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The **EHR**

It's a *hard* road to **implementation**

but well worth the trip

BY BETH WALSH

Electronic medical records have been the wave of the future for more than 20 years now. The future is now for many facilities and practices that have implemented the systems and begun to reap the **numerous benefits** we've all been hearing about: **increased efficiency, fewer medical errors** and therefore **better patient care, better documentation and billing, cost savings**, and much more.

With Congress recently authorizing into statute the Office of the National Coordinator of Health Information Technology (ONCHIT) within Health & Human Services and President Bush recently reiterating that electronic records are a national priority, it seems the number of clinicians moving to electronic records will only increase, and quickly. ONCHIT's mission — and that of its leader, David Brailer, MD, PhD — includes providing grants to help providers implement technology and the Centers for Medicare and Medicaid Services have been considering financial incentives for the use of electronic records. With more than 100

Patient Safety Goals established by the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO). Diamond says those goals set the bar "pathetically low. We need to start putting these in practice in a much more standardized way. Doctors want to set the bar much higher but they have no means of utilizing their own data. Once they can start looking at their own outcomes data in a way that means something to them not just arbitrary, we will all start setting the bar much higher."

One scenario that really brought this home was when Diamond put the preventive health maintenance module of his

The improved coding, reduction in staff, and ability to eliminate dictation alone almost paid for the electronic record system. DLMA saved almost \$34,000 the first year after implementation. Diamond has since moved on to a three-member practice in one location where he again implemented an electronic records system.

Growth, efficiency for one department

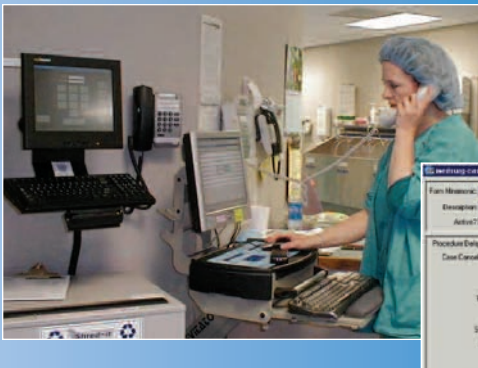
Rockingham Memorial Hospital in Harrisonburg, Va., implemented Picis CareSuite in 2004 to improve the quality and efficiency of patient care in its perioperative department. Before they started investigating electronic record systems, the department was "purely manual," says Fonda Shifflett, IS project director for the facility.

Early in 2003, a clinical team defined the functionality they were looking for, identified six potential vendors and sent out requests for information. The team went through a methodical process of looking at the responses and determining which one could best meet their core criteria. They wanted one integrated system that would cover the entire perioperative process from scheduling procedures to preoperative testing all the way through the operative process, post acute care unit or ambulatory surgery unit to discharge. That narrowed the field down to four vendors who were invited in to provide demonstrations. After that, the team cut it down by two more vendors and then went on site visits to other hospitals that had the systems running live. Finally, RMH signed with Picis in December 2003 and began to prepare for implementation.

The facility plans to move to an enterprise-wide electronic record, but at the time of this implementation, that was still way down the road. The goal was for a perioperative system that could eventually integrate clinical documentation into the overall health record.

The team implemented the system in pieces, starting with scheduling. Two weeks later, they went live with interoperable documentation within the OR suite. They decided to delay going live with PACU documentation until Picis was done fully integrating two products on the back end.

The department had several experienced nurses who had never even touched a computer, so Shifflett and the rest of the implementation team was concerned about the change those nurses were facing. The department director's commitment to the new system went a long way to a successful implementation, Shifflett



Left: An OR nurse at Rockingham Memorial Hospital uses the Picis CareSuite system to check patient records and procedure schedules.

Below: An example of the intraoperative case record forms for general patients in the Picis CareSuite system.

vendors currently in the market, there's a system to meet almost every provider's needs and budget.

Early adopters reap rewards

Drs. Joel N. Diamond and Bill Fera had a vision to incorporate technology into Deer Lake Medical Association (DLMA), their seven-physician, one nurse-practitioner office, with five locations throughout the Cheswick, Pa., area. Diamond, however, admits it was "a bold step to take at the time." In 2002, "it was not clear that there would be a return on our investment. It was the right thing to do for quality and it turned out to be a financially viable move."

Diamond wanted to move forward with electronic records for several reasons. Having multiple sites became frustrating because some patients started demanding the ability to visit any of the five locations at their convenience. As a result, staff were constantly faxing parts of charts between offices. "It made me realize that if this is a problem locally, imagine patients traveling," Diamond says. "If we couldn't accomplish this on a local level, then the whole idea of portability of medical records on a grander scheme was an absolute nightmare."

Diamond was very involved in his hospital's quality efforts regarding the National

Misys EMR to work. Within a week of turning the module on, Diamond ran out of pneumonia vaccines because so many patients had been overlooked. "And I thought I was doing a good job with that," he admits. "That convinced me of the value of the electronic record as a quality tool."

Diamond also saw the value the system brought to his billing and coding. After implementation, the practice's higher-paying level four evaluation and management coding compared to level three coding almost doubled automatically. The co-morbidities and complications features within the system's software provided them with confidence that the coding rate was accurate. In fact, a payer audit determined that their reimbursement rates were more than accurate, Diamond says.

He also was able to eliminate several full-time employees, primarily those performing billing functions. The doctors were able to choose the right CPT code level and ICD-9-CM diagnosis code for every patient encounter and the information passed through the system efficiently. "We don't need personnel to do that anymore. And, the information going through is clean and we do not get rejected claims."

says. She carried a pager around the clock and provided extra training to anyone who needed it. Now, none of them would let you take their computer away, Shifflett reports. "They're happy with documenting on the computer." They also like the large plasma screen that replaced an old white board and grease pencils. The system constantly updates the plasma screen with live data so one glance shows where each patient is in the process.

"The efficiencies are phenomenal," says Shifflett. For one, the number of phone calls to track down patients has dramatically reduced thanks to the plasma screen. There also are smaller screens in the waiting areas so family members can follow a patient's progress by using a special identification number. They also have better interdepartmental communication. For example, when a radiologic technologist is needed, they can look at a tracking board in the radiology department to check on the surgical schedule and to see by procedure what type of equipment may be needed.

The hospital's administration was very supportive of the electronic system since they had identified the OR department as a growth area. A goal was to realize \$40,000 a month in additional revenue capture due to automation of charging. That was not difficult to meet now that all supplies are documented in the case record and a nurse simply has to click on each item that was used. Before, they had to peel off yellow stickers for each item and missed numerous charges.

Although there were some grumblings among the medical staff, the fact that the new system allowed for remote scheduling helped soothe their frustrations. Nearly 50 percent of surgeries are now scheduled remotely by physicians from the convenience of their office during a patient's pre-operative visit. This has enabled RMH to accommodate rapid growth in perioperative services without adding full-time scheduling staff.

Room for growth

The Joslin Diabetes Center in Boston handles 60,000 outpatient visits in five specialties per year. One of the primary reasons for going to an electronic record system was to allow for simultaneous access to patient information by the numerous providers who see each patient.

The group went live in October 2000 after lots of time spent researching the available products. "You need to know what you want," says Kenneth J. Snow, MD, chief of adult diabetes. One important criterion was

the ability to expand later on; he was thinking of the center's clinical research group and how they could eventually use the data.

Housed in a building that is more than 50 years old, Snow says they experienced a catastrophic hardware disaster 10 months after going live. That was a blessing in disguise, however, because it gave the group time to rethink their workflow and address some practical issues. For example, the tallest clinician is 6'3" and the shortest in 4'11". The same workspace and chair for two people of such different sizes to sit at for hours at a time wasn't adequate so Snow purchased new chairs and monitors. "The simple, but sometimes, most obvious things sometimes get overlooked," he says.

The group went live again, this time in a rolling approach over six months. That allowed clinicians to decrease their schedules in phases to allow time to learn the system. There wouldn't be the huge drop in productivity and revenue that comes with everyone decreasing their schedule at the same time plus users could get support from peers who had already gone live. That was a big advantage for the group of 50 physicians, 50 other clinicians, 50 support staff, and the clinical research team.

Snow admits to "getting greedy" with the system once they were successfully up and running. For example, he set up a pop-up box that appeared on screen any time a patient's creatinine level dropped below a certain level. However, clinicians were soon simply closing that box. So, Snow set up the box so that it couldn't be closed until the clinician selected one of the options. While that didn't make Snow too popular among his colleagues, it did double the referral rate to nephrology. "That shows that you can change behavior in a way that facilities good care."

Snow cites other advantages of the electronic record system. The group's reimbursement rate has gone up and internal auditing efforts have been more successful.

Clinicians use flat screens right in exam rooms. The screens can become good

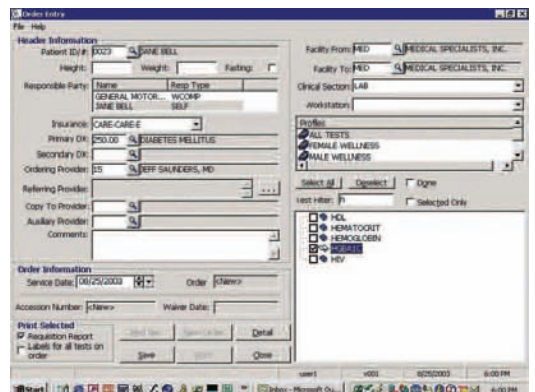
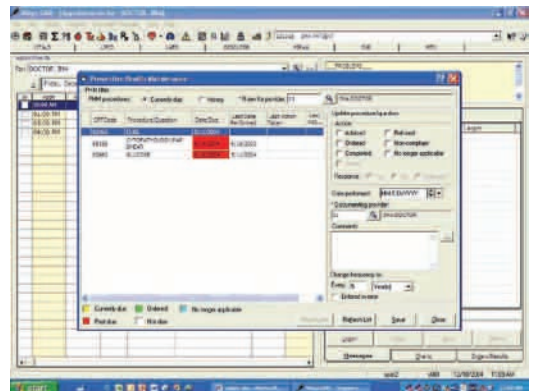
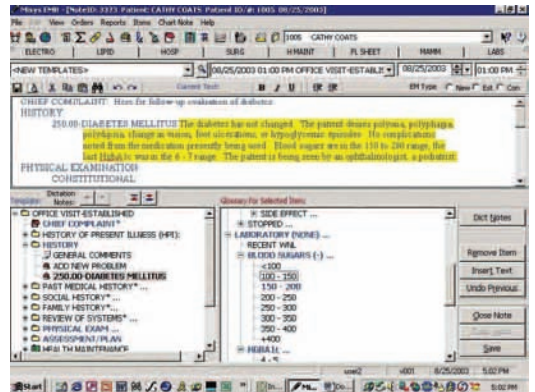


Chart notes (top): Predefined templates within Misys EMR allow physicians to quickly record chart notes, view glossary options, allergies, medications, procedures, diagnoses and more.

Preventive Health Maintenance-PHM (middle): The PHM module in Misys EMR allows physicians to set rules to track procedures or questions due for patients based on age, race, gender, diagnosis, medication, risk factor and/or lab results. The PHM module tracks patient compliance with these protocols and alerts clinicians when patients are past due for tests, questions and more.

Order Entry (bottom): Users can create orders, review and retrieve test results and generate reports or charges. This also is offered with an integrated solution with HL7 interface.

educational tools, Snow says. For example, a graph showing how certain test levels can increase or decrease makes it easier to sell a patient that their levels are a legitimate problem more so than just one number on its own.

The best part of the system for Snow is the ability to have a better handle on what's going on in the practice. For one thing, it's much easier to manage when a drug goes

off the market. "It's awful to have to send out a letter saying 'If you're on this...' We should know which of our patients are on a certain drug." Now he can generate a list of appropriate patients and get a letter sent out to them within a few hours.

Snow also can track any number of measures such as the activities of physicians and patients and how treatments are working. He can gather the information that allows him to ask appropriate questions. "If you do start asking questions, you can start practicing better medicine."

'Untethered' from the office

Rushika Fernandopulle, MD, wanted to start his medical practice with electronic records already in place. "There was never a question of whether we would," he says. He and his partner started Renaissance Health in Arlington, Mass., in 2004 after about 18 months of researching and investigating the EMR market. Fernandopulle determined that "there is no perfect EMR." An important part of his decision process was test driving systems himself in his own situations. And now that he's an EMR user, he recommends talking with other users first. However, he points out that some are paid by the vendor and showcase sites may not provide the most realistic view of an actual implementation. So, he requested a complete list of installs from potential vendors. He talked to several users over the phone and visited a few in the area.

Once the decision was made, Fernandopulle wanted to go live all at once. "I think that was important. You lose a lot of the benefits of electronic records if you keep paper around."

Another crucial part of a successful implementation is training, Fernandopulle says, as is devoting time to become familiar with the system. "It takes time to customize the system to yourself but you can't

customize it until you're using it." Even with training, he is still learning about features and functions he wished he'd known about sooner. "I was surprised at the amount of time it took to get good at it. There was a longer learning curve than I expected."

Fernandopulle also cites the importance of good vendor support. He recently had a hard drive failure but Renaissance Health was back up and fully operational within six hours. That's another thing to ask other users about — have they had a problem and if so, how did the vendor respond? "Support is incredibly important."

Fernandopulle spent about \$20,000 on hardware, \$35,000 on software, and pays about \$1,000 a month for maintenance, regular upgrades and IT support. "Don't skimp!" he advises. He decided to use an application service provider (ASP) rather than host himself. There are lots of benefits to going with an ASP, he says, but speed is an issue. "A two-second delay every time you click will make you want to tear your hair out."

Fernandopulle also recommends carefully negotiating your purchase contract. You'll receive a huge document that may be intimidating but "you should look at every piece very carefully. Contracts are clearly written in the vendor's favor."

"Good systems are not cheap," Fernandopulle says, but going to electronic records has been worth it. His practice has better coding with more level four evaluation and management coding, he was able to eliminate the use of a billing service, he can better manage patients with chronic disease, and he has capabilities that allow patients to be more involved in their care.

But the best benefit for Fernandopulle is being able to access records anywhere, anytime. He can now go home and have dinner with his family and then spend a

few hours working from home if necessary. When traveling, he can still answer questions and schedule appointments. "It untethers me from my office," he says.

We can do more

For those who think patients may be reluctant to see their doctor move to electronic records, Diamond disagrees. "Patients expect this," he says. "They all have an ATM card and they would find it worrisome if someone was manually entering their banking information on a ledger. They expect no less from physicians." Patients view Diamond's practice as cutting edge and now can't imagine going to a practice without EHRs, he says.

To get more physicians on board, Diamond says the government needs to incentivize them much more quickly. For starters, the government should define what electronic systems are. Otherwise, they could incent people who have a watered down version, Diamond says.

Pay-for-performance is on the horizon, he says. However, "it is a concept that cannot happen without strong knowledge and the ability to get our hands around data. From an obligation to patient care, we have to do this. Medical errors in this country are absolutely horrible. No other industry in the U.S. tolerates this [kind of] level. It's embarrassing. Other industries have excelled over us because they have data and guidance systems in place that help people make decisions and monitor for error."

A move to electronic prescribing is mandated by the federal government for 2007, but that's a baby step, he says. "We have to take some bolder steps. Doctors are drivers but manufacturers ultimately need to improve airbags and offer antilock brakes and the government has to build better roads and enact laws to make sure highway safety is improved. Everybody involved needs to do something." ■■■

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