nuances of the various digital systems, adjust their discovery requests to guarantee that the full chart is produced and be prepared to spend more time trying to decipher the medical information presented. 📌

Notes

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