Electronic medical records: a promising prognosis

- **Judith Lamont** of Zentek

Fewer than one in five U.S. physicians use electronic medical records (EMRs) to track their patients' histories, even though such products offer benefits to stakeholders all along the healthcare delivery chain. According to the U.S. Department of Health and Human Services (HHS), a national health information network could save $140 billion per year by improving care and reducing costs. In addition, EMRs offer portability, which is an important component of the Healthcare Portability and Accountability Act (HIPAA).

"EMR has been five years away for 20 years," says Eric Brown, VP and research director at Forrester . What's taking so long? "A big part of the delay is due to the structure of the reimbursement system," he contends. "The major savings from EMRs go to the health insurance companies, but the cost of the system is borne by the provider."

Savings are achieved through a number of avenues, particularly by reducing duplicate services and by eliminating medical errors. A physician can see the patient's entire medical record and avoid ordering a test that has already been done by another provider, for example. Similarly, costs are reduced and care is improved when a physician can see all the medications that a patient is taking, thereby preventing adverse drug interactions.

On the administrative side, EMR systems allow diagnosis and treatment codes to flow more quickly into the revenue cycle, with less human intervention, Brown points out. They can also reduce the time to resolve billing errors. Business rules can be included at the provider level to detect when the treatment code does not match the diagnosis, for example, so inconsistencies can be picked up earlier in the billing process rather than requiring resolution by the payer. Those efficiencies benefit both providers and insurance companies.

The healthcare providers, though, are the ones who must invest in the EMR solutions. "They also need to transform the way they work in order to use the solutions," Brown adds. Many physicians in small group practices are not sufficiently convinced of the value of EMR systems to make the investment and the ensuing changes. Larger organizations such as hospitals have more complex processes that can benefit immediately from the availability of electronic records, and they also have the IT infrastructure to support the EMRs.

With an eye toward both cost savings and improved care, the Bush administration set a goal in spring 2004 of having an electronic health record for every American within 10 years. One year later, the administration was ready with requests for proposals on a variety of associated topics. The initiatives are focused mainly on standards, interoperability and privacy (see sidebar). The Wired for Healthcare Quality Act of 2005, a bill introduced in July, would offer financial assistance to providers that develop compliant EMR systems.

Establishing EMRs will be a long-term endeavor, and not an easy one. "We have all kinds of records for manufacturing facilities and power plants, but no one in the country has a complete health record," maintains Peter Waegemann, CEO of the Medical Records Institute. Waegemann is chairman of several

groups at ASTM International involved in setting standards for EMRs that will help ensure interoperability among products used in community, regional and national healthcare information networks.

Organizations that have implemented EMRs are enthusiastic about their benefits. Maple Leaf Family and Sports Medicine, a small practice based in Ohio, began using eClinicalWorks within the last year. eClinicalWorks replaced another EMR product, no longer on the market, which the practice had used for more than five years. After researching available solutions, Dr. Chris O'Connor selected eClinicalWorks based on his research in EMR forums and discussion groups, direct observation of EMR products and his practice's experience with its previous EMR.

With eClinicalWorks, O'Connor and his colleagues can quickly view a patient's medical history, check for drug interactions for the patient's prescriptions and plan for future care. "I am literally one click away from seeing the patient's information," says O'Connor. "This ability is especially useful when we want to locate facts that might be hard to find in a paper record, such as the date of a patient's last tetanus shot." The doctors can set up alerts for tests that a patient needs to have done regularly, or even launch a global health maintenance alert--based on the gender and age of their patients--that ripples through all the records.

The impact on medical errors is significant. "More than 70% of medication-based problems are corrected when an EMR is in place," says Girish Kumar, VP for sales and marketing at eClinicalWorks. He also notes that within 12 to 18 months, electronic medical records will be integrated with pharmacies so that refills can be tracked, assuming the prescription is sent electronically and is interfaced with the EMR. "This will help close the loop with the physician, who will know if the patient is not obtaining his or her prescription."

Exempla Healthcare used the occasion of opening a new hospital, Exempla Good Samaritan Medical Center, as the starting point for its paperless medical records system. Exempla has three hospitals and several other medical facilities in the Denver area. "We were so committed to an entirely electronic records and document management system that we did not include any paper filing areas in the floor plan of our new hospital," says Barbara Manor, director of Health Information Management for Exempla.

A key component of its paperless records management system is an imaging and workflow system from CGI-AMS called Sovera, which is built on FileNet's imaging technology. The imaging system was designed to integrate with Exempla's EMR software from Epic. Because FileNet was already being used for imaging in the accounts payable department, some of the required infrastructure was in place. CGI-AMS served as the systems integrator.

The project began in August 2004 and successfully met an aggressive schedule, with a completion date of Dec. 1 when the hospital was due to open. "Sovera contains any information that enters the hospital on paper" says Rob Robertson, director of the Healthcare Solutions Group at CGI-AMS, "while the Epic system holds lab results, dictated reports and medical histories." Together, Sovera and Epic comprise the legal record for each patient. Exempla's other two hospitals will roll out Sovera to be integrated with the health information systems in those facilities over the next year to handle documents in the future; past records will be scanned as needed.

Hospitals are now beginning to take a larger view of their information management requirements. "Healthcare providers are ready for enterprise content management," says John Sarich, insurance industry marketing manager at FileNet. "They want to take a look at the entire stream of their content and steer it into different business processes." Sarich believes that medical providers are beginning to understand that their departments reflect many business processes in which EMRs play an important role.

Mandate for EMR

The plan to have an EMR for all Americans within 10 years moved forward this summer with a request for proposals from the Department of Health and Human Services (HHS, hhs.gov). Congress has promised over $30 million this year to HHS' Office of the National Coordinator for Health Information Technology

(ONCHIT) to overcome technical and policy-related barriers that inhibit the use of EMRs. HHS will award contracts for the following activities:

- Develop and evaluate a process to establish standards that would make electronic healthcare records interoperable,

- Develop a compliance certification process for interoperability,

- Design a prototype national health information network architecture, and

- Evaluate state laws and business policies on privacy and security, and develop plans to address any issues of concern.

In addition, Medicare is offering its Vista electronic health record system software to doctors at no cost. Vista has been used by the U.S. Department of Veterans Affairs for many years, but the software is reportedly difficult to install. A simplified version, VistaOffice, was expected to become available in August. It is not yet clear at this point whether doctors will respond to the offer or will gravitate toward commercial products that may rate higher in usability and have more robust support.

Do-it-yourself electronic medical records

For those who do not want to wait for provider-based systems, personal health records (PHRs) can provide an interim solution. PHRs are initiated and maintained by the patient or a family member. Some of the options are:

- WebMD Health Manager from WebMD ;

- FollowMe, developed by Access Strategies Inc. and introduced in April 2000;

- iHealthRecord from Medem, a for-profit company founded by a group of medical societies, including the American Medical Association (AMA), now in pilot testing; and

- Laxor Personal Health Information Manager from Laxor, a startup based in Bethesda, Md.

"People are likely to target a specific need when they first start to use a PHR," says Dr. Andrew Barbash, a co-founder of Laxor and practicing neurologist. "For example, they may just want a current list of the medications they are on, so that all their healthcare providers can access it."

Or they may be helping an elderly parent organize medical information so it will be readily accessible to multiple providers. Because the PHRs provide different features, it is important to evaluate them carefully. For example, some store information only on the user's computer rather making it accessible online, and some require the physician to pay a fee to participate.

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