Follow-up training was key for Cabarrus Family Medicine EMR implementation

There was a feeling of satisfaction in December 2003 after Cabarrus Family Medicine implemented an EMR system at one of its sites -- the first of nine offices that would implement the system.

"Life was good," recalls **Tom Earnhardt,** PA, senior vice president and chief operating officer of Cabarrus Family Medicine, a Charlotte, NC area family medicine, obstetrics and sports medicine practice with 30 physicians, 240 employees and 63,000 patients.

"After the first implementation, everyone at that location had a basic knowledge of the system," explains Earnhardt. "But after about four weeks, we saw the honeymoon was over. People knew a bit more about the system, so they had more questions. But they didn't know enough to make the system efficient. We said, 'This is painful.'"

To ease the frustration of users and improve proficiency, the practice scheduled a second round of training.

"We did a follow-up session to teach advanced techniques and how to improve workflow," he says. "It proved hugely successful for us." Using follow-up training after 30 days at the other sites, "clinics two through nine went like clockwork," says Earnhardt.

The decision to conduct follow-up training was one of several factors that have made the practice's EMR a clinical and financial success.

The system, HealthMatics from A4 Health Systems, Cary, NC, helped the practice save about $400,000 in its first year, essentially paying for the costs.

Finding a vendor

Cabarrus Family Medicine took a methodical approach to vendor selection.

The practice, located in Cabarrus County northeast of Charlotte has expanded rapidly since 1995 and believed it needed an alternative to paper charts when it began a search for an EMR vendor in 2001.

A six-person EMR review committee that included IT and clinical staff was formed. The group researched the market by searching the Internet and attending trade shows. Eventually the committee sent a request for proposal to more than 30 vendors. After reviewing the responses, the field was narrowed to six.

During the next 15 months the committee collected more information from the vendors and did site visits to see the EMRs in operation. The vendor list was narrowed again to three finalists, who were asked to present to a larger group of physicians, nurses, transcriptionists, IT and clerical staff. After more site visits, the practice selected A4 in late 2003.

Training and rollout

Rolling out the EMR to seven family clinics, a psychological and behavioral health office, and a sports medicine and injury center required a deliberate, phased-in strategy, the practice leaders believed.

A decision was made to focus implementation efforts initially on one site, dedicating the practice's IT resources in order to establish a clear process for the subsequent rollouts.

The first site implementation began in December 2003 and took two months to complete, as technical and workflow issues were resolved. With the process established, the remaining clinics implemented the EMR at the rate of one a month.

Training was a combination of on-site education and sessions at A4 attended by a provider and a nurse from each clinic. Physicians and nurses who were considered "super users" made themselves available to help other users.

Staff at the sites trained for a week or two before their go-live date. On the first day, staff would use the EMR for two patients in the morning and two in the afternoon. The next day, the number of patient visits entered in the EMR was doubled, and the next day doubled again until after about four weeks the office was using the EMR for 100% of the visits, says Earnhardt.

Physicians and nurses use wireless Fujitsu and Acer notebook computers. The practice also installed redundant file servers. "We're dependent on the EMR," he says. "That is our productivity, and we can't be down for even an hour."

Residency program

The new EMR has been particularly helpful in streamlining workflow for the Cabarrus Family Medicine Residency Program.

The practice has about two dozen residents who receive outpatient training at the family clinics while also doing their inpatient training at nearby NorthEast Medical Center.

The EMR enables attending physicians to review residents' electronic charts and overall performance without cumbersome paper charts. Residents and physicians assistants use the same EMR as physicians. Templates guide resident and PAs through patient encounters. When chart notes are finished, they are sent to the attending physician, who can return the chart with comments.

The physicians also can grade the residents' performance on elements such as the physical exam, thoroughness of history, logical thought process, appropriate and effective use of the laboratory and demonstration of good patient rapport and respect for the doctor/patient relationship.

"There had been problems with the availability of paper records," says Earnhardt. "For example, if the patient was admitted to the hospital, there was no way for the attending physician to get the record. Residents would either hand write their notes or dictate them and wait for the transcription to come back and send it to the attending physician. Then the attendant would review the record, and also dictate so the notes could be merged. It was cumbersome and there also was a transcription cost.

"Now the attending physicians have the ability to pull up records, even from home if they are on call. Residents date and time stamp their entries and the complete documentation is sent to the attending physician for review. The attendant can pull up the note and they can document their review based on guidelines for training sites and actually score residents based on how well they took care of the patients. This allows for immediate review and the residents can see areas in which they can improve."

Numerous benefits

Cabarrus Family Medicine has experienced a number of benefits from the EMR:

• **Accessibility of patient information.** Patient records are available to providers in all of the practices' nine offices. A fiber connection at the local hospital makes it possible for Cabarrus physicians to log on to the system if they are on call. Teaching faculty who are only at a clinic a few days weekly can keep up with messages, chart reviews, refill requests and other administrative items.

• **Patient safety.** The EMR flags abnormal lab results, patient follow-ups and drug interactions -- features the practice hopes will result in a discount on its malpractice premium.

• **Accurate coding.** The EMR has an interface with the practice's practice management system, Medical Manager from WebMD. Patient demographic information from the practice management system uploads to the EMR. When a provider has completed and documented notes, an E&M coding calculator guides them on the appropriate service level code is based on the level of documentation. Earnhardt says coding accuracy has gone up from about 70% compliance to more than 90%.

• **Lower transcription costs.** The practice has saved about $400,000 per year in transcription costs, primarily by reducing the transcription staff from 14 to two.

Earnhardt says that the cost of the EMR software, hardware, and other infrastructure was under $400,000. "So our return on investment was about one year," he says.

The future includes using the system for quality improvement, Earnhardt says.

"Now that we've got a year and a half of clinical data built into the system, the next phase is producing outcome studies," he says. "We can do some research using the EMR and work on disease management initiatives. Now that we've captured a bit of information digitally we can continue to gain efficiencies."

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