What is EHR Interoperability and Why Should I Care?

A reference document for Urgent Care and Occupational Health Providers

Mary P. Stroupe, May, 2011
Executive Summary

Many providers mistakenly think that if they are not eligible for ARRA reimbursement, it doesn’t matter which EHR they select, “they all do pretty much the same thing.” Other providers may bill enough Medicare or Medicaid to qualify, but not enough to make it worthwhile to apply for reimbursement. This paper explicates the reasons that Occ Med, Urgent Care and other providers will want to have an EHR that meets national standards for “interoperability”, regardless of whether they are eligible or plan to apply for ARRA reimbursement.

1) For the past 20 years, the US has been moving toward health information exchange (HIE). Data sharing among providers within a geographic area is already occurring via Regional Health Information Networks (RHIOs). Before long, data will be shared nationally via a Nationwide Health Information Network (NHIN), which is a set of standards for data formatting and security, similar in concept to the ATM network. RHIOs and NHIN share the following goals:
   - Reduce medical errors and prevent drug and allergy interactions
   - Reduce or eliminate duplicate tests and care, and thereby reduce costs
   - Provide patients with access to their medical records, which are scattered across multiple provider offices and hospitals

2) These goals can only be realized by “interoperability” among EHRs: the ability to send and receive clinical data that means the same thing, regardless of the system in which it resides.

3) The key to interoperability is standardized data. Just as data is standardized in other industries, such as banking, to make services like ATMs work, medical data needs to be standardized so clinicians properly interpret it regardless of the system EHR.

4) A study released in February 2011 by NORC at the University of Chicago found 78% of Americans favor the use of electronic medical records, and 72% support sharing of health care information among providers. Patient awareness is growing. Patients can collect their data in a Personal Health Record (PHR). Surveys show that younger and older generations of tech savvy people take a greater interest in their health data and maintaining control over their PHR from their desktops, iPads and smart phones.

5) With the explosive growth of Personal Health Records (PHRs) continuing in the future, patients will expect you to provide their health data electronically: Without data that meets the national standards that EHRs and PHRs share, you will be unable to provide patients access to their data. If patient satisfaction matters, this matters. As RHIOs become more widespread and, ultimately, the Nationwide Health Information Network is developed, patients will not support providers who cannot provide data electronically. Those providers who do not implement interoperable EHRs risk becoming data islands – like a bank that cannot connect to the ATM network. This fact alone may justify installing an interoperable EHR. Beyond that, however, consider for a moment what the US health care landscape will be like in a few years, after most providers have implemented EHRs:

6) Physician offices will no longer be staffed to the levels required to deal with all the paper. For example, manually entering or even scanning referral notes received from other providers will become an obsolete practice. Instead, providers will exchange data electronically, using standardized data sets that make it possible. Referral providers, including primary care physicians and specialists, will eschew colleagues who cannot provide data electronically.
7) Employers of all sizes bear the majority of the cost of healthcare premiums in the US, as well as the cost of work comp premiums. Perhaps more than anyone, they are aware of the high cost of healthcare. As the impact of EHRs on reducing cost of care becomes more widely known, employers will want to do business with those providers whose commitment to cost containment is demonstrated in practice by implementing an interoperable EHR.

8) When competitors of your Occ Health or Urgent Care Clinic install their interoperable EHR, they will market that fact to your client employers.

9) Dr. David Blumenthal, most recent past Director of the Office of the National Coordinator of Health Information Technology (ONC) predicts that providers who want to sell their practice to younger physicians will be unable to realize the purchase price they want if the practice hasn’t kept up with the times with regard to EHRs. “It’s a little bit like re-doing the roof, if you’re buying a house: You give me a roof that leaks, I’m going to take that out of the purchase price,” Blumenthal said.

10) A single measure ensures the EHR you implement meets the latest national standards: EHR certification. Two types of certification exist: CCHIT Certification 2011 and ONC-ATCB (ARRA) certification. Both certifications are performed by independent, nationally recognized and authorized certifying bodies. Through rigorous testing procedures, both certification processes requires EHR vendors to demonstrate that their EHR meets the national standards. All certified EHRs have passed the identical tests, which are specific to either inpatient or ambulatory EHRs.
Introduction

A lot of mystery and misinformation surround EHRs, their implementation across the United States at this time, the ability of EHRs to talk (and listen) to each other, and the benefits this massive wave of change provides. Numerous providers who either are not eligible for reimbursement from the government under ARRA, or have no time to sort through the maze of “meaningful use”, mistakenly think that they do not need to be concerned with what is occurring in the EHR field today, especially as it relates to “interoperability”. Some providers have been told by colleagues, or by software vendors who have no standardized EHR system to offer, that “none of this applies to you, it’s irrelevant”.

Regardless of whether you are eligible for incentives from the US government, or whether or not you intend to apply for reimbursement, the EHR you implement will either help or hinder your success in the next several years and beyond. The 20 minutes you invest to read this document could differentiate your practice from the pack of competitors nipping at your bottom line.

This document answers these questions:
1) What is “interoperability”?
2) Why is it important?
3) As a provider, why should you care?

What is an EHR and EHR “interoperability”?
Just because you have medical data stored in an electronic record does not mean that you have an electronic medical record. While there are certainly no “software naming cops” policing the medical records industry (caveat emptor), an electronic medical record (EMR) is now commonly recognized as more than just medical data in electronic form.

Industry experts such as practicing physicians, certifying bodies, the Health Information Management Systems Society (HIMSS, the 30,000 member organization of health care IT professionals), and others generally agree that “electronic medical record” means a standalone patient record that physicians and clinicians interact with to electronically capture and document medical history, clinical assessment, care provided to and responses of the patient, and the care plan for the patient. An electronic health record (EHR) is newer, more robust technology that integrates two or more systems that provide data to a patient’s clinical record – data that has the same meaning in each and every system. The EHR contains clinical content and data from multiple medical sources, such as labs and other providers. Thus, an EHR is capable of both sending standardized data to and receiving standardized data from other providers.

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The “send and receive” capability is known as “interoperability”. For example, if a patient goes to an urgent care or occupational health center for a musculoskeletal injury and follows up with their primary care physician who refers them to an orthopedist, the EHR software record could contain complete clinical summaries of care from the urgent care physician, primary care physician and the orthopedist. Depending on your role, you may not be interested in this, but your patients certainly would.

No matter what your software is named by the vendor, if it cannot send standardized data to and receive standardized data from any other provider whose software meets national standards, it is not an EHR as the term is now widely used. Surely no one cares about what your software is called, but the people likely to care about whether it can send and receive data to other systems are your patients, referral providers, employers, payors and others in your health care community with whom you interact.

How can health information be shared across EHRs?

“EHRs do not achieve [their] benefits merely by transferring information from paper form into digital form. EHRs can only deliver their benefits when the information and the EHR are standardized and “structured” in uniform ways, just as ATMs depend on uniformly structured data. Therefore, the “meaningful use” approach requires identification of standards for EHR systems.”

(Centers for Medicare and Medicaid Services)

Structured. Standardized. These are the keys.

Many EMRs capture data in a structured way. But unless an EHR’s data structures and code sets meet national standards, the data cannot be sent to or received by another provider who needs it. Nor can it be shared with patients in a format that would enable them to upload the data into a Personal Health Record, or PHR. (See more on PHRs below). ICD9 and CPT codes are commonly known examples of standardized codes. At least 9 other standardized code sets are currently required for ARRA-certified EHRs.

Data security represents another essential element of EHRs. A substantial amount of time and effort has already been spent developing national standards for data security – related both to the data while it resides in a database and during the transmission process. While a discussion of national data security standards is clearly beyond the scope of this paper, the topic is a hot one among industry experts, vendors and providers, and is not to be underestimated in its scope. No system is 100% secure, but other industries such as banking have already solved very similar data security issues – so much so that most people rarely consider the security of their banking data anymore.

The risks associated with electronic medical data are real, but stolen medical data is simply not as easy to use and not as beneficial as stolen banking data. Nonetheless, we keep our banking data online almost without thought. A 2011 study by the National Opinion Research Center at the University of Chicago found that while “48% of Americans are concerned about the privacy of medical records, fully 64% said that the benefits of EMRs outweigh privacy concerns.” (National Opinion Research Center, 2011) This study confirms the findings in April, 2010 by the California Healthcare Foundation that 63 percent of PHR users are concerned generally about their medical record privacy, but fewer than half say they worry about the privacy of the information in their PHR. (California Healthcare Foundation, 2010) In that same study, two thirds of the respondents said that the concern for privacy should not stop Americans from learning how technology can improve healthcare.
The US still has issues to resolve for medical data privacy, but with models from other industries already working and commonly accepted, it’s clear the issues will be resolved in the foreseeable future.

To summarize:

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**Why is interoperability important?**

**A. Goals of Interoperability**

Patients of the US healthcare system have long experienced the frustration and time-consuming task of supplying the same information over and over again to numerous providers, especially if they have a medical condition that requires multiple providers to participate in their care. Patients are often subjected to repeat testing for the same reason, even within a few hours or days or weeks, depending on the test. In emergencies, patients and their families commonly experience the frustration and futility of having their medical records locked away and inaccessible in their healthcare providers’ offices. They cannot recreate them with any degree of accuracy especially if they have substantial medical problems.

All providers have experienced the unreliability of patient-generated information, especially with regard to current medications. Moreover, adding numerous pages of paper to patient charts, many of which are duplicative, is costly in staff time and storage space. Providers indeed duplicate clinical testing for their patients for numerous reasons, which range from the inability to access test results from other providers in a timely manner to financial considerations. In addition, the current state of the US healthcare system, in which duplicate testing is a common and expected occurrence, opens the door for equally common fraud, sometimes on a massive scale, as has been experienced by, but is not limited to Medicare.

As far back as 2000, the Institute of Medicine estimated that approximately 2 million adverse drug events (ADEs) occur each year in hospitalized patients, and approximately 100,000 deaths per year occurred from medical errors, of which 7,000 were attributed to ADEs. While the ambulatory ADE rate was unknown at the time (and apparently remains so), data for nursing homes indicated that in the late 90’s approximately 350,000 ADEs occurred each year. (USFDA, 2009). Without electronic support, it is simply impossible for physicians and mid-level providers to remain current regarding possible ADEs from the meds they prescribe.

To address these and other related issues, for the past 20 years the US has been moving toward interoperable medical records, a movement that has greatly accelerated since February 2009 when ARRA was passed.

Over the course of time, the goals of interoperable EHRs have remained constant. These goals are shared by patients and providers alike, although in some cases, competing interests conflict.
Goals for EHRs:

• Reduce medical errors and prevent drug and allergy interactions
• Reduce or eliminate duplicate tests and care, and thereby reduce costs
• Provide patients with access to their medical records, which are scattered across multiple provider offices and hospitals

The United States health care community has learned a lot since the early 2000’s about how to implement EHRs successfully. While certainly some “disaster” stories have been circulated, numerous studies also substantiate claims that these goals actually are fulfilled by EHRs, including cost reduction or Return on Investment (ROI) goals that most providers want to attain. As early as 2005, the Rand Corporation estimated national savings of over $81 billion dollars resulting from elimination of duplicative care. Moreover, use of interoperable EHRs reduces the opportunity for large-scale Medicare fraud. (Rand Corporation, 2005)

B. Health Information Exchanges: Reduce Costs and Increase Quality of Care

Health Information Exchange (HIE) has been defined as “the mobilization of healthcare information electronically across organizations within a region, community or hospital system” to ensure health information is where it needs to be, when it needs to be there, to improve care coordination and beneficial health outcomes. The vehicle or structure for health information exchange is emerging through numerous Regional Health Information Organizations (RHIOs), with the ultimate goal being a Nationwide Health Information Network (NHIN), and an EHR for every American by 2014. Regional efforts toward data exchange began in the early 90’s with Community Health Information Networks (CHINs), and were given a major thrust forward by President George W. Bush in 2004. Among initiatives to reduce Medicare costs, on April 27 that year the President issued an executive order that created the position of the National Coordinator for Health Information Technology, with the charge (among others) to provide “leadership for the development and nationwide implementation of an interoperable health information technology infrastructure.” The charter also included the goal of establishing electronic health records for all Americans within 10 years.1 In the years since, the Office of the National Coordinator (ONC) has spearheaded numerous initiatives to move the United States toward a Nationwide Health Information Network.

1This Executive Order also commanded HHS to “report to the president on incentive options in HHS programs to encourage adoption of interoperable health information technology.” Clearly, the order became the precursor to the HITECH provision of ARRA, implemented during the Obama Administration.

In March, 2010, ONC announced State HIE awardees in the Exchange Cooperative Agreement Program, which included 56 states, eligible territories, and State Designated Entities (SDE). The charter of the program is to build capacity, increase connectivity and enable patient-centric information flow to improve the quality and efficiency of care. The monies also support advances in governance policies, technical services, business operations, and financing mechanisms for HIEs. In January, 2011, another $16 million was awarded to HIE grantees through the Challenge Grants Program, to award breakthrough innovations in health data exchange, specifically those that are scalable to widespread use, such as in the NHIN. (ONC, 2010)
While no definitive model for the NHIN exists at present, a useful analog for understanding how a NHIN could work is the national Automated Teller Machine (ATM) system. Some readers will remember the emergence of the ATM system. In its early stages, your ATM card would not work at every ATM, only those that participated in the same network as your bank. Gradually, all ATMs became interconnected, such that you could access your account from almost anywhere in the world. Your banking data doesn’t reside everywhere, it resides in your bank – but you can access it from everywhere. The system is so widely accepted that now, no citizen would put his or her money in a bank that isn’t connected to the ATM network – if such a bank exists. The system wasn’t adopted overnight – but neither did it take decades to become ubiquitous.

In the rapid movement toward RHIOs and the NHIN, the key to being connected as a provider is implementing an EHR with the capacity to send and receive data according to the latest national standards.

How can patients connect to a RHIO or the NHIN? Two access points already operate throughout the US: the provider-controlled Patient Portal and the patient-controlled Personal Health Record (PHR).

C. Portals and PHRs: Increase Participation & Responsibility

Patients stand to gain the most from electronic health records and health information exchanges, with the highest gain being realized through ready access to their health information. Patient access to personal health information is a requirement for providers to receive reimbursement under ARRA, demonstrating the importance assigned to it by the physicians and other professionals who crafted the “meaningful use” criteria on behalf of CMS.

A Patient Portal is an online tool that provides access to the patient’s health information that resides in the provider’s EHR. The functions included in a Patient Portal vary, but virtually all include access to data such as allergies, medications, past medical history, problems lists, immunizations, labs and procedures. Providers typically control the release of information; for example, they might withhold lab results from the patient until they have been reviewed by a clinician in the provider’s office.

A Personal Health Record, commonly called a PHR, is a free online record in which individuals can track their health information or that of a loved one, such as a child or elderly parent. The leading PHR at present is Microsoft Health Vault, although many others are emerging.

Data standard for PHRs are also emerging, with the intention of enabling patients to upload and aggregate their health data from (numerous) provider portals to their PHR. In the future, PHRs will also enable patients to send data to a provider’s EHR. Standards include a high degree of patient control over what data, specifically, they want to send to or receive from a healthcare provider. The PHRs are also highly secure, substantially more so than paper records in a physician’s office.

Portals and PHRs are becoming increasingly popular and important to patients as they realize that bits and pieces of their health information are stored in various paper charts (in the past) or EHRs (in the present and future). No one healthcare provider has the whole picture. Of course, that’s been true in the past. But in the past there was no simple way around this situation other than for patients to personally collect and store a lot of paper – paper that would most likely not be organized in a way to quickly find essential information, particularly in an emergency situation. Portals provide the access to data, and the PHR provides the structured tool to aggregate, store and update the information over time. In short, it’s the PHR that provides the patient full access, on demand, to their personal health information.
Several US trends are already contributing to increased awareness of and interest in keeping and managing personal health information online:

- While some providers still believe that patients do not want them to use a computer during an office visit, at least one national survey found the opposite is true. (Ibid., 2010). Fully 82% of respondents said that during an office visit, either they preferred the provider to use a computer to record their information vs. write it down by hand (18%) or that it doesn’t matter to them whether a pen or computer is used (64%). As patients realize more fully the benefits and accessibility of electronic data, and their rights to that data, this myth will be fully debunked.

- According to a 2009 study by the National Alliance for Caregiving and AARP, 29% of Americans (approximately 66 million people) provide one or more unpaid caregiving service for a family or other loved one. A follow-on survey, published in January, 2011 found that 77% of caregivers surveyed wanted Personal Health Records that would help them track patient history, symptoms, medications, tests, etc. for the person in their care. The study reported that 43% do see a barrier to use, the most common one being cost. (National Alliance, 2011). These respondents were apparently unaware that many PHRs can be used at no financial cost.

- Health information research is the third most popular online activity for Americans, following use of email and search engines: 80% of internet users report using the internet for this research, both for themselves and for their families. After factoring in the number of adults without internet access, the data translates to 59% of Americans engaged in researching health information online. Additionally, 60% responded that information reviewed influenced how they managed a health condition. (Pew Research Center, 2011)

- Social networking usage among adults aged 50-64 grew 88% between April, 2009 and May, 2010, as reported by the Pew Center. In August 2010, 47% of internet users ages 50-64 and 26% of internet users ages 65 and older now use social networking sites. (Madden, 2010).

- Younger cell phone users are the most likely to look up their health information on a smart device, but “the drop-off point is closer to age 50, rather than age 30”. (Deloitte, 2010)

Young or old, patient awareness of, comfort with and interest in controlling their health information online is growing. Patients have already seen, and will realize even more in the future, that they can ensure immediate access to their health information by aggregating it themselves in their PHR. The growth of PHRs promises to be exponential, especially with the new emphasis on Wellness and Prevention that healthcare reform is bringing more prominently into the public discourse.

They may not be doing so now, but it’s predictable your patients will soon be tracking their health information in a PHR, especially if your organization is promoting Wellness.
Two of the core measures of “meaningful use” require providers to give patients electronic copies of both the medical history and clinical visit summaries stored in their EHR. Once patients learn that they have a right to receive these records, it will not be long before they will request or even demand them from all their care providers – including those providers whom they see in an occupationally related setting. Patients won’t care who was eligible for or received ARRA funds. They will simply expect all their providers to give access to their data so that they can upload that data into their PHR. Without an EHR that meets national standards for interoperability, a provider will be unable to meet patient expectations.

Why should you care

A. Reasons to Care
Perhaps the number one reason to implement an EHR that meets national standards for interoperability is to provide your patients electronic copies of their records, for upload to their PHR. Where patient satisfaction is highly valued, this factor alone may be enough reason to justify an interoperable EHR.

Beyond that, however, consider for a moment what the US health care landscape will be like in a few years, after most providers have implemented EHRs:

- As RHIOs become more widespread and, ultimately, the Nationwide Health Information Network is developed, patients will not support providers who cannot send or receive standardized data to their other healthcare providers. Those providers who do not implement interoperable EHRs risk becoming data islands – like a bank that cannot connect to the ATM network.

- Physician offices will no longer be staffed to the levels required to deal with all the paper. For example, manually entering or even scanning referral notes received from other providers will become an obsolete practice. Instead, providers will exchange data electronically, using standardized data sets that make it possible. Referral providers, including primary care physicians and specialists, will eschew colleagues who cannot provide data electronically.

- Employers of all sizes bear the majority of the cost of healthcare premiums in the US, as well as the cost of work comp premiums. Perhaps more than anyone, they are aware of the high cost of healthcare. As the impact of EHRs on reducing cost of care becomes more widely known, employers will want to do business with those Occupational Health providers whose commitment to cost containment is demonstrated in practice.

- Insurance carriers also share concerns about reducing the cost of care. Already, states such as Maryland are requiring insurance companies to offer incentive programs to encourage the adoption of EHRs among their network providers. As early as September, 2008 at least 43,000 physicians were being offered subsidies or participation in state or local initiatives, a CCHIT study determined. On August 5, 2010, four major commercial health insurance payors participated in the Health Industry Forum in Washington, D.C., to discuss private industry collaboration with the United States Health & Human Services Department (HHS) to support providers in the adoption of certified EHRs. These included Aetna, Inc and its subsidiary, ActiveHealth Management, United Health Group (UHG), Wellpoint, Inc. and Highmark, Inc. (Blue Cross Blue Shield). Other payors will undoubtedly follow suit, and it’s predictable that work comp insurance companies will also require providers to have a certified EHR before long. Those Urgent Care and Occupational Health organizations that are considering a new software system would do well to consider an interoperable EHR, even if it is not required at the present time. The software you buy will need to
last you a number of years, so the wise buyers will at least lay the groundwork for future compliance.

- When competitors of your Occ Health or Urgent Care Clinic install their interoperable EHR, they will market that fact to your client employers.

In an interview with FierceEMR on January 27, 2011, departing ONC National Coordinator, Dr. David Blumenthal, said it’s impossible to imagine that younger healthcare providers will complete their career without making the transition to an electronic health record. “We are a digital society and the idea that a huge industry that occupies 17 percent of our GDP – with most of that allocation being controlled by physicians and hospitals – that they should remain a kind of walled-off medieval city of paper record keeping and information management, I think it’s inconceivable.” (Bowman, 2011)

For older physicians, Blumenthal believes it’s going to be almost impossible for them to replace themselves unless they have an information system that a younger physician can work with. “Or, they’ll have to discount the price of the practice, accordingly, because the younger physician will say ‘I don’t want this practice unless I can install an electronic health record.’ It’s a little bit like re-doing the roof, if you’re buying a house: You give me a roof that leaks; I’m going to take that out of the purchase price. So I think there’s another economic rationale.”

B. How do you know whether your EHR meets national standards for security and interoperability?
In a word, certification. EHR certification provides an independent, third party review by an Authorized Testing and Certifying Body (ATCB). Two types of EHR certification exist, and are briefly compared in the chart on the following page.

The certification process requires EHR vendors to demonstrate that their EHR meets the national standards, through a rigorous testing process. This process includes standardized test scripts, as well as actual transmission and receipt of standardized data. All certified EHRs have passed the identical tests, which are specific to either inpatient or ambulatory EHRs.

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<td>286 EHR criteria for certification</td>
<td>33 EHR criteria for certification</td>
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<td>Heavy emphasis on security; a CCHIT Certified® 2011 Ambulatory EHR fully meets HIPAA security standards</td>
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Providers that do not implement interoperable EHRs risk becoming a “data island” – perhaps even a deserted one.
Conclusion
Ultimately, Blumenthal believes that physicians are going to adopt EHRs because they think it’s the right thing to do. Said Blumenthal, “I think the money will be helpful, the economics…the incentives work. But many more will do it because they just can’t practice with pride unless they are modern and up to date, and meet the standards of their peers.” (Ibid., 2011)

The constituents of your healthcare community – including patients, client employers, payors, and other providers – will expect you to share data electronically with them, using an interoperable EHR. They will expect you to keep up with the times.

Questions?
To learn more about Agility EHR from Net Health, a dual certified EHR designed specifically for Urgent Care and Occupational Health, please:
Call us at 800-411-6281
Email us at sales@nhsinc.com
or visit our website at www.AgilityEHR.com

References and Citations


