Electronic Medical Records: A Supplement to Medical Record Documentation

for Patient Safety and Physician Defensibility

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Electronic medical records are not just the wave of the future. In fact, more medical offices use some form of a computerized medical record to document patient care, schedule appointments, and/or bill than ever before. In 2004, President George W. Bush launched an initiative to ensure that all patients in the United States have an electronic health record (EHR) by 2014. Robert Kolodner, MD, was named Interim National Health Information Technology Coordinator, HHS, in September 2006.
Certification of EMRs/EHRs

In 2005, the Certification Commission for Healthcare Information Technology (CCHIT) was formed by the American Health Information Management Association, the Healthcare Information and Management Systems Society, and the National Alliance for Health Information Technology. CCHIT holds a three-year contract with the US government to credential EMRs/EHRs by establishing criteria for ambulatory and inpatient systems. Two hundred and sixty-four (264) criteria, divided into forty-three (43) categories, have been finalized for use in the 2007 EHR certification process; the intent is to add new requirements annually.

CCHIT charges software vendors a nonrefundable fee of $28,000 to apply for certification, plus $4,800 per year of the three year certification before they must reapply. For more information about CCHIT and accredited EMRs, go to www.cchit.org/certified/products.htm.

CCHIT accreditation criteria are divided among three major requirement groups:

Functionality: The ability to create, automate, and manage patient records and work flow electronically.

Security and Reliability: The ability to ensure confidentiality.

Interoperability: The ability to exchange information with other entities, such as hospitals, labs, and pharmacies.

When accrediting EMRs/EHRs, CCHIT does NOT consider:

• ease of implementation
• availability of training and support
• usability (user-friendliness)
• specialty-specific needs
• cost of implementation

Electronic Medical Record (EMR): The term EMR refers to the clinical functions of the software. It allows clinicians to monitor drug-drug interaction, check allergies, document patient encounters, prescribe medications, etc. Patients’ electronic, paper, or hybrid records are owned by the physician who created them.
The Elements of Defensible Electronic Medical Records (and related recommendations)

All documentation essentials that apply to paper charts should be included in an electronic medical record (EMR). The information necessary for optimal care should be documented no matter what type of chart is used: paper, electronic, or hybrid. Before purchasing an EMR, consider the questions presented in Appendix A.

What should a physician require in an EMR?

A logical, intuitive organizational structure: EMR chart contents should be at least as easy to access as paper charts. Most EMR programs have a series of tabs found on the main screen of each patient record under which information can be electronically entered and stored. The tabs, similar to dividers in a paper chart, should allow the user to navigate between various sections of the electronic record with ease. Subcategories need to logically correspond with the main tab/category, such as: personal (demographic information), clinical (lab, allergy, medication, diagnostic/procedure information), encounters (progress notes), scheduling (appointments, referrals), administration (billing), and more. Some EMR systems can be designed to mirror the healthcare provider’s original paper record, organizing the information into familiar categories.

Specific security levels on a progressive need-to-know hierarchy: EMR security should control specific levels of user access to protected health information (PHI); access authorization varies from clinicians to directors of departments to office administrators to front office staff, medical assistants and billing personnel. As required by HIPAA regulations, the level of access to information should be on a “need to know” basis and should be password-protected. Most electronic records have a tracking system to monitor who accessed a patient’s electronic medical record; systems should enable administrators to print a report of the date, time in, time out, and names of all personnel who accessed, changed or attempted to access patient charts.

A default field for allergy information: Users should be able to document allergy (or “No-Known-Drug-Allergy” [NKDA]) information in the allergy section of the chart. Some EMRs automatically transfer this significant information into all progress notes, the medication list, and the Problem List. Ensure that the EMR makes allergy information a default field (i.e., it cannot be overridden or skipped). Ask if the EMR alerts the user to known allergies, so a prescriber is notified when a medication to which the patient is allergic is entered.

Patient health history questionnaires, plus a means to enter evidence of physician review: Many medical practices ask patients to complete a questionnaire about their past medical and surgical histories, family medical history and personal habits. These can be helpful forms as they...
provide the physician with useful information. Once patients complete the forms and clinicians initial them as evidence of review, the questionnaires should be scanned into the EMR (or retained in the paper chart if the EMR lacks the capacity to scan documents). Some physicians document information from the questionnaires in the progress notes, a conscientious documentation practice that provides evidence of the clinicians’ review, and reduces the possibility that information is overlooked. Ask if the EMR has the capacity for computerized questionnaires (e.g., patients or staff members can electronically key in health information).

A “Problem List”: If more than one physician in an office or clinic treats a patient and makes entries in the EMR, the group may find a Problem List (that includes the dates of onset and resolution) helpful in managing serious or chronic medical conditions. A Problem List reminds co-treaters to review their colleagues’ progress notes and correlate their own treatment or follow-up advice. Caveat: Problem Lists must be current and complete or they could mislead. Physicians could consider assigning a staff member the responsibility of ensuring that the Problem List is current.

E-signature and/or other means of finalizing entries so they are unalterable: EMRs vary in their use of an electronic signature. Some programs automatically track the date, time and author of every chart entry — a prudent feature — while others list only the clinicians’ names, but do not identify lower security level users. Some systems do not identify the author of the note until the user electronically signs the entry. Some EMRs allow progress notes to remain “open” (not finalized; changeable) until they are “closed” via electronic signature; this is a dangerous feature and could call into question the veracity of the note (i.e., if a note can be left “open,” someone could change its contents, even after the patient suffered an injury).

All electronic entries, as with paper chart notes, should be generated contemporaneously to events, should clearly indicate who authored the note, and should be finalized/unalterable when the entry is completed, preferably the same date the entry was made. If a system allows notes to remain “open,” it would be prudent to establish an office policy that specifies a time frame within which the chart entry must be electronically signed and closed.

Means to enter evidence of physician’s review of lab, X-ray and consultant reports: A number of patient injuries and malpractice cases are traced to physicians’ failure to review and act upon positive lab and X-ray reports, or treatment recommended in consultants’ correspondence, before these items are filed in the medical record. Currently, diagnostic test results and consultant communication are sent to physicians’ offices in various formats (e.g., fax, hardcopy, e-mail, digitally). We know that many MIEC policyholders with computerized records are working with local hospitals,
laboratories, pharmacies, and radiology departments to effectively interface. Until this goal has been achieved, physicians should consider the following:

**Hardcopy reports that will be scanned** — Physicians who have an EMR should initial diagnostic test results and correspondence received via fax machine or US mail before the information is scanned into the electronic record. Some offices scan reports upon receipt, send an e-mail or “task” to the ordering healthcare provider who electronically signs-off as evidence of review; the staff stores the reports with electronic signatures in patients’ charts. Either method is reasonable if the staff and physicians ensure that the diagnostic tests and consultant reports are consistently reviewed, initialed, and stored in the EMR.

**Digitized reports** — Physicians would be well advised to electronically sign lab or X-ray reports received via e-mail or digitally from local hospitals and ancillary services. Laboratory results submitted electronically enable some EMRs to store the data in a form that facilitates production of aggregate reports, a useful tool for physicians to track lab results over time, individually or collectively.

**Aggregate report capability:** The capability to collect and/or retrieve aggregate information is a vital function of many EMRs. Historical data (e.g., lab results, medications prescribed, missed office visits, and more) allow doctors to: monitor patients on the same medication regimen; identify patients on medications that are recalled by pharmaceutical companies; list patients who have missed numerous scheduled visits; monitor patients with certain medical conditions or who need health maintenance screening tests or follow-up diagnostic testing (e.g., mammograms; repeat Pap smears; liver function tests; thyroid tests; HgA1Cs; PSAs; INRs; prothrombin times); and more.

**Medication record at-a-glance:** Reduction of medication errors continues to be a focal point for patient safety nationwide. To assist physicians in their efforts to protect patients from injury and themselves from liability, the EMR medication management component should:

1. Prompt for all details of medication prescribing (e.g., name, indications, amount, dose, directions, number of refills authorized, etc.);

2. Monitor patients’ current medications (e.g., medications prescribed by each treating physician);

3. Remind physicians of required lab testing intervals to ensure therapeutic levels (e.g., Coumadin, the statins, Lithium, etc.);

4. Alert prescribers to medication interactions or contraindications (e.g., drug-drug interactions; drug warnings for geriatric or pediatric patients);
5. Alert prescribers to drug allergies;

6. Track medication renewals;

7. Order prescriptions based upon medication formularies; and

8. Provide written patient educational materials to help patients understand the reason for the medication, comply with medication instructions, be aware of common side effects, know what to do in case of medication-related problems, and document that medication was dispensed.

Physicians’ progress notes should include the name of ordered medication, the dose, amount, instructions, reason for the prescription, and number of refills authorized. Discontinuation of medications should be documented clearly, as should the reason for any changes to medication orders. Physicians also decrease their liability exposure when they note and are attentive to medication management by other health care providers.

A [tabbed] section for telephone messages, if not entered chronologically in the progress note section: Phone calls in which physicians and/or staff receive or impart important medical information must be documented. Include the date and time of the call, the caller’s name, contents of the conversation, advice given by the physician (or “per Dr. XX,” if provided by a non-licensed staff member), and the author’s initials. To ensure accessibility to this significant information, consider where messages will be stored, and if they will be maintained under a dedicated tab and cross-referenced in the clinic notes, the progress notes alone, or in another consistent location.

A [tabbed] section for e-mail between physician or physician’s office and patient: Documentation of electronic communication can be easier than telephone-based encounters. E-mail documentation reflects exactly what the patient asked and what the healthcare provider advised, unlike narrative documentation of phone calls stored only in human memory. Of note: Before using e-mail to communicate with patients online, consider the advantages and disadvantages. For guidelines to develop policies and procedures on the use of e-mail in your practice, see MIEC Claims Alert Special Report, Number 24A, “Using e-mail to communicate with patients: What physicians should consider.”

Physicians who choose to communicate with their patients via e-mail should ensure that the system is secure to protect patient privacy and maintain confidentiality. Similar to telephone calls, communication via e-mail should include unalterable information, including: the date and time the message was sent, contents of the discussion, details of advice given,
and author’s initials. E-mail communication between patients and healthcare providers should be retained in the EMR and/or filed in paper charts.

**Warning:** “Deleted” e-mail is never truly deleted. As “electronic discovery” becomes more common in malpractice litigation, any information stored on a hard drive or on back-up tapes can be retrieved, even if the data has been “deleted.” Be careful when using e-mail to communicate “internally” with staff. We strongly advise that all documentation in charts be objective and professional. Records subpoenaed in a lawsuit will include all information retained in the electronic system (e.g., the annotated version of the record). The credibility of the information could be negatively impacted if there is evidence of subjective, contradictory, or unprofessional documentation.

**Customizable progress notes templates:** An integral objective of most EMRs is to generate detailed progress notes quickly, notes that meet the various ICD-9 and CPT coding requirements and comply with Evaluation and Management (E&M) Medicare documentation standards. Similar to their handwritten counterparts, electronic progress notes should include sufficient information about: (1) reasons for the current visit; (2) the scope of examinations; (3) positive and pertinent negative exam findings; (4) diagnosis or impression; (5) treatment details and future treatment recommendations; (6) medication administered, prescribed or renewed; (7) written (or oral) instructions and/or education for the patient; (8) details of referrals to specialists; and (9) recommended return visit advice.

To meet the stated objective, many EMRs are designed to include specialty-specific templates, documentation tools that prompt clinicians to generate detailed notes based upon the patient’s stated complaints or presenting medical condition. Some systems automatically populate fields with information that was previously entered (e.g., patient demographics, allergy information, current medications, etc.). Some EMRs have the capability to automatically generate a clinic note that replicates the previous office visit note. Once the new entry has been produced, it is up to the treating physician to delete those details that do not pertain to the current visit, commonly called “documentation by exclusion.” Although this automated feature may appeal to busy physicians, we warn doctors that “documentation by exclusion” may increase their liability risks if used carelessly and improperly. As with written notes, the EMR progress note must accurately reflect the details of the current office visit. Notes become suspect when each one includes identical levels of detail, especially if comparable to an initial consultation note or annual History and Physical report. It is “reasonable” for interim progress notes to include the patient’s interim medical history, review of diagnostic tests completed between visits, physical examination, assessment and plan. When every progress note reflects a complete medical, social and family history, review of systems, etc., the information and the veracity of the physician’s examination may be questioned. **Bottom line:** Be careful when “copying”...
previous visit notes unless their details exactly reflect the current office visit.

**Office visits at-a-glance:** The ability to see at-a-glance the dates of all office visits is a common feature in many EMRs; dates may be displayed on one side of the progress notes screen in chronological order. Clicking on the date opens the page containing a dictated note or scanned document. This is an excellent tool to assist physicians in their management of patients’ medical complaints, reminding clinicians to revisit and address pertinent details and unresolved medical problems from previous visits.

**Diagrams:** Does the EMR include anatomical templates, pictures that supplement narrative descriptions of the location of an injury or lesion? Does the system allow you to download pictures from a website? May the user enter digital photographs into patients’ charts? EMRs should enable physicians to produce detailed chart entries that include visual supplements to expand the narrative description.

**Capacity to document failed, canceled and rescheduled appointments:** We recognize that most electronic systems are accompanied by a practice management component used to schedule appointments, document failed appointments, and more. Patients who consistently miss or frequently cancel appointments may place themselves at risk; some try to blame the physician for injuries caused by their own negligence. We recommend that failed appointments (e.g., “no shows”), cancellations, and rescheduled visits be documented in the clinic note section of the record, in addition to the practice management/scheduling portion of the program. Without the cross-reference, unless a physician regularly checks the scheduling portion of the EMR, he/she would not know how often the patient failed to keep appointments. If medical records are authorized to be released, the records should include appointment lapses.

**Documentation of patient education:** Educating patients about the nature and extent of an illness or disease, the proper use of medications, limitations on activities, dietary restrictions, the need for follow-up treatment, and more, can reduce patient injury and decrease physician liability. Malpractice liability experts, risk managers, and an increasing number of physicians, nurses and other health professionals acknowledge that patient and family education is an essential component of patient safety and quality health care. We know that clinicians, assisted by their staffs, spend a significant portion of their time orally educating patients. Documenting these discussions in the progress notes protects physicians from patients who deny they were informed about their condition and care.

But oral communication is simply not enough in many instances. Some patients may not understand a technical discussion or may not be able to remember what the doctor said. Patients benefit from having written material they can read and review as often as they wish. Providing written educational materials also serves to educate spouses or adult children about patients’ medical conditions and care. The most effective EMRs offer
printable patient education information. Some programs enable users to
download information from websites and resources external to the program
itself. Other programs have the capability of printing graphs depicting the
patients’ weight gain/loss over time, blood pressure history, cholesterol
levels, HgA1C, and more, all for the purpose of educating patients about
their overall health. Documenting that information was distributed provides
evidence of a physician’s efforts to educate patients orally and in writing. It
passes responsibility to patients for cooperating in their own health care.

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<thead>
<tr>
<th>Potential advantages of an EHR:</th>
<th>Potential disadvantages of an EHR:</th>
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<tr>
<td>1. Decrease number of charts pulled</td>
<td>1. May decrease face-to-face time with patients, depersonalize encounters</td>
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<td>2. Increase efficiency</td>
<td>2. Possible lack of connectivity and interoperability</td>
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<td>3. Decrease the cost of transcription</td>
<td>3. EMR may be obsolete within a few years</td>
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<td>4. Increase coding efficiency</td>
<td>4. System relies upon user integrity (i.e., garbage in = garbage out)</td>
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<td>5. Access aggregate information</td>
<td>5. Potential for exaggeration, dishonesty and other abuses</td>
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<td>6. Easier access to charts — fewer lost, remote access</td>
<td>6. May not enhance delivery of care</td>
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<td>7. Improve interoffice communication</td>
<td>7. Often excessive time and energy for transition to paperless system</td>
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<td>8. Improve documentation of care provided</td>
<td>8. Increase costs</td>
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<td>9. Facilitate improved delivery of patient education</td>
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<td>10. Improve management of patient demographics</td>
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<td>11. Improve management of medical conditions, health maintenance, etc.</td>
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<td>12. Improve management of medications (e.g., e-Prescribing)</td>
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<tr>
<td>13. Decrease in Rx and documentation error rate</td>
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<tr>
<td>14. Increase intra- and inter-facility communication (on network)</td>
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Appendix A

Quick Checklist of Questions to Ask an EMR Vendor:

Vendor: __________________________________________________________________________________________________________________________

EMR System: _______________________________________________________________________________________________________________________________________________________________________________________________________________________________________

Cost: __________________________________________________________________________________________________________________________

1. Does the program feature user-defined templates?

2. Does the program offer specialty-specific templates?

3. Describe the medication management system for your program:
   A. How are orders printed, faxed, stored?
   B. How are refills monitored?
   C. What formularies are available?

4. Describe the security features:
   A. Are entries alterable?
   B. Are entries time, date, and author stamped?
   C. What are the levels of security?
   D. How are corrections/amendments/addenda made to chart entries? Are they retrievable?
   E. How is unauthorized access prevented?
   F. How often is data backed-up and where is it stored?

5. What aggregate data can be retrieved?

6. What variety and quality of printable patient education materials are incorporated into the EMR?

7. How is telephone communication documented?

8. With what other programs is the system compatible?

9. How are lab and other diagnostic tests/studies reported, marked as reviewed, and stored?

10. How does the system ensure that a physician has reviewed the results?

11. Where do clinicians document referral information?

12. How is referral information transmitted to a consultant?
13. How does the program prompt users to document return advice?

14. How does the program alert clinicians to sentinel events or dates (e.g., referral follow-up, RTC)?

15. How does the program alert users to an allergy (or adverse reaction, medication interaction) should contraindicated medications be prescribed?

16. What degree of user support is offered after purchase of the EMR?

17. What is the learning curve? Transition time? How are new users trained?

18. Describe your technical assistance service:
   A. Hours of service?
   B. Response time?
   C. Frequency and cost of updates?

19. What, if anything, could interrupt access to the program? (e.g., billing issue between physician and vendor) How would disputes with the EMR vendor be resolved?

20. If the vendor went out of business, or the EMR became obsolete, what would happen to the electronic charts?

21. How is information backed-up? How often?

22. How does the program incorporate hard copy documents from other sources?

23. What are the five most attractive features of your program?

24. What are the five features that will be updated in the next version of the EMR?

25. How does the program insure current (and future) HIPAA compliance?

26. How is the product licensed? Is annual licensure required to access all portions of the program?
Frequently asked EMR-related questions by MIEC policyholders:

1. I chart in an electronic medical record (EMR) that is connected to a network of local physicians, a hospital, a pharmacy, and a laboratory. How responsible am I for the information I see in other network physicians’ chart notes and does this system increase my liability risks?

   A: It is difficult to answer your questions with absolute certainty. Physician responsibility and liability related to this new level of access have not been tested in the courts. The use of electronic medical records (EMR) in an intraoperative system enhances your immediate access to information you might not otherwise know existed. As always, you have a responsibility to inquire about patients’ histories, other treating physicians, pertinent test results, medications, allergies, etc., and to obtain information relevant to your care and treatment. (This does not mean you are obliged to peruse 30 years of chart notes entered into the system by other physicians.) Yes, to some degree, an intraoperative system increases your responsibility to know and to consider that information, but an intraoperative EMR also may make it easier for you to do so. Must a physician know everything that has been entered into the intraoperative electronic medical records of their patients? A physician must know what he or she needs to consider for safe patient treatment, and access the information accordingly. The means of accessing the information is what has changed, and with it, the volume of what you must be aware may increase — in some cases. You and your patients would be well-served if you know the EMR system well enough to easily determine what information is available to you and relevant to your care — that is the information for which you will be responsible.

2. How freely may I communicate with co-treaters in the network once I am aware of their involvement with my patient?

   A: Continuity of care is served by effective communication among co-treaters to the extent that it is necessary for treatment. This communication is sanctioned by federal regulation (Health Insurance Portability and Accountability Act, or HIPAA), and most state statutes.

3. What responsibility, if any, do I have to inform my patients that documentation of their care is available to other physicians in the network, and other physicians’ documentation is available to me?

   A: All patients in an electronic documentation network should be informed that their medical records are accessible by all physicians in the group and shared to the extent it is necessary for optimal care. If the network is exclusionary — only network patients are seen within the system — network literature should inform patients that their medical records are shared. If the network does not make this explicit to patients, it would be in your best interest to inform patients in your patient information brochure, or in your Notice of Privacy Practices. If you are part of a network and document your care in its EMR, and also see patients who are not network participants, it will be your responsibility to inform those patients that their medical records may be accessed by other physicians within the system, that you have access to records generated by other network physicians they see, and that they are shared only in the interest of treatment.
4. My practice became “paperless” about a year ago. Each of my exam rooms is equipped with a computer screen that allows my colleagues and me to transcribe our progress notes immediately (e.g., during the actual office visit). Some of my patients don’t like this. They’ve complained that our communication has become awkward because “I pay more attention to my computer” than to them. What should I do? It’s important for me to document the visit contemporaneously and it saves time that I can spend with patients.

A: You are not the first to experience patient complaints related to computerized documentation. Some patients feel that the doctor-patient relationship has been negatively affected with the introduction of EMRs to the exam room. We recommend that you simply explain to your patients what you are doing and why. Let them know that you have gone to a computerized medical record which allows you to document the visit immediately. Try to maintain as much eye contact as possible during the visit and when you’re inputting the specifics of your exam. Explain as you go. “I need to document this information. It’ll take just a few minutes, so bear with me,” some type of communication that apologizes for what is perceived as less than polite behavior. Humor might help too, “And, I’m a lousy typist, so it takes me a little bit longer!” Over time patients will become accustomed to this new documentation practice and it will cease to negatively impact your relationship. (You may also consider using a medical assistant to document the exam as it occurs, with the provision that you review and approve the entry.)

We recommend:
- Treat EMRs with the same gravity you would paper charts.
- Review with patients their medical histories, what other doctors they see, and what medications they take; document their responses.
- To the extent possible, ensure that the EMR has reasonable levels of security to protect against inappropriate disclosures.
- Request authorization from patients to review other providers’ documentation. Even though this information is accessible to you under HIPAA and most states’ laws for treatment purposes, asking patients for their authorization makes obtaining the information an open transaction — no secrets.
- Review and consider EMR documentation as you would paper charts.
- When in doubt about what you’ve read, the impact it has on your patient and your care, and what you may do with the information, call MIEC to discuss the nuances of the situation.
- It is impossible to foresee all the potential pitfalls of shared electronic medical records. For instance, what will physicians on a shared system do when a patient wants to prevent a particular physician from accessing his/her information? What if a physician inadvertently acquires significant information from the EMR not disclosed by the patient and acquired without the patient’s knowledge? What if information given to two physicians by one patient is contradictory? These and other questions have yet to be answered. When in doubt, call MIEC.
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