EHR: A Powerful Tool for Physicians in Small Practices

By Andrew Miller, MD, MPH

Health information technology (HIT), including electronic health record (EHR) systems, has become an important tool to help hospitals and physicians achieve operational efficiencies, expedite transfer of patient information, handle medication prescriptions safely, promote patient care, improve patient safety, and reduce medical errors.

However, while hospitals are currently equipped with computer applications that enhance day-to-day operations, physicians are taking longer to implement EHR systems in their practices. A recent national survey of approximately 2800 physicians found that only 9% of physicians in small practices of 3 or fewer have fully functional or basic* systems.[1] The percentage of physicians using EHR systems increases in relation to the number of physicians in the practice. For example, fully functional or basic systems are installed in 23% of practices with 6 to 10 physicians and in 30% of those with 11 to 50 physicians. Additionally, it appears that physicians who install fully functional systems have better results working with their systems than physicians who have only basic systems.

Small Practice Physicians Take the EHR Plunge

Interviews were conducted with 2 New Jersey physicians who adopted EHR systems to improve healthcare delivery and patient safety. Both physicians work in small practices and installed their systems in the first quarter of 2007. They shared information about their practices' histories, EHR system vendor decisions, lessons learned, system satisfaction, and costs.

Medical Associates of North Jersey

Medical Associates of North Jersey, a 2-physician practice specializing in internal medicine and geriatrics, opened its doors in the 1960s. Timothy Brabston, MD, is one of the current partners. In addition to 2 physicians, the practice has 6 office staff: an office manager, a billing specialist, 2 medical assistants, and 2 receptionists. Both physicians practice in 8 local nursing homes. Dr. Brabston is the medical director at 2 assisted living (AL) facilities with dementia units.

Dr. Brabston has always believed that EHRs are better than paper records. "Papers are going to get misfiled and charts are going to get misplaced," he explained. "In addition, a paper-based system requires too much writing, which can be hard to read and increase the risk of error." He acknowledges, however, that he was not the most proactive individual exploring an EHR system. "I belonged to an independent practice association (IPA) that was very helpful in selecting 2 EHR vendors out of the many that exist." The IPA was able to get financial support from an insurance company that subsidized the costs of software. "Of course, this was done because the insurance company recognized that documentation is more complete and thorough when a practice keeps records electronically."

Dr. Brabston suggested that one of the best ways to determine how

* A fully functional system is defined as one having 4 domains: recording patients' clinical and demographic data, viewing and managing results of laboratory tests and imaging, managing order entry (including electronic prescriptions), and supporting clinical decisions (including warnings about drug interactions and contraindications). The principal differences between a fully functional system and a basic system are the absence of certain order-entry capabilities and clinical decision support in a basic system.

an EHR system can help in a practice is to take a look at how you spend your time. "We spent most of our time writing and, if we wanted very complete documentation, we were rewriting and rewriting." His practice also spent a lot of time transcribing. He added that with an EHR system, "once the information is typed, it's just a matter of a click or drag, and it's in the record."

When asked why he thought many physicians were slow to adopt an EHR system, Dr. Brabston mentioned that older physicians may have a harder time making a major practice change after they've been using paper systems for many years. He has been asked questions such as, "What if the power goes off and everything is lost?" and "What if your computer crashes and you have no records?" He emphasized that modern systems have backups and redundancies that protect against any of these possibilities.

Dr. Brabston explained that, for younger physicians, the major issue holding them back from an EHR purchase is cost, but he added that there are ways physicians can get financial help when considering conversion to an electronic system. A physician may approach an area hospital and ask if the facility can help with vendor selection or software and hardware costs. Grants are also available. A physician may spearhead an effort and partner with other local doctors to evaluate EHR system vendors and negotiate a purchase price. He stated, "I am a physician and not a computer expert. I wouldn't even know where to begin with evaluating software." That is why a partnership may be beneficial.

Dr. Brabston finds a number of EHR system features to be especially beneficial in his practice. The ability to migrate information from one place to another in the record is essential. For example, if he sees a patient for an annual physical and the surgical history hasn't changed, he can click on the patient's surgical history and the information will be included in the present note. "It has made documenting much easier." He was quick to acknowledge the benefits of e-prescribing. "All of the patient information is typed out and accurate. This directly improves patient safety."

Installation Glitches

However, there were barriers to a problem-free installation. Dr. Brabston's practice included a very old practice management system and the bridging of information to the new system was extremely cumbersome. "In most cases with newer systems, the EHR system vendor would have been able to develop a data migration system," Dr. Brabston said. "This was not possible with ours and set us back in our implementation schedule." The practice was required to get new demographic information on all patients. In addition, the data transfer issues affected the training schedule. "I'm glad to say that we're now in our second year of using the system and our problems are few and far between," Dr. Brabston stated.

Staff comfort levels are always important considerations when making a change in a practice. It is important to provide adequate training and an atmosphere that encourages understanding and open communications. "Some people on our staff were very comfortable with the old system so it took time for them to adjust to the new one," Dr. Brabston commented. "We had to make sure that everyone understood that the old system was no longer cost-effective and reinforce that everyone needed to get on board." The office closed for 1 week to provide on-site training, and both physicians had hands-on experience with the software and were willing to answer questions from the staff.

New Patients Are Electronic Patients

Creating new patient charts and moving charts of existing patients to an electronic-based system is a primary consideration for most practices. Dr. Brabston explained that all new patient records are totally electronic. Any written information, such as a demographics sheet, is scanned and put into the patient's record. The paper document is then destroyed. Existing patients are "a work in progress." Dr. Brabston and his associate read through a patient's paper chart when the patient is scheduled for an appointment. They pull out important data that should remain in the EHR. "With patients who have long histories and large charts, we've been keeping the existing charts and scanning in information on an as-needed basis," Dr. Brabston commented. "When you look at a large chart, you often find that much of the information is no longer needed or that it's redundant. I've had charts with echocardiograms that are 20 years old and there have been 2 or 3 since that time. Do you really need them?"

The EHR system allows Dr.

Brabston to compose extensive and thorough notes very easily. For example, if he sees a patient in consultation and the patient needs to go to another physician or facility, he can type a complete note and fax it to the other location before the patient leaves the office. "Handwritten notes from other consultants are not always easy to interpret," he stated. "Getting rid of the handwriting is very valuable to me and documentation of e-prescribing or ordering of tests is much clearer. Also, ICD-9 and CPT codes are always included for improved documentation."

EHR System Costs

The cost of software was $20,000 to $26,000, but was subsidized by an insurance company through the IPA. Hardware was about $25,000.

The practice worked with an information technology (IT) consultant to determine hardware needs. The physicians "did not skimp" on the hardware so they would have expansion options. Hardware included 6 desktop and 2 tablet computers, a scanner, a fax server, maintenance contracts with the EHR system vendor and IT consultant, and licensing fees.

Dr. Brabston's Summary

"I don't know how you can practice medicine in this day and age without an EHR system," he said. "You need to document completely and code your visits accordingly. You need to protect your patients, as well as yourself.

"My associate and I are hopeful that we will be able to expand software use out of the office," Dr. Brabston continued. "I use electronic documentation in one of the AL facilities to document all of my patient visits there. What I'd like to do is carry my tablet to the hospital, the nursing home—anywhere—open up to my program and be able to document a patient visit. I'd like better connectivity among settings so there could be 1 central database."

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Zhexiang (Sherry) Li, MD

Dr. Li has owned her solo practice for 4 years, taking it over from the original practice that existed for about 20 years. She specializes in internal medicine and is a certified acupuncturist.

Besides Dr. Li, the practice has 4 office staff: 2 part-time medical assistants, a full-time front desk person, and a billing person who works approximately 30 hours a week. Dr. Li also works in 2 AL facilities and 2 nursing homes.

Dr. Li's primary reason for adopting an EHR system was to better organize her practice. Having all patient information captured electronically is more efficient than using paper charts. "It is much easier to review medications and keep up to date with preventive care, such as the tests a patient needs," she explained. "The EHR system allows me to write quick brief notes that cannot be misinterpreted the way that handwritten documents can." With the EHR, prescriptions can be e-mailed or electronically faxed to any pharmacy.

Dr. Li found that her IPA was very helpful with the selection of an EHR system vendor. Although she recognized the importance of an EHR system when she started her practice, the more she looked, the more confused she became. "All of the software programs looked so wonderful," she said. "It was very hard to choose." This is where the IPA came in. The association screened various software programs, limited the choice to 2 vendors, and let members of the IPA decide which of the 2 vendors best met the needs of their practices. Dr. Li suggested, however, that a physician who does not have access to an IPA should get in touch with other local physicians who have already implemented EHR systems and ask them about their experiences. "Ask how satisfied they are and if you can drop in to see their software," she recommended.

Dr. Li believes that the vendor's reputation and history are very important in a software decision. She recommended that physicians ask about how long the product has been on the market and what training the vendor offers. "The vendor I'm using offered a week-long onsite training program, as well as free Webinar training," she commented. Dr. Li found that while the on-site training was very important, the online training was essential. "Every Wednesday I don't have office hours; so for the first few months after installation, I'd spend about 2 hours going through online learning," she said. "It really takes a commitment on a physi-

cian's part in the initial months to fully understand the software."

Transferring Current Patients to EHR

Dr. Li started her office's move from paper to electronic charts by pulling charts for the next week's appointments. All necessary paperwork was scanned. "For example, we scanned only 2 years of laboratory charts, 2 mammograms, 2 bone density tests, or 2 EKGs," she commented, "but we scanned all of the consultation notes." Dr. Li reviewed documents that were not scanned to determine if they were necessary. She checked each chart for medications, allergies, and preventive services follow-up. When she marked the chart complete, it was sealed and not used again. All new patient charts are kept electronically.

In the beginning of EHR implementation, it was necessary to schedule fewer patients and allow 1 hour for each patient's appointment time so the office was not overloaded with chart problems. "Introduction of an EHR system slows a practice down initially, but the schedule can be back to normal within 2 or 3 months," Dr. Li commented.

The practice has had its EHR system for over a year; Dr. Li stated that she and her staff are over the learning curve. When asked if there was anything she would have done differently, she explained that her experience went smoothly. "Our vendor was there for us and got back to us to resolve any problems quickly."

Dr. Li recognized that some members of her staff would have no problems working with a computer, while others would not be comfortable. "I'm sure I am not alone in saying that we did have some struggles with staff comfort levels at the beginning," she said. "In fact, I had to let 1 employee go because she could not adjust to the new system." She added that now it is essential to determine a potential employee's computer skills prior to hire. While time for training is required, a new staff member needs to be up and running quickly.

"It really takes a commitment on a physician's part in the initial months to fully understand the software."

Increased Patient Safety

Overall, Dr. Li thinks that patient safety has increased. The chance of making errors is less. "I can immediately see all of the medications a patient is taking and what tests need to be run for a patient's chronic condition," she explained. In addition, communications with patients have improved tremendously. "There are no pieces of paper attached to a patient's chart requesting a phone call," she added. Patient messages and her responses are kept electronically, thereby allowing her to get back to the patient more quickly and to document their discussion.

EHR System Costs

Dr. Li's system software cost was $16,000 to $17,000, and her hardware, $8000 to $9000. The practice worked with an IT consultant to determine hardware needs. Hardware included 1 desktop and 2 tablet computer systems, a server, a scanner, and licensing fees.

Dr. Li's Summary

"Was it worth it? Yes, it was. I'm so glad I did it," she said. "Now we clean everything up by the end of the day: all my encounter notes, the prescriptions, what patients need to be called. The computer keeps track of the activities I have to complete and shows me that everything is done.

"Future connectivity with hospitals will be very beneficial. While the current laboratory interface is very helpful, I'd like to see more connectivity with images."

Summary

These 2 examples show that physicians practicing alone or in small practices can benefit from adopting an EHR system. Although cost may be a barrier for purchase, it has been noted that there are ways that physicians can work together to evaluate system features, determine the best EHR system vendor for practice needs, and negotiate pricing. MPM

Reference

1. DesRoches CM, Campbell EG, Rao SR, et al. Electronic health records in ambulatory care–a national survey of physicians. *New Engl J Med.* 2008;359(1):50-60.

Andrew Miller, MD, MPH, is the Director of Physician Services at Healthcare Quality Strategies, Inc. (HQSI). HQSI is an independent, nonprofit company committed to accelerating improvement in healthcare quality through a collaborative and interactive process with the healthcare community. This material was prepared by HQSI, the Medicare Quality Improvement Organization for New Jersey, under contract with the Centers for Medicare & Medicaid Services, an agency of the US Department of Health and Human Services. 8SOW-NJ-GEN-08-10