TECHNOLOGY

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what to consider when purchasing an EHR system

The healthcare IT provisions of the American Recovery & Reinvestment Act (ARRA), passed in 2009, earmarked $32 billion in incentives for hospitals that demonstrate "meaningful use" of certified electronic health record (EHR) technology. These provisions have created a feeding frenzy of sorts in the healthcare IT industry.

Although most large hospitals, academic medical centers, and multihospital integrated delivery systems (IDSs) have already acquired much of the EHR technology they will need, hundreds of small and midsized hospitals are flooding the market to achieve "meaningful use" in time to demonstrate eligibility for ARRA incentives. Many healthcare IT vendors are already reporting lines of several months before they can give demos on EHR systems—and some report up to a year before they can begin an implementation.

This rush to market for EHR systems can lead to inappropriate system selections that cost more than what is necessary. In light of upcoming reductions in Medicare payment and the fiscal crisis most states are experiencing, now is a time for healthcare organizations to buy wisely, not rashly. CFOs and other hospital leaders should keep a number of considerations in mind when purchasing an EHR system to ensure that the system is appropriately sized and provides only those applications that are truly needed. It is also important that hospitals carefully budget for the total costs of implementation.

AT A GLANCE

Based on the experience of Crittenden Health System, healthcare organizations that are setting out to purchase an electronic health record (EHR) system should:

> Begin their search for the system with "right"-size vendors
> Share the costs with members of their selection committee
> Factor in the costs of additional internal staff that will be required
> Heavily involve clinicians in the selection process

Strategies for Selecting an EHR System

The following suggestions for making an EHR purchase are based on the experiences of Crittenden Health Systems of Marion, Ky. Crittenden operates a 50-bed community hospital, Crittenden County Hospital, and began a search for its EHR system in 2009, hoping to finalize the transaction in 2010.

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Begin the search with the "right"-size vendors. No matter the size the hospital, there are vendors that are appropriate for its needs and budget, in terms of both vendor fees and internal costs of IT and user staffing related to the EHR implementation. The EHR market has three basic tiers reflecting small- to large-scale implementations.

In this order (small to large), the EHR market's first tier of vendors serves hospitals with fewer than 100 beds that typically spend $1 million to $2 million in capital (hardware software, and implementation) for a "low-end" (in terms of cost, not functionality) EHR and that expect to pay up to $100,000 per year in maintenance fees. These hospitals often have only a handful of staff in their IT departments (critical access hospitals often have just one full-time IT staff member) and only part-time internal resources available for EHR implementation and operation.

The market's next tier serves midsize "community" hospitals ranging from 100 to 300 beds that can spend $3 million to $10 million in capital for a midrange EHR system and $200,000 to $300,000 per year in maintenance fees. These hospitals usually have IT departments staffed with 10 to 20 FTEs; most user departments often are able to dedicate one to two employees for implementation and operation of a new EHR.

The market's third tier serves hospitals with 300 or more beds, including academic medical centers and multihospital IDSs. Organizations served by this market tier spend from $10 million to nearly $1 billion in capital costs for an EHR system and $1 million or more per year in maintenance fees. Their IT departments have up to 100 or more FTEs, with a team of informaticists who work alongside nurses and full-time chief medical information officers (CMIOs).

It's important for smaller hospitals to avoid purchasing EHR systems intended and priced for larger hospitals. For example, a critical access hospital with fewer than 25 beds should avoid a midrange system that costs several million dollars, require an IT staff of five or more people to support, and require heavy staffing from user departments to implement. Likewise, a 150-bed community hospital should avoid a high-end system that costs more than $10 million, requires a much larger IT staff than it can afford, and necessitates several nurse informaticists and a full-time CMIO for implementation and ongoing support.

To ensure that a vendor is the appropriate size for the organization, it's best to ascertain the costs of a potential EHR system early in the search process. Crittenden began its selection process by issuing a request for information that asked vendors to estimate the capital and operating costs of their EHR systems and the staffing levels required to operate these systems, both in the hospital's IT department and user departments. Based on the responses of vendors, Crittenden chose only those vendors with affordable fees and reasonable staffing levels to demonstrate their systems to hospital leaders.

Beware of vendors of high-end systems that are offering "community hospital pricing." This phrase can be a warning that the system was originally designed for larger hospitals that can afford the extensive "building" by user departments that such high-end systems require. Smaller hospitals should search for a "turnkey" system, with most screens and reports already built. Larger hospitals might be able to afford the luxury of custom building a system with screen painters, workflow engines, and report writers to meet the more demanding needs of large departments. Be sure to review both the operating and capital costs for a vendor's EHR system early in the selection process. Calculate the cumulative costs over seven or 10 years to fairly compare vendors with subscription fees, application service provider (ASP), or software-as-a-service (SAAS) pricing models.

Share the costs with end users, and involve clinicians in the selection process. Review the comparative costs of EHR systems with users on your selection committee before they view system demos. At Crittenden

Health System, this committee comprised key staff from all clinical areas, including laboratory, pharmacy, radiology, the operating room, and the emergency department. Crittenden also invited several physician champions to observe EHR demonstrations and make site visits, and is conducting a "physician fair" with its two finalist vendors so that physicians may vote on their preferred CPOE system.

Sharing the cost of various systems with clinicians before they become enamored with a high-end product can help to ensure they select vendors the organization can actually afford. Additionally, if system A costs twice as much as system B, clinicians will be able to judge whether system A is really twice as powerful, in terms of usable functionality.

Consider all of the costs. Vendors often overlook cost details in their proposals, such as travel costs (can easily run into six figures), training class tuition fees (some vendors charge thousands of dollars per attendee), file conversion fees (to transfer test result history and images), and *all four* interfaces usually required for ancillary systems: demographics in, charges out, orders in, and results out. Amazingly, some healthcare IT vendors even charge for interfaces between *their own* products, which can result in a large cost surprise later. Be sure to ask the vendor to disclose *all* these cost details. And watch out, in particular, for vendors that leave hardware costs out of their proposals, claiming they only provide software, as if hardware costs were irrelevant.

Be sure to factor in the costs of additional internal staff that will be required to operate the EHR system. The salaries of these personnel will need to be paid long after the ARRA stimulus funding ends. Crittenden considered adding the following staff, with salaries equaling or exceeding the vendors' maintenance fees:

> IT staff
> Nurse informaticist
> Chief medical information officer (CMIO)

For IT staff, Crittenden decided to add two FTEs to its two-person IT department—a clinical system analyst and a PC technician for the many mobile devices to be supported.

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For its nurse informaticist, Crittenden added an FTE within the nursing department to design and build screens for assessments and plans of care, train existing and new staff, support users during testing and go-live, and install updates and releases.

Given its size, Crittenden could not afford a full-time CMIO, so the health system opted to make this position part-time. Crittenden plans to pay a physician "champion" among its existing medical staff to build order sets, medical alerts, and train peers in computerized provider order entry (CPOE).

Don't rush into an EHR purchase. An EHR system should last 10 years or more, and should become an integral part of a hospital's patient care processes. Be careful not to speed a decision to obtain a year-end or quarter-end deal on pricing from a vendor or to "get a place in line" for EHR implementation. Vendors are experiencing delays in implementation, but turn this around and ask the vendors for a contractual commitment regarding when they can begin the implementation.

Don't ignore an incumbent vendor. Crittenden has a more than 10-year relationship with an IT vendor for its automated financial and administrative systems. Crittenden's first investigations into EHRs were with "mid-range" vendors that had convinced the clinical staff that their products were much more advanced than those of the incumbent vendor. However, when Crittenden began demonstrations of the incumbent vendors' EHR systems as well, Crittenden's clinicians found they were equally impressed with this "low-end"

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system. The incumbent vendor's system was far more user-friendly in appearance, offered greater flexibility in customization, required less training (because most staff were already familiar with the sign-on process and menu navigation for the vendor's other products), and cost far less than the EHR systems offered by midrange vendors.

Don't replace the hospital's entire revenue cycle applications. A new clinical system is expensive enough. Why spend twice as much to replace financial systems that work perfectly well for your organization (that is, if your financial system vendor will agree to interface, per the interoperability requirements of the ARRA regulations)? Half the pain is enough!

Don't over-rely on demos and RFPs. Employ other steps in the selection process to ensure the organization purchases an affordable EHR system. Have clinicians make site visits and telephone reference calls to their peers at clients of potential vendors. Make unchaperoned site visits to client hospitals, and call peers to learn how quickly systems respond in the real world, how challenging implementations are, and how difficult it is to build order sets and medical alerts. If the hospital uses an RFP from a consulting firm, make sure the feature checklist was developed for a hospital of your size, rather than a large academic medical center or IDS. Sadly, most hospitals use only a small percentage of the features in an EHR system. Why buy one with many features the organization won't use?

Making the Right Choice for Your Organization

ARRA stimulus funding is a potential boon to hospitals struggling to implement modern IT systems like CPOE and EHRs. However, the prospect of earning a few million dollars in government incentives for demonstrating meaningful use of such systems should be placed in perspective of the total cost of these systems over their 10+-year life span. Hidden costs, the addition of internal staffing to manage implementation, and the unnecessary replacement of financial systems could make this temporary boon a long-term bust if organizations are not careful in their approach. ■

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