

Advantages and Disadvantages of the Electronic Medical Record

Lori Gurley, BS, BA
Director of Accounts Receivable
Benjamin Rose
Cleveland, OH

Introduction:

There are many functions associated with patient health records. Not only is the record used to document patient care, but the record is also used for financial and legal information, and research and quality improvement purposes. Because all this information must be shared among many professionals who constitute the ‘healthcare team’” (Young 92), and there continue to be problems with the paper health record, it is becoming more apparent that developing an automated health record is very important.

The electronic health record (EHR) provides the opportunity for healthcare organizations to improve quality of care and patient safety. “The greatest challenge in the new world of integrated healthcare delivery is to provide comprehensive, reliable, relevant, accessible, and timely patient information to each member of the healthcare team, whether in primary or secondary care and whether a doctor, nurse, allied health professional, or patient/consumer” (Schloeffel et al. 2).

An EHR also represents a huge potential for cost savings and decreasing workplace inefficiencies. “No longer are paper-based record systems fulfilling the needs of clinicians, and related healthcare workers” (Koeller 1). However, just as there are advantages and disadvantages with the paper medical record, there are also advantages and disadvantages associated with the EHR. In addition, since an EHR is a fairly new

concept, there will also be barriers and obstacles in the implementation of the EHR. “There have been phenomenal scientific and technological breakthroughs, yet patient documentation remains largely the same” (Wellen, Bouchard, and Houston 1). Even though the technology is available for an EHR there are several barriers and obstacles that must be overcome before it can be successful. “Technology has continued to move forward at a rapid pace, but many organizational and human issues have slowed the pace of implementation of automated systems for an electronic documentation record” (Young 106).

The EHR has several distinct advantages over paper health records. One definite advantage is the fact that there are increasing storage capabilities for longer periods of time. Also, the EHR is “accessible from remote sites to many people at the same time” (Young 99) and retrieval of the information is almost immediate. The record is continuously updated and is available concurrently for use everywhere. Information is immediately accessible at any unit workstation whenever it is needed.

Currently the paper record represents “massive fragmentation of clinical health information.” (Schloeffel et al. 1) This not only causes the cost of information management to increase but also “fragmentation leads to even greater costs due to its adverse effects on current and future patient care” (Schloeffel et al. 1).

The EHR can also provide medical alerts and reminders. EHR systems have some “built-in intelligence capabilities, such as recognizing abnormal lab results, or potential life-

threatening drug interactions” (Koeller 11). Research findings supporting diagnostic tests and the EHR “can link the clinician to protocols, care plans, critical paths, literature databases, pharmaceutical information and other databases of healthcare knowledge” (Young 100). Computer systems should not take the place of physicians’ critical judgments however, “a well-designed EHR supports accountable autonomy, collecting and disseminating information to assist the medical professional in decision making” (Wellen, Bouchard, and Houston 2).

Another benefit to an EHR is that it allows for customized views of information relevant to the needs of various specialties. The EHR is “far more flexible, allowing its users to design and utilize reporting formats tailored to their own special needs and to organize and display data in various ways” (Dick, Steen, and Detmer 46).

As a management tool, the EHR can provide information to improve risk management and assessment outcomes. Today, reimbursement is based on outcomes therefore healthcare organizations “must seek innovative ways to improve quality of care and outcomes while managing costs” (Dray 3). An EHR can decrease charting time and charting errors, therefore increasing the productivity of healthcare workers and decreasing medical errors due to illegible notes. “Reduction of medical errors is the concern of the public at large, state legislators, healthcare providers, and many other health professionals” (Waegemann et al. 11). There have been numerous stories about fatal mistakes occurring because of illegible notes written by physicians. EHRs “address a problem that has plagued medical staff very possibly since the first doctor put pencil to

paper [...] (Dobias 3). Since “handwriting is instinctive, and therefore difficult to change” (Dobias 3) automated systems can help eliminate this problem. Although some systems may seem costly, the gains in efficiency far offset the costs. Chart chasing is eliminated, as is duplicate data entry of the same information on multiple forms. “Highly paid, skilled clinicians no longer are delayed by the search for elusive paper charts, and usable outcome information becomes available without several days of data compilation” (Wellen, Bouchard, and Houston 3).

Financially, the EHR will provide more accurate billing information and will allow the providers of care to submit their claims electronically, therefore receiving payment quicker. The patient is even happier, because previous information is available so the patient does not have to continue to provide the same information over and over again.

Some of the disadvantages include such items as the startup costs, which can be excessive. “At a time when healthcare organizations need to reduce their costs, allocating capital to information systems is still a challenge” (Dick, Steen, and Detmer 16).

However, some believe that an EHR can not only reduce costs but also improve quality of care through “better-informed healthcare providers and patients, the elimination of duplicate testing, and better coordination of treatment by more than one healthcare provider” (Dick, Steen, and Detmer 15). One example of cost savings resulting from an EHR involves antineoplastic agents. “Out-of-range lab values, which instantly appear at a pharmacy workstation and the chemotherapy infusion center, can prevent the mixing of expensive antineoplastic agents should the patient’s counts prevent infusion on that day

[...]” (Wellen, Bouchard, and Houston 3). Although providers are concerned with return on investment, they realize that the “gains from EHRs are in patient safety and efficiencies rather than in tangible and measurable financial terms” (Waegemann 3).

Another disadvantage to an EHR is that there is a substantial learning curve and it is helpful if the users have some type of technical knowledge. Today, clinicians are the primary users of EHRs as opposed to the main users of the past, which were clerks. One of the more challenging issues confronting EHRs is the fact that “physicians must be the users of the system, performing data entry (e.g., orders, progress notes) as well as information retrieval, if they are to realize the benefits of interactive on-line decision support” (Dick, Steen, and Detmer 12). Young recognizes that “*usability*” (106) can be a major obstacle affecting the implementation of an EHR. The designers of EHR systems have only just begun to consider the needs of the users. There must be tools to enable the clinicians to “retrieve and understand data relevant to their decision-making tasks” (Young 106). In other words, systems must be user friendly; otherwise these systems will not be easily accepted, nor will they be used to their fullest capacity. “While putting down the pen and picking up the mouse involves a cultural shift, clinicians soon realize the benefits of a readily available, organized patient database, enhanced communication among staff, improved risk management, and instantaneous outcome tracking and reporting capabilities” (Wellen, Bouchard, and Houston 3).

Confidentiality and security issues are concerns associated with both the paper health record and the EHR. There has been much discussion about this topic and although the

patient record must be protected, the patient must also remember that the record has to be accessible to the professionals who use the records to provide medical care. “Laws must not be so stringent as to prohibit access to those with a legitimate right to information” (Young 107). There are several security technologies available that will help prevent unauthorized access to protected health information. Some of these technologies include firewalls, passwords and “properly designed and monitored audit trails can enhance user accountability by detecting and recording unauthorized access to confidential information” (Dick, Steen, and Detmer 14). System designs must consider how individually identifiable medical information will be protected and also meet regulatory requirements. “Whereas stringent security measures should be applied to protect the confidentiality of patient information, it is also in the patient’s best interest for the [EHR] to be accessible for appropriate, legitimate uses by authorized users” (Dick, Steen, and Detmer 15).

Placement of hardware is an issue and decisions regarding the portability of the equipment must also be considered. Since workflow will change after the implementation of an EHR, decisions must be made to determine who enters the data and documentation forms must be revised in order to accommodate the changes.

Another obstacle which Young states as being a problem for the implementation of an EHR is “one of the overarching issues is *lack of a common vision* for and *lack of definition* of the EHR” (106). There are several various terms associated with an EHR “each indicating a specific vision that differs from others” (Waegemann 3). Since there

are multiple interpretations of what exactly an EHR is, and what the EHR requirements are, users are unable to identify their current and future needs. “Without a clear understanding, users have a difficult time selecting systems that will meet their needs and vendors have difficulty supplying such systems” (Dick, Steen, and Detmer 11).

Organizations however, are currently in a difficult position, they must be careful not to choose a short-term, limited-ability system because it would then be difficult to move towards a global system. However, such “global” systems are really not available yet.

Another enormous obstacle in the implementation of an EHR is the “lack of standardized terminology, system architecture, and indexing” (Young 106). In order for an EHR to be shared, not only must there be a standard language developed, but a unique health identifier must also be developed. Today there are many vendors with just as many software applications. Data cannot be shared unless a gooey interface is written, and unfortunately these interfaces are not always accurate or dependable. “By adding a standard EHR platform, clinicians will be able to use a range of best-of-breed clinical applications which all share a common standard EHR architecture” (Schloeffel et al. 3).

When a standard language is developed systems will then have greater flexibility and will have capacity for the diverse requirements of the different healthcare disciplines.

“Although there has been progress in developing individual coding standards for data elements, none has emerged as a comprehensive standard” (Dick, Steen, and Detmer 13).

Physicians must also feel very content with the standard language otherwise they will not use it for entering data. Since the ultimate goal of an EHR is to have the ability to share the record, not only with other facilities and physicians, but also worldwide, a unique

health identifier is required. Accomplishing this task has been both slow and daunting. However, the Insurance Portability and Accountability Act of 1996 (HIPAA) “calls for the secretary of Health and Human Services to ‘adopt standards for unique health identifiers, confidentiality policies, and terminology’” (Dick, Steen, and Detmer 13). Leadership is key with this issue. “Until standards exist for uniquely identifying individuals and coding and exchanging health data, the value from capturing and aggregating data will go unrealized and each organization will be its own pioneer” (Dick, Steen, and Detmer 14).

Conclusion:

“The EHR provides the essential infrastructure required to enable the adoption and effective use of new healthcare modalities and information management tools such as integrated care, evidenced-based medicine, computer-based decision support, care planning and pathways, and outcomes analysis” (Schloefell et al. 2). Although the benefits that support implementation of an EHR are clear, there are still barriers too, therefore the concept is still not accepted. “However, this could also be said of almost every other area of positive change and improvement within healthcare systems [...]” (Schloefell et al. 9). There must be more involvement by the government and the private sector “to make changes where possible to instigate, motivate, and provide incentives to accelerate the development of solutions to overcome the barriers” (Young 109). There are obviously advantages and disadvantages to both the paper medical record and the HER. There are many factors that must be considered before an organization should implement

an EHR. The organization must first obtain as much information as possible about this new concept, and then the information must be carefully reviewed and the pros and cons discussed. Only then should the organization make their decision about this very important issue. “The [EHR] as a part of a Clinical Information System (CIS) is a powerful tool which ties together documentation of the patient visit (clinical information), coding (diagnosis, and treatment procedures), which then translates into more accurate billing processes, reduces reprocessing of medical claims, and that translates into increased customer satisfaction with a provider” (Koeller 12). Although the technology is available, progress towards an EHR has been slower than expected. “Widespread use of [EHRs] would serve both private-and public-sector objectives to transform healthcare delivery in the United States” [...] ERHs would also “enhance the health of citizens and reduce the costs of care” (Dick, Steen, and Detmer 17).

Works Cited:

Dick, Richard S., Steen, Elaine B. and Detmer, Don E. The Computer-Based Patient Record:

An Essential Technology for Health Care, Revised Edition.

<http://books.nap.edu/books/0309055326/html/index.html>, retrieved from the

World Wide Web, 12 May 2003.

DoBias, Matt. “Illegible? Scribble? The (hand)writing is on the Wall.” Inside the Joint Commission Online 17 Feb. 2003: 3.

Dray, Patricia. “Déjà vu.” Health Management Technology Oct. 2002.

Egov – The Official Web Site of the President’s E-Government. “VA’s Electronic Health Records System Pushing National Standards.” 1 Apr. 2003.

http://www.whitehouse.gov/omb/egov/press/CHI_April.htm, retrieved from the World Wide Web, 12 May 2003.

IT Applications in Healthcare: The Electronic Medical Record. Koeller, Rodney L. 2002.

U. of Maryland. <http://faculty.ed.umuc.edu/~meinkej/inss690/koeller.pdf>, retrieved from the World Wide Web, 12 May 2003.

Schloeffel, Peter, et al. “Background and Overview of the Good Electronic Health Record.”

May 2001. http://www.gehr.org/Documents/BackgroundOverview_of_GEHR.htm, retrieved from the World Wide Web, 12 May 2003.

Waagemann, C. Peter. “EHR vs. CPR vs. EMR.” Healthcare Informatics Online May 2003:

1-6. http://www.healthcare-informatics.com/issues/2003/05_03/cover_ehr.htm, retrieved from the World Wide Web, 12 May 2003.

Waagemann, C. Peter and Tessier, Claudia, et al. “Healthcare Documentation: A Report on

Information Capture and Report Generation.” Consensus Workgroup on Health Information Capture and Report Generation. Medical Records Institute, Newton, MA.

June

2002.

Wellen, Dianna, Bouchard, Barbra, Houston, Deborah A. "The Electronic Medical

Oncology

Record: Misconceptions, Barriers, and Benefits." Cancer Management 3.5 (Sept/Oct

1998). <http://www.cancernetwork.com/journals/manage/m9809e.htm#Abstract>,

retrieved

from the World Wide Web, 12 May 2003.

Young, Kathleen M. Informatics for Healthcare Professionals. Philadelphia: F.A. Davis,

2000.

© Copyright 2004 American Academy of Medical Administrators - All Rights Reserved.