

Physicians Hesitating

Most physician practices are still on the fence when it comes to EHRs: They recognize EHRs as an ultimate need and are intrigued by HITECH Act stimulus funding, but are reluctant to make dollar and other investments without financial, technical, and logistical support.

Introduction

A growing trend among U.S. hospitals anticipating industry change during the next five years is implementing integrated electronic health records (EHRs). Integrated (or “interoperable”) EHRs are clinical information systems that enable hospitals and practices to share or exchange electronic patient information. Hospitals need these systems to:

- Address evolving payment and other health reform initiatives
- Better coordinate care of patients who transition between hospital and ambulatory care venues
- Streamline hospital-practice workflows such as order entry and results review
- Meet HITECH Act EHR meaningful use criteria, which is needed to receive bonus Medicare and Medicaid payments and avoid subsequent payment penalties

In addition, EHR initiatives are effective reach-out programs for attracting physicians — that hospital executives increasingly recognize as a business opportunity they cannot afford to overlook:

For health organizations, the ability to help with electronic health records is becoming a competitive edge. The ones that look away from this miss an opportunity to align with a physician who might go to another hospital system because they are supporting an EHR.¹

— Todd Rothenhaus, MD, Senior VP, CIO, Caritas Christi Health Care (Boston)

For all these reasons, the question for hospitals is becoming not whether but how to initiate integrated EHR use within their communities. That initiative requires navigating several challenges, including:

- The majority of physician practices that do not have EHRs, and often cannot afford or are unwilling to purchase and implement EHR systems without financial assistance
- Providing, funding and administering Stark exemption subsidies to physicians and practices
- Physician resistance to both using EHRs, and in cases where they are used, sharing electronic patient information
- Small and mid-sized practices that do not have adequate staff and information system expertise to select, implement, integrate and operate EHR systems
- Practices that are not ready for full-featured EHRs or integration, and need incremental (“baby step”) implementation options

This paper discusses options (based on trends being set by hospitals at the leading edge of EHR integration) for overcoming integrated EHR challenges. The right option for each community depends on variables such as cost, starting points at the hospital and at practices, and physician resistance. However, the

core decision process itself is straightforward. Hospitals poised to initiate integrated EHR use need to make the following strategic and logistical decisions:

- Will the hospital extend an EHR to practices (the core hospital system or an endorsed ambulatory EHR product) or focus solely on connecting with EHR systems that practices independently select and operate on their own?
- How will the hospital system connect with practice EHRs and users in ways that enable effective sharing and/or exchange of electronic patient information?
- What kinds of and how much EHR and integration assistance — financial and technical — will the hospital provide to practices?
- What other resources will the hospital refer practices to and utilize themselves to make easier what is going to be an expensive and challenging process?

Decide Whether to Extend an EHR to Practices

Several hospitals have concluded that the quickest, easiest and most effective way to reach out with EHR assistance to its community practices is to extend integrated EHR systems. The currently popular options are:

- **The enterprise EHR:** The hospital gives practices access to the ambulatory module of an enterprise EHR used throughout the hospital inpatient units, outpatient clinics and ambulatory practices.
- **An ambulatory EHR product:** The hospital selects a preferred ambulatory EHR system product for practice use and interface with the hospital system.

The Enterprise EHR: Enterprise EHRs are systems with separate application modules for inpatient and ambulatory care, but that share a platform, including a common patient database and server systems. The shared database naturally integrates the application by enabling any user with a need to know to access any and all patient data, and the common platform makes it quick and easy for the hospital to roll out versions of the system to practice users.

Until recently, Enterprise EHR implementations were almost exclusively confined to vertically integrated delivery networks (IDNs), such as Kaiser Permanente, Cleveland Clinic and North Shore University Health System (Evanston, Illinois). However, configuration enhancements that accommodate special needs (such as segregated practice-specific patient databases), have opened up the option to also offer enterprise EHRs to affiliated practices. A recent example is NYU Langone Medical Center (New York City), which has committed to and initiated roll out of its selected enterprise EHR to all participating practices (owned and affiliated) in its service area.

Enterprise EHR systems are an ideal technical solution for integration because they automatically integrate all users by giving them access to exactly the same patient data. However, the enterprise EHR is not the right solution for most hospitals and communities. For one thing, they require the hospital to use or convert to an Enterprise EHR product, which represents a dollar and logistical commitment many hospitals are not in a position to make. For another, to be fully effective, they also require practices to use the enterprise EHR, and physicians often prefer or are already using other EHR systems that they are not willing give up.

A preferred ambulatory EHR product: A popular alternative to the enterprise EHR is extending access to a preferred ambulatory EHR product. Hospitals employing this strategy contract with a system vendor (or other developer) to purchase, subsidize or otherwise make a preferred system easily available to practices, and build or acquire tight interfaces with hospital systems to enable patient data exchange. Piper Jaffray analyst Sean Wieland coined the term “mega-deal” to describe huge EHR system purchases that have become a trend among large hospital systems pursuing this option.² For example, in September 2009, North Shore-Long Island Jewish Health System announced that it will subsidize purchase of a preferred ambulatory EHR product for more than 7,000 affiliated physicians in New York City and Long Island, with a total cost to the hospital expected to exceed \$400 million.

Advantages/disadvantages of the extended EHR: Extended EHR benefits come from the freedom to focus on single product solutions, with common integration, implementation and operational best practices, as well as the leverage to negotiate better pricing. The challenge, of course, comes when practices are using or prefer other products. When other systems are rare, the strategy is typically to conditionally work with the product, e.g., interface it but withhold financial and other support. But when the community has an installed base of several ambulatory EHR products, hospitals are more inclined to abandon the extended EHR option, and focus instead on a robust, flexible interfacing strategy that simplifies connecting the hospital EHR with multiple ambulatory EHR products.

Select a Strategy for Connecting Hospital and Practice EHRs

Every hospital needs a technical solution for linking its hospital system with separate practice ambulatory EHRs. (To satisfy the latest meaningful use criteria from December 2009, this includes hospitals offering an enterprise EHR, which must enable their EHRs to exchange data with any certified EHR system.) There are currently two options: **point-to-point** interfaces and **health information exchanges (HIEs)**. See Figure 1.

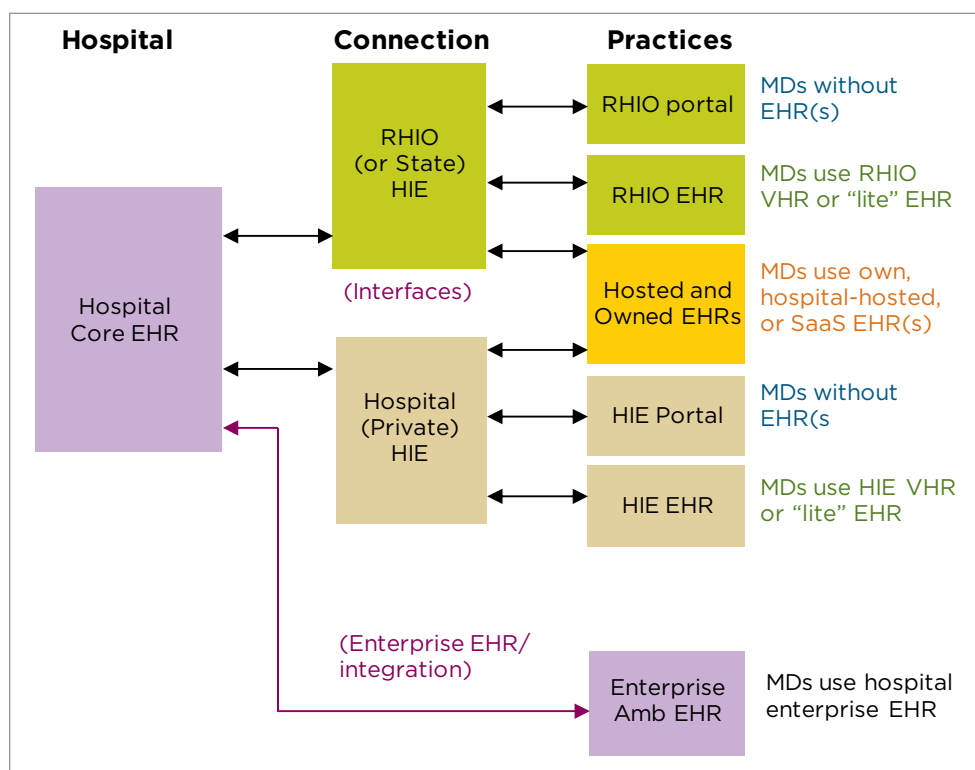


Figure 1: Information exchange connection options. Note that these options are not exclusive, i.e., they can be and are likely to be increasingly mixed and matched to help realize interoperable EHR solutions. Also note that this figure illustrates full EHR alternatives (such as HIE portals and “lite” EHRs — see “Lesser” Options section below).

Point-to-point interfaces are the traditional alternative. They are software-controlled hardware links between each integrated ambulatory EHR and the hospital system. Point-to-point interfaces are an established and proven way to exchange data. They can use telephone lines to connect remote systems, and they are a standard part of EHR vendor software and support product lines. Difficulties include costs, typical need for custom programming, and the logistical challenge of maintaining point-to-point interfaces with multiple different system products.

The evolving alternative is the HIE: a secure Internet-based network that transmits (often called “pushes”) and receives patient record summaries among networked EHRs. A big advantage of HIEs is that they can connect multiple different EHR

products as well as other systems on a single network. HIEs can be private (or “hospital”) networks owned and controlled by the hospital, or those operated by regional health information organizations (RHIOs) and state agencies. Potential challenges to using HIEs for integration are that not all are currently configured to transmit EHR patient summaries; and that summaries themselves, which while sufficient for most care needs, leave some patient data behind. On the other hand, HIE flexibility, which makes it quick and easy to plug compatible EHRs into the network, have several hospitals pursuing it as an alternative.

An example is Baptist Health (Jacksonville, Florida). A five-hospital, 1,000 bed system with 25 affiliated practices, Baptist Health is developing a private HIE network that will connect ambulatory EHRs for practices to independently select, contract, and implement. To date, it has certified three popular ambulatory EHR products for HIE connection to hospital systems. CIO Roland Garcia strongly believes that HIE-based routine patient record summary exchanges will support the majority of information needs, and that workarounds (such as separate direct access to hospital systems) are adequate for rare exceptions when practice providers need additional detailed information.⁴

Determine A Practice Assistance Strategy

One reason hospitals need an assistance strategy is that practices, even if they are “just looking” at EHR options, turn out in force when hospitals offer help. For example, Todd Rothenhaus, MD, CIO at Caritas Christi Health Care (Boston) described practice pursuit of HITECH Act stimulus information as a “feeding frenzy,”⁵ and NYU Langone Medical Center reports this turnaround since HITECH Act incentives were announced:

Today it’s a pull, the physicians are coming to us saying, “hey guys, help us out, we want to be part of the revolution that’s going on with electronic records and the whole reform of the American health system.”⁶

— Paul Conocenti, CIO, NYU Langone Medical Center (New York City)

Practices are looking for and need help in two arenas: 1) financial assistance, and 2) system expertise, which is needed to make product selection decisions and implement/operate EHR systems in ways that help practices avoid problems using and managing the systems.

Financial Assistance: In two recent physician practice survey reports, the two most common concerns about EHR adoption were inadequate IT budgets and fears about EHR implementation costs.⁷ Hospitals are positioned to substantially help by virtue of the Stark exemption, a temporary suspension of anti-trust legislation passed in 2006 that legalizes hospital subsidies to affiliated physicians who use the funding for EHR system software acquisition (see Stark Exemption — What is it? sidebar).

Most hospitals put Stark exemption subsidy programs on hold following the announcement of HITECH Act bonus payments. However, subsidies are regaining popularity as physicians appeal for help qualifying for bonuses, including system and installation purchases as well as costs that are expected to exceed those bonus amounts. Stark subsidies are compatible with all strategies. For example, NYU Langone Medical Center is using it to discount what it will charge each practice to acquire its enterprise EHR (to about the cost of a Sam’s Club EHR⁸); Baptist Health will subsidize purchase of any product it certifies; and North Shore-Long Island Jewish Health System has agreed to subsidize any affiliated practice’s purchase of the Health System’s preferred EHR.

Although Stark subsidies are meant to benefit practices, a hidden value for hospitals is leveraging subsidy amounts to encourage or enforce practice cooperation. Examples include vetting practices (for staffing and other evidence of commitment), limiting subsidies to the preferred EHR product and pro-rating subsidies based on levels of utilization or cooperation.⁹ For example, North Shore-Long Island Jewish Health System subsidizes 50 percent of EHR acquisition

Stark Exemption — What is it?

In October 2006, an exemption to CMS regulations (Stark) and the Office of Inspector General (OIG) anti-kickback laws made it legal for hospitals to begin subsidizing up to 85 percent of the cost of electronic health record (EHR) software to affiliated physicians. Stark regulations and OIG anti-kickback laws otherwise prevent hospitals from providing anything of substantial monetary value to physicians except when its sole purpose is caring for hospitalized patients. The goal of the exemption is eliminating EHR and e-prescribing adoption barriers, and standardizing data transfer and communication between ambulatory and acute care sites. Receipt of Stark exemption subsidies does not disqualify otherwise eligible physicians from HITECH Act incentive payments. The Stark exemption as currently legislated is scheduled to expire in 2013.

costs to physicians who share EHR practice data used for treating patients (such as for emergency room visits), but increases the subsidy to the maximum allowed 85 percent for those that also share de-identified performance data the hospital increasingly needs for effective quality reporting.

Product and System Acquisition Assistance: The other hospital resource practices want and need is technical expertise related to EHR acquisition — all phases, from product selection to implementation and operation. The evolving model for providing that service is dedicated hospital IT department teams that offer educational workshops and assist with product selection, installation, implementation and operation, including problem-solving. In November 2009 Caritas Christi Health Care (Boston) reported that it was running two practices per week through a standard preparation program it developed.¹⁰ This practice can be, but is not always combined with financial assistance. One thing hospital providers of the service emphasize is that it is about much more than helping practices get hospital and other financial assistance. As Terri Steinberg, MD, CMIO at Christiana Care Health System (Wilmington, Delaware) was quoted in November 2009, “It’s not actually the money that scares them; it’s picking the wrong system and being marooned.”¹¹

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— Terri Steinberg, MD, CMIO, Christiana Care Health System
(Wilmington, Delaware)

Look for Other Resources

Although hospitals are an important focal point for integrating EHRs within their communities, they are not the only stakeholders ready and preparing to help with and promote EHR adoption and integration. Those sources include support for practices, and products and services hospitals can buy or otherwise obtain for help with administrative and technical infrastructures.

Practices, for example, have other places to go for financial assistance. Most are already exploring HITECH Act stimulus payments (\$44,000 to \$63,750 per physician for demonstrating meaningful use of EHRs), but there are others. They include other HITECH Act programs such as community health center and the Beacon Community Cooperative Agreement Program grants (\$1.5 million and \$220 million respectively), commercial health plan pay-for-performance bonuses for using EHRs, and system vendors that offer interest-free financing to purchase their systems, with payment due dates delayed until HITECH Act stimulus payments are received.

Practices can also turn to other sources for administrative and technical support. One coming soon is the health information technology regional extension center (HITREC), which will provide small (10 or fewer physician) practices with educational and other EHR acquisition support similar to that provided by hospital special teams. HITRECs will receive HITECH Act start-up grants and approximately 70 are expected to begin operating in early 2010 — with the assigned target of collectively turning out 100,000 primary care provider meaningful users by 2012. Another is independent physician associations (IPAs) that take an active role in supporting physician EHR use. An example is the Mount Auburn Cambridge Independent Practices Association (MACIPA), Cambridge, Massachusetts. MACIPA EHR adoption efforts include a data center, where it hosts EHR systems used by 150 physicians at 50 practices, full implementation and operational support for those users (including hotline support), and participation in HIE development efforts within the state.

Hospitals are also encouraged to explore getting help with services they provide to practices. A frequently valuable source is vendors (of EHR and HIE software), which now offer software and service products that help accelerate and simplify system implementations. The most dramatic is software as a service (SaaS). SaaS

completely relieves hospitals of having to host and support or help practices host and support EHR and HIE systems by offering Internet access to systems hosted by the vendor. In most cases SaaS also includes comprehensive implementation and go-live support. EHR and HIE vendors are also increasingly working together, via mergers and project partnerships, to help coordinate integrated EHR implementations. Similar HIE network services are available from RHIOs and state HIE network agencies. Hospitals are also encouraged to consider administrative expertise and structures that RHIOs and state agencies offer, such as patient opt in/opt out administration, i.e., collection, storage and enforcement of patient authorizations to share or not share their EHR data via the network.

“Lesser” Options

The ultimate goal of integrating EHRs is communities in which every provider uses a full-featured EHR system with full need-to-know access to patient data from other EHRs within the community. That goal is a reality at a few IDNs in the U.S. today, and a realistic objective within the next one to five years at a growing number of hospitals that have initiated programs such as those described in the options sections above. Other hospital communities need solutions for realizing more realistic (“lesser”) expectations. Those expectations should include an upgrade path to ultimate solutions, but they primarily need to provide options for getting started, such as partial sharing of or sharing of limited patient information. Examples include (also see Figure 1):

- **Provider portals:** HIE search and select applications that providers can use to search for and review specific patient electronic information, typically data from hospital systems such as test results and discharge summaries, but increasingly also medication histories, allergy lists, and when available, problem, medication and/or allergy lists critically needed to support emergency care.
- **HIE or other network links** that enable partial EHR functionality. Examples include links for e-prescribing and provider portals that enable community provider order entry of hospital services, as well as order tracking and results review.
- **Limited data exchanges** such as just hospital data, and just results and discharge summary transmittal to physician EHR users who need to gradually come up to speed and comfort with the technology. Part of this physician concern is data transmittal reliability and accuracy, but other worries include misuse of shared practice information and data overloads that can lead to liability for not keeping pace with reviews.

The Impact of “Meaningful Use”

One of the keys to current levels of EHR interest and activity is the HITECH Act and associated meaningful use demands. In addition to stimulating adoption, they include features for exerting control over how and how quickly EHRs are implemented, with goals of accelerating as well as ensuring quality EHR system implementations. Examples of the Act’s influence include:

- **Dollar incentives** including both CMS bonus payments and subsequent penalties. Bonus payments (\$44,000 to \$63,750 per practice physician) are a major factor in ambulatory practice as well as hospital decisions; and penalties pose an especially big and ongoing risk to hospitals with significant ratios of Medicare and Medicaid revenues.
- **Standards** that the Act charges the Office of the National Coordinator of Health Information Technology (ONC) with developing and publishing. Those standards include the much-discussed EHR meaningful use criteria that hospitals and practices must demonstrate to qualify for incentives. However, they also include data storage and transmittal formatting, system certification, quality reporting and other standards, as well as measures to certify that they are being met.

- **Timelines** including incremental incentive deadlines that reward hospitals and practices for meeting stage 1, stage 2 and stage 3 meaningful use criteria; and deadlines for releasing standards, grants (such as HITREC funding), and other programs for assisting hospitals and practices with integrated EHR adoption. These timelines are cleverly designed and incorporated into incentives and standards programs that provide a framework to help jump start and make integrated EHR adoption an achievable reality within the next five years.

Table 1. ONC EHR Interoperability Criteria (extracted from “Proposed Rule: Medicare and Medicaid Programs; Electronic Health Record Incentive Program”¹³).

ONC Stage 1 EHR Meaningful Use Criteria – Interoperability		
Eligible Providers	Hospitals	Measures
<ul style="list-style-type: none"> • Capability to electronically exchange key clinical information (e.g., problem list, medication list, allergies, test results) among providers of care and patient-authorized entities • Perform medication reconciliation at relevant encounters and each transition of care • Provide summary care record for each transition of care and referral 	<ul style="list-style-type: none"> • Capability to electronically exchange key clinical information (e.g., discharge summary, procedures, problem list, medication list, allergies, test results) among provider of care and patient-authorized entities • Perform medication reconciliation at relevant encounters and each transition of care • Provide summary care record for each transition of care and referral 	<ul style="list-style-type: none"> • Perform at least one test of certified EHR technology’s capacity to electronically exchange key clinical information • Perform medication reconciliation for at least 80 percent of relevant encounters and transitions of care • Provide summaries of care record for at least 80 percent of transitions of care and referrals

Conclusion

The bottom line on integrated EHRs within U.S. hospital communities today is that adoption has become a widely recognized objective (from within and outside the industry) that hospitals are increasingly targeting, piloting and initiating, but also one that requires a lot more work to realize. There are three important realities about the current state of adoption that hospitals need to recognize as they address and manage that completion:

1. **EHR integration is still in an initiation phase.** The fact is that most hospitals and practices are still not using, never mind integrating EHRs. That means two things: Developing, piloting and implementing initiation strategies is still the important focus, and one that every hospital needs to start now. It is critical to establish a momentum that makes an interoperable EHR an expectation instead of an exception. However, it also means that hospitals and practices need to prepare for follow-up phases to complete the partial, incremental strategies that are important to initiation (such as provider portals and limited data exchanges), as well as fine-tune resulting networks and processes.
2. **Different strategies and different rates of adoption will mean inconsistencies in data collection, transmittal and other practices between and among community entities.** This will require coordination, including agreements to temporarily adapt to the lowest common denominator, such as free text, as well as commitments to adopt evolving data transmittal and other standards, such as LOINC, ICD-10 and Rx-Form.
3. **Standards and practices for integrating EHRs will emerge and evolve during the next one to five years.** Chief among them will be EHR meaningful use criteria that are being developed by the ONC. Specifically intended as qualifications CMS will use to award HITECH Act stimulus payments and withhold penalties, like many things CMS, these criteria are also expected

to become industry default criteria. Table 1 illustrates stage 1 interoperability requirements. ONC will follow these with more stringent stage 2 and stage 3 requirements, such as requirements that hospital EHRs “produce and share an electronic summary care record for every transition in care,”¹⁴ and “retrieve and act on electronic prescription fill data.” ONC’s stage 3 criteria objective also perfectly summarizes the overall goal of interoperability and integration: enable providers to “access comprehensive patient data from all available sources” and “aggregate clinical summaries from multiple sources.”¹⁵

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