Short Title: Electronic Health Records

Full Title: Electronic Health Records and Hospital Librarians

Ellie Bushhousen

Health Science Center Libraries, University of Florida, Gainesville, Florida, USA

Abstract

The electronic health record has made monitoring the patient treatment cycle easier and with fewer errors. Hospital librarians must develop ways to include health related information as part of the electronic health record.

Keywords: electronic health record, hospital librarians, treatment cycle

Many hospitals in the United States today are using electronic health record (EHR). EHRs are designed to consolidate patient treatment, tests, lab results, billing along with other healthcare provided information into a single portable record. In the April 2006 report "Electronic Health Records Overview" the National Institutes of Health and the National Center for Research Resources quote Jennifer Allan and Jane Englebright definition EHRs as follows:

"The Electronic Health Record (EHR) is a longitudinal electronic record of patient health information generated by one or more encounters in any care delivery system setting."(1,2)

The idea was to create a system that put patient information into a single record as opposed to multiple separate pieces of information from different healthcare departments. Baseline patient information (height, weight, gender, age), diagnosed

illnesses, treatments, medications, therapies used, length of hospital stays, names of

physicians and allied healthcare professionals and other patient care information would

be reside in one record. This record could be accessed using EHR software the hospital

has purchased and installed

One of the most used EHR software is Epic. Kaelber and colleagues describe the

impact of Epic and one of its functions:

> "…an estimated 50 million patients see healthcare providers
>
> who use the EPIC EHR (Electronic Health Record) software
>
> system, which includes a tethered PHR product. The EPIC
>
> "MyChart" application provides a Web-based portal that
>
> allows patients access to a variety of PHR functions, such as
>
> reviewing test results and scheduling appointments."(3)

EHRs enable recordkeeping in healthcare facilities become a more cohesive

process. Before EHRs different hospital units that were in some way providing a service

for one patient did not interact with each other. For example, billing didn't know what

tests were being done in pathology; pharmacy did not know what physical therapy was

doing; appointment scheduling had difficulty arranging for the patient to see one or more

doctors about the different levels of care needed or recently completed. Each of these

departments and units, all "working" for one patient had little to no idea where their

piece of the treatment puzzle fit.

An EHR lets the disparate healthcare units and departments enter their portion of

data about the one patient so all the information can be seen at a glance. Physicians,

pharmacies, therapists, billing can watch the cycle of care and notice where there are gaps.

The EHR provides vital data on the physical condition of a patient. The question hospital librarians need to ask is "Where's the follow-up information on resources the patient can examine upon release?" In a July 2010 article in the *Journal of the Medical Library Association*, Jones and colleagues describe ways librarians can assist healthcare professionals as well as patients with health information. An information assistance statement was offered as one way to let patients know of "quality health information."(4) One role a hospital librarian can undertake is to create an information statement, as Jones and colleagues suggest that puts reliable healthcare websites and resources right to the patient. This resource could have the added benefit of pointing the patient towards articles and studies to discuss with their healthcare provider.

Hospitals in the United States have been buying the necessary software to create EHRs since the 1990s. EPIC is one of the best known. Leonard and Tozzi report that Kaiser Permanente, the nation's largest nonprofit health maintenance organization uses EPIC, "The Oakland-based operation's doctors use it for everything from scheduling appointments to ordering lab results. Kaiser's members seem to like it, too. They can log into the system, check their medical records, and correspond with doctors via Epic's secure e-mail system."(5)

One of the biggest problems with EHRs is the lack of standardization for the software. There no one part of HER software that is developed or designed in a similar fashion, even though the programs provide very similar results. Leonard and Tozzi report about an EHR incompatibility situation that occurred in Denver. Kaiser

Permanente used the Epic EHR software, its two other clinics in Denver used another EHR product. "Sure enough, when the hospitals installed their software, Kaiser couldn't communicate with them electronically."(5)

Often, the hospital librarian is the sole librarian for a hospital or a group of healthcare facilities. Much of the time involves researching and sending articles, URLs for relevant websites, tracking when department's staff has more requests than others, etc. While the EHR is smoothing and coordinating the patient care cycle, the hospital librarian needs to take in the big picture to know what kinds of patient/consumer health information is appropriate for a given patient. If the librarian is fortunate enough to attend clinical rounding with residents or participate in morning report meetings, a great deal of information can be gleaned and sifted into useable packages. This kind of participation would need to meet the hospital's Health Information Privacy and Portability Act (HIPPA). Identifying information on a patient must not be part of the librarian's notes. With the appropriate allowances or permissions however, it could be possible for a literature search to be performed that could be of use to the residents. When it comes to the patient's information needs, a generic listing of reliable and current healthcare resources could be part of the EHR as Jones and colleagues have suggested(4). If the hospital librarian learns emergency tracking and fulfilling offers of support for literature searches and emailing results could become complicated quickly. The hospital librarian was able to handle information requests from disparate areas of the hospital. Electronic databases that were crucial to the hospital librarian's ability to conduct literature searchers were often seamlessly integrated into the hospital's overall

IP address network so access was on demand. However, in her January 2006 blog

post, The Krafty Librarian raised a cautious question regarding the compatibility of some

library online resources potentially having trouble trying to work with a hospital's HER

system (6). If the hospital librarian was stymied attempting to fulfill an information

request because an online vendor cannot work with the hospital's EHR software, what

might happen if a neighboring healthcare facility that collaborates with the larger

hospital but uses a different EHR software, cant their requested literature?

The electronic health record is a great leap forward to improve patient care by

bringing one patient's individual complete care record into one place. The hospital

librarian can and should be part of this cycle of care by providing customized groups of

relevant and trusted healthcare resources and websites that can be appended to the

patient's EHR and made available upon discharge. Total healthcare is a team effort and

the hospital librarian is a valuable part of the team.

References

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   http://www.businessweek.com/articles/2012-06-21/ (12 Sep 2012)

6. The Krafty Librarian (2006). Elsevier announces iCONSULT to be offered as part of Epic electronic health record.

   http://kraftylibrarian.com/2006/01/elsevier-announces-iconsult-to-be.html (8 Oct 2012

Things so not have to be so dire for the solo hospital librarian. If the hospital is

considering or has already implanted an electronic healthcare record system, now is a

good time to raise the issue of online vendor compatibility with the HER system. In an

earlier article for the Journal of Hospital Librarianship, I commented that librarians need

to work more closely with IT staff. The issue of online vendor and HER compatibility is a

subject that should be raised now.

Why Don't More Hospitals Use Electronic Health Records?

When people in health care talk about the promise of digital medical records, they often point to Kaiser Permanente. The Epic system is integral to America's largest nonprofit health maintenance organization. "I have patients who send me pictures of their Hawaii vacations," says Todd Dray, a Kaiser head and neck surgeon in Santa Clara. "I'm like, 'That's awesome. You know this is going into your [electronic medical record](#)?' "

Kaiser has the largest nongovernmental digital depository of medical records in the world, and the insurer says it has used this data to improve care.

For instance, it has a large clinic in Denver that works closely with two non-Kaiser hospitals. A few years ago, those hospitals decided to buy an EHR system. "We were a big part of their business," says Jack Cochran, a plastic surgeon who is executive director of the Permanente Federation, which oversees Kaiser's physicians. "We thought they should choose Epic. They said, 'We don't think we should.' " Sure enough, when the hospitals installed their software, Kaiser couldn't communicate with them electronically. Thankfully, the hospitals had fax machines.

The case for EHR has long been compelling: It can help recognize and contain epidemics, speed claims processing, and, of course, cut costs. The U.S. is spending $2.7 trillion annually on health care, a number that's approaching 18 percent of gross domestic product. The size of the problem is spurring a philosophical change, from a system where doctors are paid for the volumes of procedures they complete to one in which they are paid for keeping their patients healthy. (Paradigm shift)

There are, however, some roadblocks to implementing an HER system in a given hospital. Primarily, there's the problem of software incompatibility. The example of a Kaiser Permanente clinic in Denver trying to work with two other hospitals is a prime example. The Kaiser Permanente hospital and the other two hospitals could not trade information because they both had different HER software programs. did not have the sample HER software so the "records could not be accessed.2

The hospital librarian's role

A post on the blog "the ADL" (AHEC Digital Library) by mbschell27 on June 2, 2010 identifies four key areas that hospital librarians need to consider:

•   The idea that librarians might have to create different relationships with physicians to collaborate on EHR implementation.

•   Hospital librarians may need to step back and watch the directions and developments their primary healthcare facility takes regarding implementation of EHRs.

•   Existing online library resources, such as medical databases, may be caught in the struggle to implement EHRs. The hospital librarian should be strategically ready to document and explain the need for continued access to online recourses in the new EHR environment

•   Government legislation is examining new forms of telecommunication and information transfer daily. The issue of patient information collection and transfer is of particular interest due to the Health Information Protections and Portability Act (HIPPA).3

The push to have hospitals use electronic health records (EHR) (or personal

health records as some call them) began in 2009 with the American Recovery and

Reinvention Act. (huffington Post Elizabeth gardener for U.S. News, Sept. 4, 2012.

Over $2 billion dollars was used as an incentive for doctors and hospitals to use EHRs.

Hospital librarians are often the sole source for access to medical information and up to

date research. The EHR, in theory, could make the librarian's task of delivering

information directly to the healthcare node making the request. As many hospitals are

now learning, however, not every hosptital is using the same EHR software. This makes

it difficult to coordinate patient records if the patient moves to a new area and the new

healthcare provider doesn't use the previous hosptial's EHR system.

This non-communication between EHR software also poses problems for the hospital

librarian. If the current hospital uses EPIC EHR software the hospital and the librarian

may have a system in place that affords direct research uploads to the particular node in the EHR system. If a different hospital is using another type of EHR program, not only will patient records be confused, the librarian's ability to transfer research and articles to the new EHR system's nodes could be delayed as well.

In a speech to the Health Science Institute in Kansas City, Missouri, the percental of US hospitals using EHRs has doubled in the last two years.

http://www.medicalnewstoday.com/articles/241871.php

Written by Catharine Paddock PhD

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U.S. Warning to Hospitals on Medicare Bill Abuses

By REED ABELSON and JULIE CRESWELL

Published: September 24, 2012

Saying there are "troubling indications" of abuse in the way hospitals use electronic records to bill for Medicare and Medicaid reimbursement, the Obama administration warned on Monday that it would not tolerate what it called attempts to "game the system" and vowed to vigorously prosecute doctors and hospitals implicated in fraud.

http://www.nytimes.com/2012/09/25/business/us-warns-hospitals-on-medicare-billing.html?_r=0 Retrieved Oct. 22, 2012

Hospital Strategies

Among the leading strategies of hospitals are to:

•   Participate in formative or existing regional information networks

•   Participate with vendors to explore connectivity and financing solutions

•   Collaborate with other healthcare organizations to control costs

•   Identify physician champions

•   Start by providing physicians with electronic access to information that they most need to receive

http://www.ehrinstitute.org/articles.lib/items/Hospitals-and-EHR-Sy etrieved Oct. 22, 2012

How EHR helps improve ED wait times

March 16th, 2011

by Stuart Hirsch

When HealthAlliance of the Hudson Valley (HAHV) consolidated two emergency departments into a newly renovated, state-of-the-art, 35-bed ED at The Kingston Hospital, we set the aggressive goal of having 95 percent of the patients seen by a clinician within 30 minutes of check in.

To accomplish the objective, our three-hospital health system in 2010 implemented a comprehensive electronic health record system from EDIMS that has enabled the organization to dramatically improve ED operations and put us within a few whiskers of meeting our desired wait times. As of January 2011, 87 percent of patients presenting daily at the ED were seen within 30 minutes, up from 47 percent when HAHV launched its initiative in April 2010. Before that, the average wait time was 47 minutes, which was within the national range of 47 to 55 minutes; however, it was not acceptable for the hospital's high standards for care delivery. We are confident that we would have hit 94 percent had we not maintained a percentage of "hold" patients in the ED due to Kingston Hospital (150-beds) being at capacity for six days during January.

[More:]

A key driver behind our improvement is a time stamp feature in the EHR. This function allows us to analyze the wait times from the moment each of the 150 patients we see

daily are registered, triaged and placed in the room for treatment. Every morning the operations team runs a report on the previous day, briefs ED and inpatient clinical leaders, and posts performance results for clinicians to review.

Buy-in and willingness from clinicians to work as a team also have played a key role in the progress we have achieved over the past 10 months. Every ED clinician shared the goal of treating patients as quickly as possible with the best standard of care from the get-go, but getting them to adopt the EHR and to be on the same page was challenging. That's because we had to merge nurses from a secular hospital and a religious facility-- that had competed with each other for years--while simultaneously introducing the EDIMS EHR and bringing in a new emergency physician staffing group.

To ease the transition for clinicians, we spent two years integrating the medical services of Kingston and Benedictine Hospitals, leaving emergency care for last. The organization also trained and educated staff on the use of EHR and wait time metrics, held regular meetings and solicited employee input on governance issues.

The results show the organization's strategies were successful. More importantly, they indicate that other health facilities are likely to have an easier time implementing EHRs to reduce ED wait times--and improve care and patient safety--because those institutions probably will not have to overcome as many issues or cultural differences as we had to.

While we are very pleased with the progress made to date, we will reset our target to 100 percent as soon as clinicians see 95 percent of patients within 30 minutes for three consecutive months. This ambitious goal, which we anticipate will occur this year, is reachable: For the week of Jan. 17, we hit 99.5 percent!

It is possible we could have reduced wait times using paper records, but we certainly could not have done it as quickly or efficiently as we were able to with the assistance of an EHR. It would take several people hours to manually analyze wait times for 250 patients compared to the few minutes per day it takes one person to perform that task now.

Stuart Hirsch is administrative director of emergency services at the HealthAlliance of the Hudson Valley.

http://www.hospitalimpact.org/index.php/2011/03/16/how_ehr_helps_improve_ed_wait_times

Retrieved Oct. 22, 2012

   President Obama's emphasis on comparative effectiveness research may encourage medicine to use what works for patient populations on a large scale. Practitioners need the literature base to determine what is effective and where exceptions exist and, at some point, to enable payment for genetic variations or innovations. The electronic health record (EHR) can effectively distribute such practice guidelines, and librarians are already actively involved in integrating practice guidelines with KBI resources [14, 15]. Deepening their involvement with the EHR, librarians are using their classification and electronic record knowledge to inventory physician order sets and develop record databases [16]. Beyond installation, librarians stay on to educate staff in information retrieval, as training is a long-standing function for librarians.
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2901006/ Retrieved Oct. 22, 2012

"Yes I can navigate the system very well, but understanding the lingo of ordering, the different processes throughout the hospital, and the day-to-day details were all new and often confusing."

Blog post http://alisha764.com/2011/05/05/my-emr-educator-hat/ Retrieved Oct. 22, 2012

One of the questions that keeps lurking in the back of mind is; What does this mean for companies like UpToDate who have been experimenting with electronic medical records? Does that mean other companies like UpToDate will not be able to integrate their product with Epic's EHR now that they have a partnership with Elsevier? If so, then I foresee the product (UpToDate, iConsult, etc.) that a hospital uses is dependent on what EHR software they use. http://kraftylibrarian.com/2006/01/elsevier-announces-iconsult-to-be.html Retrieved Oct. 22, 2012

- Benefits of Electronic Health Records

Centralized recordkeeping; easy to track patients treatment,

EHRs hold a great deal of promise for hospitals and clinics. However, just as these larger organizations find there are problems if compatible HER software isn't used, a similar problem exists for the hospital librarian.

- Problems

Different sites using different EHR software makes transfer of information difficult or impossible.