Medical Records: Documentation, Access, Retention, Storage, Disposal, and Closing a Practice

Observe, record, tabulate, communicate.

-Sir William Osler (1849-1919)

Introduction

The Washington Medical Commission (Commission) provides this guidance document to physicians and physician assistants (practitioners) on the appropriate documentation of a medical record; special considerations for maintaining an electronic health record (EHR); legal requirements involving access, retention, storage and disposal of medical records; and the handling of records if a practitioner is under discipline or closing a practice. The Commission recognizes that in some specialties and practice settings, practitioners may not have control over the records and may not be able to fully implement the recommendations made below. The Commission appreciates the variety of medical specialties and practices in our state and urges practitioners to exercise reasonable judgment in the application of the guidance document. An appendix contains a history of the medical record, illustrative examples of complaints made to the Commission regarding medical records, and additional information on the implementation and management of EHRs.

Guidance

I. Documentation

A. Purpose of the Medical Record

As part of delivering high-quality, safe, and integrated medical care, it is critically important that each practitioner maintains accurate, clinically useful, timely, and consistent medical records. A practitioner should maintain a medical record for each patient for whom they provide care. Notes, either handwritten, typed or dictated, must be legible. Dictation must be transcribed, reviewed, and signed within a reasonable time. The practitioner must ensure that the transcription of notes is accurate, particularly when using dictation or voice-recognition software.

The medical record is a chronological document that:

1. Records pertinent facts about an individual's health and wellness;

2. Enables the treating practitioner to plan and evaluate treatments or interventions, making clear the rationale for diagnoses, plans and interventions;

3. Enhances communication between professionals, to help optimize a patient's continuity of care;

4. Assists both patient and practitioner in communication with third party participants;

5. Facilitates the practitioner's development of an ongoing quality assurance program;

6. Provides a legal document for verification and/or audit of the delivery of care; and

7. Is available as a source of clinical data for research and education.

B. The Essential Elements of a Medical Record

The practitioner should include the following elements in all medical records:

1. The purpose of each patient encounter and appropriate information about the patient's history and examination, the patient's perspective and preferences, the plan for any treatment, and the care and treatment provided;

2. The patient's pertinent medical history including serious accidents, operations, significant illnesses, and other appropriate information;

3. Prominent notation of medications, or a statement of their absence;

4. Prominent notation of any known allergies to medications and other allergens including the severity of the reaction (e.g., aspirin (hives), bee stings (anaphylaxis)), or a statement of their absence;

5. Clearly documented informed consent obtained from the patient or from a person authorized to consent on behalf of the patient. In some emergency situations, the reason for a lack of informed consent should be clearly documented; and

6. The date of each entry, and the time as appropriate.

C. Additional Elements of a Medical Record

The following additional elements reflect commonly accepted standards for medical record documentation:

1. Each page in the medical record contains the patient's name or ID number;

2. Personal biographical information such as home address, employer, marital status, emergency contact information and all telephone numbers, including home, work, and mobile phone numbers;

3. Each entry in the medical record contains the author's identification. Author identification may be a handwritten signature, initials, or a unique electronic identifier;

4. All drug therapies are listed, including dosage instructions and, when appropriate, indication of refill limits. Prescription refills should be recorded;

5. Encounter notes should include appropriate arrangements and specified times for follow-up care;

6. All consultation, laboratory, and imaging reports should be entered into the patient's record, reviewed, and the review documented by the practitioner who ordered them. Abnormal reports should be noted in the record, along with corresponding follow-up plans and actions taken;

7. An appropriate immunization record is kept up to date by the primary care provider and, ideally, readily accessible by all clinicians caring for the patient, as technology permits;

8. Documentation of appropriate preventive screening and services being offered in accordance with accepted practice guidelines, as relevant to the visit and/or the specific provider's role in caring for the patient; and

9. Documentation of any other person(s) present during the encounter.

Where possible, the practitioner should avoid judgmental language in the medical record. The practitioner should consider that patients increasingly have access to and will read their own medical record. The practitioner should also be aware that a patient has a statutory right to submit a concise statement describing a correction or amendment for inclusion in the medical record. RCW 70.02.110. For a history of the medical record, see Appendix, Part I.

D.   Special Considerations When Using an EHR

The EHR is a digital version of the traditional paper-based medical record that documents health care that took place within a practitioner's office, single health care facility or health care system as well as all other communications (records of phone calls, emails, etc.) between the health care team and the patient.[1] The ideal EHR is designed to contain and share information among all involved practitioners, patients, and their designated caretakers.

The EHR offers a number of potential benefits over the paper medical record. However, as with any innovation, there are challenges and potential hazards in its meaningful use. The Commission recognizes several problematic documentation practices while using an EHR that in some instances interfere with delivery of high-quality, safe, and integrated medical care; impede medico-legal or regulatory investigation; or are fraudulent.

1.   Recommendations for Practitioners

The patient record in an EHR should reflect the same, or improved content and functionality, as that produced in traditional formats. The following recommendations, which are not necessarily exhaustive, are intended to inform practitioners of the appropriate use of an EHR, and to indicate how the Commission will evaluate a medical record, including records that are the product of an electronic system.

a. A practitioner using an EHR must ensure the following:

- Authorized use and compliance with state and federal privacy and security legal requirements, and with institutional privacy and security policies;
- A timely, accurate, succinct, and readable entry;
- Consistency and accuracy between various aspects of a record; and
- Assumption of ultimate responsibility for trainees' and scribes' documentation.

b. Retention or re-entry of inaccurate, inconsistent, or outdated information in the EHR from historic entries should be avoided. Original information needs to be retrievable from a separate location in the EHR via a secure and permanent audit trail.

c. A practitioner's actions and decision-making should be accurately reflected in the documentation and include a description of any shared decision-making process that was utilized.[1]

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[1] EHRs have the potential to support shared decision-making. Studies show that EHRs that have incorporated shared decision-making tools result in improved clinical outcomes. *The Promise of Electronic Health Records to Promote Shared Decision Making: A Narrative Review and a Look Ahead*, Medical Decision Making, Vol. 38(8) 1040-1045 (2018). For more information on shared decision making, see the Washington State Health Care Authority web site on shared decision making, and the Bree Collaborative web site describing its work on this topic.

d. Documenting aspects of a practitioner-patient interaction that did not transpire, such as indicating that components of a physical examination were performed when they were not, even when it occurs inadvertently because of EHR design or function, may be considered fraud.

e. When documentation about a significant aspect of the practitioner-patient interaction is not present, the assumption is that it did not occur.

f. It is important to distinguish those portions of the history that were obtained by the note writer from those that were copied or carried forward from another practitioner's note.[2] The practitioner must recognize that "carry forward" or "cut-and-paste" functions, even when done automatically by the EHR software, create significant risks to patient safety. Concerns about "clinical plagiarism" or fraudulent billing may arise when appropriate and accurate attribution of copy-paste or carry-forward information is missing from an EHR note. Practitioners should carefully review and edit any EHR-generated note to assure its accuracy prior to authenticating it.

g. Laboratory and imaging data should only be brought into the practitioner's note when pertinent to the decision-making process for the patient. Wholesale importation of laboratory data and imaging data that is already documented elsewhere in the chart is to be avoided as such practice can make interpretation of medical records by subsequent caregivers extremely difficult.

h. The practitioner should ensure that problem lists, and medication lists, are kept current and that they are not cluttered with outdated information.

Examples of complaints received by the Commission relating to EHRs can be found in Appendix, Part II.

2. Suggestions for EHR Software Developers and Healthcare Institutions

The fruitful evolution of the EHR will require collaboration between entities that develop and purchase EHR systems and practitioners who use the EHR. The primary goal of the EHR is to promote high-quality, safe, and integrated health care. Other roles, such as documentation to support coding and billing, are secondary. It is unfortunate that, in general, these roles seem reversed in current EHR systems. With this in mind, the Commission offers suggestions about potential EHR improvements for software developers and health care institutions and believes that practitioners should be involved in collaborative efforts with those entities to improve the EHR.

a. Practitioners and clinical information specialists have an important role to play in the development, decision-making, evaluation and improvement of EHR systems.

b. EHR systems should result in a patient record that is organized, concise, and easily readable. Lengthy and redundant information in the EHR, a source of common practitioner complaints, makes it difficult for other practitioners to identify data within the EHR that is relevant to actual patient care.[3]

c. EHR systems should also include tools to support the practitioner to use best practices when available as well as shared decision-making.

d. An ultimate goal of the EHR universe should be widely compatible systems allowing seamless transfer and sharing of electronic medical information within and among practitioners, medical offices and clinics, hospitals and other health care institutions, as well as patients and their caregivers.

e. It is essential to have capacity within EHR systems to correct errors as soon as they come to light, and thereby prevent their perpetuation. The original documentation must be retrievable in the EHR via secure and permanent audit trail.

f. As patients increasingly have access to their EHRs, they will undoubtedly find information within the medical record that is erroneous or with which they disagree. There should be a mechanism in place within healthcare institutions to respond to patients' questions and concerns that arise from review of their EHR, and to allow patients to submit a correction or amendment for inclusion in the medical records. RCW 70.02.110.

g. Software supporting EHR clinical documentation should be designed and constructed for the type of practitioner (e.g., pediatrician, surgeon, cardiologist) who will use it and the context in which it will be employed (e.g., training, admitting, consulting, ambulatory). It should automatically attribute information to each author.[4]

h. Medical records serve many audiences who need to be considered in the design and implementation of EHR systems. To meet their potential, EHRs should incorporate comprehensive decision support that do the following:

- Lead to improved patient outcomes;
- Ensure safe transitions of patients from one practitioner, facility, or office to another;
- Allow easy tracking and reporting of patient care metrics and outcomes; and
- Promote patient-centered communication between patients and the health care system.[3]

i. Health care institutions should consider having mechanisms in place to monitor documentation quality and practitioner satisfaction with the EHR, and to identify changes to support improved usability, validation, integrity, and quality of data within the EHR.[4]

j. The EHR should be designed for maximum portability and interoperability of information to benefit the patient and the public's health. Full integration into the Washington State Health Information Exchange provides benefit to the patient requiring treatment when away from their medical home and provides meaningful data to assess population health. Technology vendors should design their systems with these functions as standards and institutions should mandate these functionalities as standard requirements for their implemented systems.

k. The EHR should support rapid, minimally complicated integration with the state's prescription monitoring program to facilitate inquiry in that system.

For additional information on the implementation of an EHR, see the Appendix, Part III.

II. Handling, Accessing, and Amending Medical Records

A practitioner's handling of medical records under their control should be designed to protect patient privacy, to benefit the health and welfare of patients, and to facilitate the transfer of clear and reliable information about a patient's care. The Commission recognizes that EHR systems may not be compatible, which often makes that last goal challenging when sending records to a practitioner in another EHR system. Practitioners should do the best they can to protect privacy and to provide medical records to patients, and other practitioners as indicated, in a usable format. Practitioners should be aware of the following

recommendations, statutes, and regulations as they address the authority of patients[2] to access, and potentially amend, their medical records.

A. To prevent misunderstandings, the Commission recommends that practitioners ensure that their offices or practices have policies regarding how patients may obtain copies or summaries of medical records. These policies must comply with the law and should be made available in writing to patients when the practitioner-patient relationship begins.

B. Per RCW 70.02.080, a practitioner is legally obligated to make medical records available to a patient to examine or copy within 15 days of the request. A practitioner may deny the request under circumstances specified in RCW 70.02.090.

C. Except for patients appealing the denial of social security benefits, the practitioner may charge a reasonable fee for making records available to a patient, another provider, or a third party and is not required to honor the request until the fee is paid. RCW 70.02.030(2). What constitutes a reasonable fee is defined in WAC 246-08-400. The practitioner cannot, however, withhold the records because an account is overdue, or a bill is owed.

D. A patient has a statutory right to submit a concise statement describing a correction or amendment for inclusion in the medical record. RCW 70.02.110.

E. The failure to provide medical records to patients in violation of RCW 70.02 can result in disciplinary action by the Commission.

F. The Commission recommends that practitioners review and comply with all federal laws that address accessing or amending medical records including, but not limited to, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and 45 C.F.R. Section 164.526.

III. Handling Medical Records if a Practitioner Is Involved in Disciplinary Action

Disciplinary action by the Commission including, but not limited to, suspension, surrender or revocation of the practitioner's license, does not diminish or eliminate the obligation to provide medical records to patients.

IV. Storage of Records

A practitioner is responsible for safeguarding and protecting the medical record, whether in electronic or paper format, and for providing adequate security measures. A practitioner may contract with a third party to act as custodian of the medical records. The responsible person, corporation, or legal entity acting as custodian of the records must comply with federal and or state confidentiality laws and regulations.

V. Retention of Medical Records

The Commission appreciates the variety of medical specialties and practices in our state and urges practitioners to exercise reasonable judgment as they apply the following recommendations to their retention of medical records.

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[2] Legal protections of patients to access or amend their medical records include authorized patient representative(s) acting on the patient's behalf as permitted by law.

A. There is no general law in Washington requiring a practitioner to retain a patient's medical record for a specific period of time.[3]

B. When appropriate, the Commission concurs with the Washington State Medical Association recommendation that practitioners should retain medical records and x-rays for at least:

- Ten years from the date of a patient's last visit, prescription refill, telephone contact, test or other patient contact;
- Twenty-one (21) years from the date of a minor patient's birth;
- Six years from the date of a patient's death; or
- Indefinitely, if the practitioner has reason to believe:
  - The patient is, or was, incompetent;
  - There are, or were, significant concerns involving a patient's care; or
  - The patient is, or is likely to become, involved in litigation.

C. A practitioner should consider whether it is feasible to retain patients' medical records indefinitely.

D. A practitioner should verify the retention time required by their medical malpractice insurer.

E. A practitioner should inform patients how long the practitioner will retain medical records.

VI. Disposing of Records

When retention is no longer required, records should be destroyed by a secure means.

A. The Privacy Rule in HIPAA prohibits digital and paper records containing confidential information from being thrown away in a public dumpster or recycling bin until they have been rendered unreadable or indecipherable by shredding, burning or other method of destruction.

B. A practitioner should give patients an opportunity to claim their records or to have them sent to another practitioner before the records are destroyed. However, for some practitioners, the nature of their specialties may make notifying patients impractical.

VII. Handling Medical Records When Closing a Medical Practice

The Commission recognizes the complexity of closing a practice and provides this guidance to use as a tool. Please note that the recommendations in this section may not apply in the following instances: (1) A practitioner leaves a multi-practitioner practice and the remaining practitioners in the practice assume care of the patients and retain the medical records; or (2) a practitioner has not had ongoing relationships with patients, and the patients' records have been provided to their referring practitioners, the patients' primary care providers, or directly to the patients themselves. Otherwise, in preparing to close a practice, a practitioner should do the following:

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[3] RCW 70.02.160 requires a health care provider to maintain a record of existing health care information for at least one year following receipt of an authorization to disclose that health care information and during the pendency of a patient's request either to examine or copy the record or to correct or amend the record. For hospital medical record retention requirements, see RCW 70.41.190.

A. Prior to closing a practice, a practitioner should notify active patients and patients seen within the previous three years.

- Notice should be given at least 30 days in advance, with 90 days being the best practice.

- Notice should be given by at least one, but preferably all, of the following:
    - Individual letter to the last known patient address;
    - Electronically, if this is a normal method of clinical communication with the patient; or
    - Placing a notice on the practitioner's web site, if the practitioner has a web site.

- If the practitioner is part of an institution or multi-practitioner practice, the institution or practice may provide notice of the closing of the practice, but it is the practitioner's responsibility to ensure those arrangements have been made.

- Notice should include the following:
    - The name, telephone number and mailing address of the responsible entity or agent to contact to obtain records or request transfer of records;
    - How the records can be obtained or transferred;
    - The format of the records, whether hard copy or electronic;
    - How long the records will be maintained before they are destroyed; and
    - The cost of recovering records or transferring records as defined in Chapter 70.02 RCW.

B. The practitioner is encouraged to provide notice to the local medical society, whether the practitioner is a member or not.

C. If the practice closes due to the practitioner's death, the practitioner's estate becomes the owner of the medical records and is encouraged to provide notification to patients.

D. The obligation to make medical records available to patients and other practitioners continues even after a practitioner closes a medical practice.

There is no more difficult art to acquire than the art of observation, and for some it is quite as difficult to record an observation in brief and plain language.

-Sir William Osler (1849-1919)

Appendix

I. History of the Medical Record

The medical record, as an entity documenting an encounter between a patient and a practitioner, is a relatively new concept. Prior to the turn of the 20th century, patient case reports were written retrospectively, primarily for the purpose of teaching [5], with less emphasis on continuity of care. In the early 1900's, real-time documentation describing patient history and treatment was an emerging format, but patient care data were scattered and disorganized. A first step towards improving the quality and utility of medical documentation occurred in 1907 when assigning a unique number to each patient and consolidating all data for that patient into a single record was introduced.[5]

As medical education and the medical profession progressed following the Flexner Report in 1910 [2], it became necessary to document a patient's history for continuity of care and to accommodate growing involvement of medical and surgical specialists. In 1918, the American College of Surgery initiated a requirement that hospitals maintain records on all patients so that their content could be used for quality improvement.[5]

Throughout the 20th century, standards for formatting of the medical record continued to evolve. The Problem Oriented Medical Record (POMR) was introduced by Dr. Lawrence Weed in 1968.[5] The initial intent of the POMR was as an educational tool to help trainees organize their decision-making and treatment plan around each of a patient's separate medical problems.[6] [7] However, the POMR gained widespread acceptance among practitioners at all levels as did the SOAP (Subjective-Objective-Assessment-Plan) note format, which was derived from the POMR.[8] Additionally, within health care institutions and specialties, standards have emerged for documenting various types of encounters between practitioners and patients (e.g., History and Physical, Operative Note, Ambulatory New and Return Patient Notes, Interim and Discharge Summaries).

Requirements for clinical documentation were dramatically altered by release of the Evaluation and Management (E&M) guidelines by the Centers for Medicare & Medicaid Services (CMS) in 1995 and 1997.[8] Intended as a measure of cognitive (as opposed to procedural) services, the E&M guidelines specified the format and necessary components to be included in the medical record to support specific CPT codes for billing. The complexity of these requirements led many practitioners to rely on medical record templates, which were designed to promote compliance with E&M guidelines.

Until the late 20th century, the medical record was largely recorded on paper, either written longhand, or dictated and then subsequently transcribed. In part driven by approximately $30 billion of federal incentive payments over the last five years, the rate of EHR adoption has since risen quickly, [9] such that practitioners and health care institutions not currently using EHR are now outliers. The EHR has specific goals (Table 1) and serves the needs of a variety of audiences (Table 2).

Table 1: Goals of the Medical Record[4] (as informed largely by Shoolin, et al [4])

> ➢ Tell the patient's unique story as it relates to the patient's concerns ("the patient voice");
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> ➢ Document the pertinent history and physical exam findings, in addition to the pertinent diagnostic testing results and decision-making processes undertaken by the practitioner, for each patient encounter;
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> ➢ Provide other pertinent clinical information to allow covering or consulting colleagues to maintain care and make informed decisions regarding further care;
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> ➢ Support coordinated longitudinal plans of care and care transitions within and across organizations;
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> ➢ Provide a clear and easily understood summary of the encounter, including the practitioner's assessment and plan;
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> ➢ Document conversations that occur with the patient or the designated caretaker including but not limited to the risks, benefits and alternatives discussed involving informed consent or shared decision-making;
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> ➢ Create the legal record of a patient's medical and surgical care;
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> ➢ Create the legal business record of the practitioner's practice or institution;
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> ➢ Satisfy reasonable documentation requirements from insurers or payers; and
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> ➢ Support population health data collection and research.

Table 2: Medical Record Audiences

> ➢ Patients and their designated representatives;[5]
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> ➢ Fellow practitioners;
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> ➢ Other members of the health care team;
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> ➢ Health care systems or institutions;
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> ➢ State agencies/regulatory bodies including but not limited to the Commission;
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> ➢ Workers' compensation programs or Social Security;
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> ➢ Legal counsels, courts, and juries;
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> ➢ Insurers or payers; and
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> ➢ Researchers.

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[4] These goals are similar to the intentions of "Meaningful Use." For additional background, refer to: http://www.healthit.gov/providers-professionals/meaningful-use-definition-objectives

[5] With implementation and expansion of the EHR, patients either already have or soon will have greater access to their own health information.

II. Examples of Complaints Received by the Commission Relating to EHRs

After reviewing many complaints about EHRs, the Commission is concerned about problematic features of EHR implementation and use and offers the following examples of EHR-related problems, which are based on cases reviewed by the Commission.

- A patient complains that a practitioner documented a complete physical examination in the EHR when only a focused examination of a patient's rash had been performed.

- Under the physical examination section of a patient's EHR, "tympanic membranes within normal limits" is explicitly stated, but in the assessment, the patient is described as having a "right acute otitis media."

- An error in a CT report about a mass in the right kidney is subsequently corrected to indicate that the mass is in the left kidney. The original diagnosis of right kidney mass is carried forward in the EHR problem list, leading to a wrong-site surgery.

- A primary care practitioner forgets to include a patient's bleeding disorder in the EHR problem list following his first appointment with the patient. The incomplete problem list is carried forward without review or update for inclusion in numerous other documents. During major surgery two months later, the patient suffers a massive hemorrhage. The surgeon was unaware the patient had a bleeding disorder.

- A practitioner complains that her colleague copies and pastes the assessment portion of patients' EHR, including detailed medical decision-making, from other practitioners' notes and then bills at a higher level than his actual work would support.

- A patient files a medical malpractice claim after a delay in diagnosis of a brain tumor. The practitioner says that she performed a complete neurologic examination, which was normal, but the EHR documentation for the neurologic portion of the examination only states "Patellar reflexes 2+ bilaterally."

- A judge in a medical malpractice case found the EHR inadmissible because it contained so much redundant and irrelevant information.

III. EHR Implementation Benefits and Challenges

Potential benefits and advantages of the EHR. There are potential benefits of the EHR, particularly as compared to paper medical records. Certain capabilities of the EHR may present both the potential for improving and for interfering with optimal documentation and patient care, which reinforces the importance of thoughtful and careful EHR planning, implementation, and use.

- Legibility: Handwritten notes could be illegible.

- Potentially greater efficiency for practitioners who, under increasing time pressures and facing large volumes of data, need ways to streamline their record keeping.

- Reviewing and documenting in the EHR can be done remotely.

- Within an EHR, there is the capability to transfer important information about a patient from one note to another, reducing the need to rewrite information that has not changed.

- EHR templates save time by displaying information in a standard format and relieving the practitioner of reestablishing a format each time a similar note is needed.

- More efficient computer entry, "real-time," i.e., during a patient encounter, could save time and reduce the need to recall details about the patient visit at a later time, potentially leading to greater accuracy.

- Better system efficiency including data retrieval, remote access, and transfer of information. Electronic access eliminates the cost and time needed to request and locate the hard chart. It also diminishes the chance of lost records, physical space required to store charts, and the need for personnel to assemble, store, and retrieve paper records.

- EHR systems allow multiple providers to simultaneously enter data during a patient encounter. This saves time tracking down and waiting to document in the hard chart.

- The EHR is more readily searched than the hard chart, which often existed in multiple volumes. The EHR is typically indexed by type of record, author, and date.

- EHRs integrate different types of information that at one time were maintained in separate paper files in the inpatient setting (e.g., practitioner orders, nurses and other ancillary staff documentation, prescription and medication administration records, allergies, vital signs, laboratory and radiographic studies, problem lists, and demographic information), into a single system and allow such information to be imported into electronic clinical notes.

- Real-time reminders and alerts can be incorporated into an EHR system including:
  - reminders about health care maintenance (e.g., immunization timing),
  - education (e.g., link to evidence-based guidelines), and
  - error checks (e.g., alerts about allergies or potential drug interaction or incorrect medication dosing).

- Improved regulatory and security monitoring of the EHR includes "meta-data" (such as date and time stamps) and audit trail information that didn't exist in the legal paper record.

- Ease of quality improvement and research studies electronic data are more readily accessible for quality improvement, public health, and research studies.

Potential challenges with EHR implementation. The EHR theoretically promises to improve efficiency and communication, reduce errors, and improve quality of care. Yet, every advance brings with it the potential for new problems, and the EHR is no exception. There are serious negative implications to poorly designed EHR systems, suboptimal EHR implementation, or careless EHR use by practitioners. Problematic aspects of poor-quality EHRs include containing inaccurate, inconsistent, or incomplete information, or obscuring important information among unneeded or redundant details. A poor-quality medical record may adversely impact current or future patient care, transfers of care, and medico-legal investigations, while also contributing to practitioner burnout. Practitioners should be aware of the following EHR challenges as they implement the recordkeeping method that works best for their practices.

- **Increased workload:** Data entry into the EHR can be time-consuming, particularly for practitioners who do not type well,[6] and is recognized as a major cause of burnout among practitioners.[12]

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[6] Some practitioners rely on scribes or speech recognition software. Ultimately, the practitioner is responsible for ensuring that the medical record is accurate.

- **Distraction during patient encounters:** Data entry into an EHR (real-time) during patient encounters by a practitioner may improve efficiency and lessen charting burdens afterhours but may hinder a practitioner's ability to actively listen and to feel "fully present" with their patients.

- **Copy-paste:** Electronically carrying forward or copying portions of previously written notes and pasting them into a currently drafted note is problematic when it is either:
  - Copying the work of others without attribution ("clinical plagiarism") or without independent confirmation.[7]
  - Introducing unnecessary redundancy (see the next bullet-point, "note-bloat.").

- **"Note-bloat":** Note bloat refers to unnecessary and redundant expansion of a note's length and complexity. With electronic documentation, it is easy to incorporate large volumes of data into clinical documentation. Inappropriate copy-paste, carry-forward, and computer-aided data entry (auto-filling) increases the risk of lengthy but information-poor notes. Such redundant content detracts from readability, makes it more difficult to interpret and identify pertinent content, and jeopardizes the communication for which clinical notes are intended.

- **"Boilerplate":** Despite the appeal of using templates, "boilerplate" text may add unnecessary detail that detracts from more important information. Furthermore, busy practitioners may carelessly retain parts of a normal review of systems or examination from the template rather than correctly indicating abnormal reports or findings from their interaction with the patient, resulting in inconsistent and erroneous information within the medical record.

- **Differences between the electronic version and paper copy of the EHR:** The printed copy of the EHR may look very different from the electronic version. Specifically, the paper copy of the EHR may differ from the electronic version either by including auto-populated redundant or extraneous information or excluding data that could not be readily printed. Currently, however, when copies of records are requested for patient care, investigative, or discovery purposes; they are typically provided as paper copies, often at a considerable cost to the requesting party, which may be difficult to read or incompletely reflect patient care.

- **"Pseudo-history" and "pseudo-examination":** Some EHRs convert checked symptom boxes into sentences and paragraphs that are then imported into the EHR such that they appear to recount the verbatim report of the patient. However, the generated history is not derived from the patient's actual words; it only represents binary (YES/NO) data processed into standardized phrases. A similar process with checkbox-to-sentence physical examination findings is available. Such technology potentially undermines consideration of each patient as an individual and conceals the nuances of his/her unique history and needs.

- **Errors in the EHR can be perpetuated and difficult to correct:** Some of these errors have serious undesirable implications for subsequent care and patients' health. Providers and patients complain that when an error occurs in the EHR, it can be very difficult to correct. These errors in

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[7] The US Department of Health and Human Services and the Office of the Attorney General have expressed concern for fraud resulting from liberal copying-pasting within the EHR and subsequent upcoding, citing "possible abuses including 'cloning' of medical records, where information about one patient is repeated in other records, to inflate reimbursement In 2012, the Obama administration warned against such practice: "There are troubling indications that some providers are using this technology to game the system, possibly to obtain payments to which they are not entitled. False documentation of care is not just bad patient care; it is fraud." (Abelson and Creswell, 2012)

documentation can be perpetuated over time and may lead to actual medical errors and adverse patient outcomes.

- **Interference with provider-patient relationship:** Real-time EHR entry during a patient visit may interfere with face-to-face contact with the patient, which may reduce active listening, conceal important diagnostic clues, and damage patient-practitioner rapport.

- **Overemphasis on documentation to meet billing specifications:** This issue largely dates back to E&M regulatory efforts, initiated when paper medical records still predominated. However, EHR systems have also incorporated E&M elements into their electronic templates leading to concern that documentation whose major design objective is to support coding and billing may subvert the true goal of the EHR, which is to promote high-quality, safe, and integrated health care.

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