Beyond Clinical Documentation: Using the EMR as a Quality Tool

Once the learning curves are overcome, EMRs can generate revenue and recognition for the group practice.

By John Morris

Electronic medical records (EMRs) bring efficiencies to medical practices and help ensure the use of best practices to enhance patient outcomes. But perhaps the greatest benefits of EMRs are yet to be uncovered through the practice of data mining.

Data mining—the automated searching of documents for specific criteria to generate custom reports—has proven extremely valuable in other industries. Within healthcare, data mining is beginning to be used for self-auditing to ensure that best practices are followed across a range of chronic conditions such as managing diabetes and cardiovascular care.

Associated Cardiovascular Consultants (ACC), a 31-physician group seeing 40,000 patients per year from six locations in southern New Jersey, is an early adopter of EMR data mining. ACC has already used its data mining to demonstrate its adherence to best practices, winning recognition from the National Committee for Quality Assurance (NCQA) and the American Heart Association/American Stroke Association (AHA/ASA). ACC also has used data mining to secure increased payments from health insurance companies. ACC sees data mining as a tremendous research tool in automating the search for patients who may benefit from participation in research trials.

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Starting With an EMR
ACC was formed in 1994 through a merger of three separate cardiology groups. Our physicians (and administrative teams, too) soon learned how hobbled they were by having to juggle three different systems and at least three different ways of managing patient data—so much that all were willing to relinquish their old systems and replace them with ones that could fulfill multiple objectives. In 1998, we began searching for an EMR, hoping it would:

- provide a single, uniform medical record;
- give us the ability to access all medical records from all our locations;
- improve documentation and coding;
- cut transcription costs;
- improve research.

The first four criteria are aimed at saving money for the group practice; only the fifth is aimed at making money. For a physician practice starting down the EMR path, the first four criteria are enough of a

challenge. Usually, it takes a year or two for all physicians in the practice to become comfortable with electronic documentation before the practice can creatively engage in research that generates revenue.

In 2000, we deployed Amicore Clinical Management (originally called PenChart), which we initially ran on first-generation, pen-based computers and now run on tablet PCs. We chose this system after looking at many candidates. We based our decision on the strength of the product's functionality, and also on the strength of the company's longevity. *(Editor's note: Originally, PenChart was offered by Pfizer, which in 2001 joined forces with Microsoft and IBM to introduce Amicore onto the practice management landscape.)*

Our initial motivation in moving to an EMR was to reduce dictation costs. Almost immediately, we saw benefits against the first four criteria—including $150,000 a year in savings for transcription services. Having conquered the initial learning curves, we feel that we are well on the way to seeing benefits from our final area of interest: improving research through use of an EMR.

So far our research has been internal: data mining our own records to identify areas where best practices can be enhanced, and to document for insurers and other organizations our impressive adherence to best practices.

Correcting an Insurer's Misperception
An early and satisfying data mining win for us came when, in the fall of 2003, one of our insurers visited to talk about implementing AHA-prescribed clinical guidelines. The guidelines call for prescribing angiotensin-converting enzyme inhibitors for congestive heart failure, and a regimen including beta blockers and aspirin for those with coronary artery disease.

The insurer's medical director brought along a team to tell that their analysis of billing data showed we were above the national average (which is about 50 percent)—but with only 72 percent of our patients being prescribed the recommended medications, ACC had significant room for improvement.

We knew better. By coincidence, we had recently conducted our own data mining audit and found we were in compliance with these AHA best practices in more than 90 percent of cases. We asked about the insurer's data set, which was based upon a sampling of about 60 patients and was determined by comparing patient diagnosis codes against the medications they were billing for.

We were able to show to the insurance team data drawn from our entire 3,000 patient population and based on clinical, rather than billing, information. Our data demonstrated more than 90 percent adherence to best practices and pinpointed, on a case-by-case basis, why a patient who hadn't been prescribed a recommended medication wasn't a candidate for such treatment. In each case, we were able to demonstrate why the standard treatment might be contraindicated for a specific patient type, for reasons such as patient intolerance, allergies or interactions. All cases were individually addressed by an ACC physician.

It was impressive how the tone of the meeting changed as the insurance team recognized that we were doing what was right for the patient, and that we could document why. They were impressed by how we could mine our data and use it as a quality-monitoring tool, and this eventually paid off.

Getting Paid for Quality
Six months later, the insurer's medical director returned with a different team, the team that develops contracts. They wanted to work with us on a new paying-for-quality program. Again, we were able to use data mining to demonstrate extremely high rates of compliance for various sets of best practices. We have since signed contracts with three companies, each contract providing us with more favorable rates in exchange for meeting specific quality guidelines.

Today, we are proactive. We take the lead in calling insurance companies about quality improvements we can document through data mining. We can prove that we are saving insurers money through our adherence to best practices.

Bridges to Excellence
Our data mining simplified our application and subsequent approval for recognition in the cardiology Bridges to Excellence program organized by the NCQA, a nonprofit organization monitoring healthcare quality. The premise of the program is, "Payments for care should be redesigned to encourage providers to make positive changes in care processes."

NCQA worked with AHA/ASA to determine a set of best practices. The application process requires each physician to submit 25 patient records that meet exacting criteria. With data mining, I was able to electronically search for relevant cases that met diagnostic criteria and showed adherence to best practices. Fifteen of our physicians were recognized. With the traditional paper-based patient record, it would have been prohibitively time-consuming to have examined enough patient records to show compliance for even one physician, let alone 15 physicians.

My assumption is that we will see more programs like this, because they work. The AHA/ASA recognition program is based on a similar effort: the American Diabetes Association/NCQA Diabetes Physician Recognition Program (DPRP), which since 1997 has recognized more than 1,800 physicians for delivering excellent care to people with diabetes. Among DPRP-recognized physicians, the rate of patients with properly controlled cholesterol levels doubled in five years, from 37 percent in 1997 (the program's first year) to 74 percent in 2002.

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These programs also will assume greater significance among the consumer population as consumer-directed health plans take hold. Consumers, accustomed to *Consumer Reports*-style decision support in buying cars and electronics, will expect comparable decision support when spending healthcare dollars.

Reducing Malpractice Premiums
Our malpractice insurer has given us a $25,000 discount every year since we have had our EMR, because the company believes an EMR greatly reduces the chance of drug errors and misunderstood notes. Currently, malpractice insurers seem focused on the value of e-prescriptions, and there are certainly good reasons for offering discounts to those who have adopted this technology. Over time, though, it should be possible to obtain additional discounts through the ability to use data mining to show adherence to best practices.

It certainly seems as if the greatest benefits from data mining the EMR are yet to come. Within a practice, the EMR could be searched for candidates who met exact criteria for participating in pharmaceutical trials. Looking further into the future, imagine the research that could be pulled from a database that contained patient information, stripped of patient identities, from 1,000 EMR systems, or from 10,000 EMR systems. What knowledge will emerge when the aggregated health records of entire nations can be queried by researchers? Wonderful things will come from that.

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