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The case for electronic medical records—why the time to act is now

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Research consistently suggests that electronic medical records (EMRs) provide many clinical and economic benefits associated with their adoption. Improved coordination of patient care, reduced medication errors, and improved preventive screening rates are just a few of the clinical benefits. The federal government has placed considerable emphasis on interoperability in the hopes that providers at different facilities will be able to exchange health data to maximize the quality and speed of care. The administrative benefits of EMRs include reduced transcription costs, more accurate coding, and increased efficiency of claims submission. Because of their potential, the federal government has progressively increased its efforts to facilitate the widespread adoption of interoperable EMR systems. This article discusses the government's health information technology incentive programs for Medicare and Medicaid providers, and reviews the overall "meaningful use" edibility criteria. Electronic prescribing bonuses are also discussed. This article hopes to demonstrate that because EMRs are likely to become mandatory in the near future, it is important for physicians to consider EMR implementation now while they can receive the maximum amount of reimbursement for their investments under the current incentives.

Electronic medical records (EMRs) are likely to become mandatory in the near future so now is the time for osteopathic family physicians to start thinking about how EMR implementation could affect their practice. Cumulative research studying the benefits (both in patient care and in cost savings) has spurred the federal government to progressively increase its efforts to facilitate the widespread adoption of interoperable EMR systems.[1] If federal initiatives are successful and there is eventually a 90% health information technology (HIT) adoption rate for both inpatient and ambulatory care, studies estimate that more than $77 billion per year could be saved.[2] A sophisticated electronic health record system is also necessary to satisfy the structural elements needed to qualify as a medical home and receive additional payments from Medicare.[3]

Improved patient care

All EMRs are designed to maintain patients' progress notes, medication lists, past history, and problem lists—essentially an electronic version of the paper chart. However, many EMR features are impossible to have in a paper-based system such as:

- Automated drug interaction warnings
- Automated E/M coding calculators
- Automatic reminders when patients are overdue for follow-up visits or routine testing

EMR systems can generate automated reminders for preventive or screening services such as influenza and pneu-

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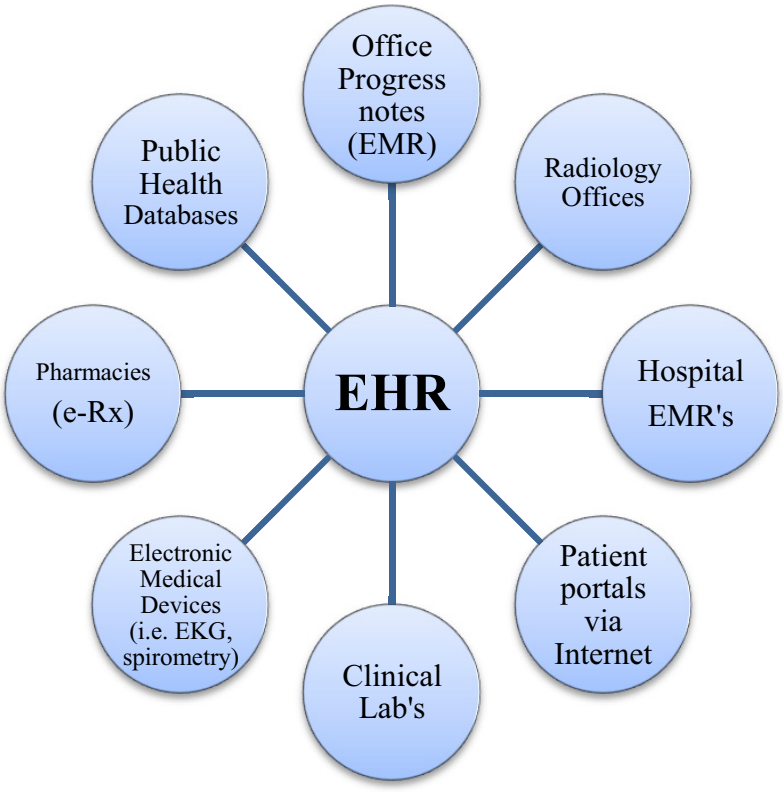

Figure 1 Sources of Data and Communications in an Electronic Health Record (EHR). An EHR serves as a portal and gatekeeper for the collection and exchange of personal health data.

mococcal vaccinations, Pap smears, mammograms, and colonoscopies based on a particular patient's recorded age, gender, and past medical history. These reminders can be directed toward the physician at the point of care (while writing the progress note) or even as a direct email to the patient at home (i.e., "Mrs. Jones, you're due for your colonoscopy next month"). By ensuring all patients over the age of 65 years receive a pneumococcal vaccination, 15,000 to nearly 30,000 lives could be saved each year.[4] Many EMRs now provide electronic prescribing, where the physician can electronically transmit prescriptions to a patient's pharmacy immediately after it is recorded as prescribed. Studies confirm that such use of computerized physician order entry (CPOE) within an EMR significantly improves patient safety.[5]

Another term in wide use today is the *electronic health record* (EHR). A true EHR system has very robust and sophisticated capabilities. An EHR can:

- Incorporate national clinical protocols and guidelines while also providing clinical decision support
- Suggest possible differential diagnoses and management options given the clinical presentation entered in the patient's record
- Establish a patient portal enabling patients to receive lab results (as approved by the physician), make appointments, and establish a secure two-way communication between patient and physician
- Alert a physician when they have prescribed a medication that is not covered by the patient's health plan.

As illustrated in Fig. 1, an EHR actually allows patient information to move from one health care stakeholder to another for efficient communications at the point of care.

For the sake of clarity, this article will use the term EMR when generally referring to an electronic record system or an EHR, without regard to any specific capabilities.

Another way EMRs can help improve patient care is by making health care more efficient. It is well known that many lab tests and imaging studies are reordered simply because the previously ordered test results are unavailable at the time of a patient visit.[6] As shown in Fig. 2, nearly two to four times as many tests were reordered in the United States compared with countries like New Zealand or The Netherlands, where EMR adoption rates are 95% to 98%.[7]

Federal initiatives

There are a variety of federal initiatives that have paved the way toward mandatory adoption of EMRs. In November 2001, President George W. Bush signed an executive order called the National Health Information Infrastructure Initiative (NHIII) that planned for universal EMRs for all inpatients and outpatients by 2011; this target date has since changed to 2014.