

# Cardiology Practice Proves That Electronic Medical Records Do Raise Revenue

By Barbara Linney, MA

**If you don't think electronic medical records can save money and improve performance for your practice, talk to Stephen McAdams, MD.**



McAdams, CEO of Mid-Carolina Cardiology in Charlotte, N.C., convinced all 25 physicians in the practice to use electronic medical records (EMR) and says the results are impressive. EMR raised revenue, lowered overhead costs and improved quality and patient satisfaction.

He had previous experience with an EMR and when he interviewed for the CEO position in 1999, he wound up giving a PowerPoint presentation to every doctor saying, "This is where your practice is. This is what I think I can do for you."

The first year of EMR, "we raised revenue by 35 percent. Our overhead went from 62 percent to 46 percent because the practice became more efficient in every aspect from checking in patients to seating them in the rooms," McAdams says.

The EMR system, developed by Gateway Electronic Medical Management Systems, tracks all the patients' movements: when they check in, how long they sit in the waiting room, when they go into the exam room, how long they are with the doctor, the total time of the visit. Mid-Carolina sees about 45,000 office patients each year.

"When physicians see how their data compares with others, it inspires all of them to be more efficient," McAdams says. The system is integrated with the billing system, scheduling, prescription writing, doctor visits and hospital encounters.

## Benefits of EMR

McAdams says EMR brings many benefits to his group including:

### IN THIS ARTICLE...

Discover the wide array of benefits and cost savings that accrued when a Charlotte, N.C. cardiology clinic implemented electronic medical records.

## Proper billing

With EMR, the doctors don't have to remember all the ICD9 codes to do the billing, he says. They use a pointer to click on terms they know—atrial fibrillation-chronic, angina-stable, hyperlipidemia—and that links automatically with the ICD9 codes so the bill is generated and the level of service is actually suggested by the computer.

"The screen says, 'It looks like you did a level 3. If you think you did a level 4, you better go back and find out what you missed,'" McAdams explains. "It is always calculating where you are in the medical decision-making process. When the doc is done and the patient is escorted out to the front, the super bill is in the computer."

That saves a lot of headaches. Some practices give patients the entire bill while they are still in the exam room, McAdams says, and after they leave they're supposed to go to the cashier and pay their co-pay or deductibles.

But some patients simply fold up the bill and leave without paying. "In all practices, keeping track of those bills is tough, but we have it in the computer."

Whenever the ICD9 billing codes are changed (and they are new for 2003), they are updated electronically. McAdams says users log on and the computer prompts them to upgrade to the new codes. "They click yes, and it's done."

## Better chart access

Before EMR, the practice had two or three people in the office looking for records all day long. "Just keeping track of who had each chart was difficult," McAdams says. "Someone is using it for billing. A nurse has it trying to fill a prescription. Somebody was making copies for the patient or another doctor. A doctor was reviewing it

and signing off on it. That was everyday life.”

McAdams says he’s heard a statistic that paper charts are only available 40 percent of the time when needed. An electronic medical record is available 99 percent of the time and multiple people can access it simultaneously.

### Reduced transcription costs

Before EMR, physicians at Mid-Carolina used to dictate up to four pages of notes and run them through a transcription service,” McAdams says. Today, they point and click their way through the electronic medical record and dictate just a couple of short paragraphs. A regular transcription service types the two paragraphs in a Word document that’s sent back electronically to Mid-Carolina and simply pasted into the medical record.

“We reduced transcription costs by \$3,000 per doctor,” McAdams says. Costs for medical records salaries dropped \$105,000 the first year that EMR was used. And costs for postage were reduced, as well, because everything is either faxed or e-mailed.

McAdams lists additional savings, too:

- \$30,000 in paper expenses the first year—Paper charts with all the tabs and dividers are not cheap
- \$11,000 in printing forms for super bills
- Another \$115,000 in medical records salaries the second year of EMR because less staff was needed to process records
- \$61,000 in overtime for nurses because they can access patient records instantly and answer questions without searching for the chart or calling patients back after hours
- \$157,000 in temporary staff who used to fill in for sick employees (With EMR, the system is so efficient that temps aren’t needed when regular staff are ill.)

### Better emergency care at night

“We have a doctor in the hospital all the time, every night, all night,” McAdams says. “We have a computer in the cath lab so when the doctors in the hospital have to go see a patient in the emergency room, they just call up the record, print out what they want and take it down to the ER. It helps facilitate patient care. We’re the only practice in Charlotte that does that, so it is a differentiating factor for us.”

### Easier prescription refills

Before EMR, it typically took eight to 10 steps to fill a prescription, McAdams says. “And you don’t get paid to refill a prescription.”

Steps included:

1. Receiving the call
2. Taking the message
3. Finding a nurse
4. Pulling the chart
5. Reviewing the chart
6. Confirming that the medicine is indicated
7. Talking to the doctor (although this step may not be necessary)
8. Recording the prescription refill in the chart
9. Getting back to the patient
10. Calling in the prescription

“It probably cost us \$10 to \$12 (in staff time) to refill a prescription and we do 300 a day,” McAdams says. “Now, with an electronic medical record, it may cost a buck...that saves \$3,000 a day almost every day of the year.”

Here’s how it works with EMR:

- Patient calls the pharmacist
- Pharmacist calls in on a prescription line, leaves a message
- A medical assistant, not a nurse, listens to the message, calls up the record and faxes the prescription electronically to the pharmacist



**David Dowdy, MD, uses an electronic pen to point and click his way through an electronic medical record at Mid-Carolina Cardiology.**

“The pharmacists love it,” McAdams says. “They have a legible prescription that is legal.” (In most states, including North Carolina, you can have an electronic transmission of a prescription except for controlled substances.)

As a bonus, “when the medical assistant generates the prescription in the electronic medical record, it automatically updates the patient’s medication list,” McAdams says.

### Efficient patient care

Because many users can access the EMR system at once, Mid-Carolina found a way to cut down on the amount of time nurses were spending on the phone.

“We found out that our nurses were each taking about 40 phone calls a day in the clinic,” McAdams says. “They were supposed to be putting patients in the rooms, getting their histories, getting their vital signs, getting them ready for the doctor’s visit, then taking the orders that need to be done after the doctor’s visit.”

Today, Mid-Carolina has three nurses who take all the patient calls. They sit before computers answering patients’ questions, refilling prescriptions and documenting the calls in the EMR.

## Happy referring physicians

The EMR allowed Mid-Carolina to create a template used for all referrals that includes the information that referring physicians need. It includes impressions, plans and some other notes that can be sent by mail, fax or e-mail. "Compare that to the days before EMR when referring physicians used to get a four-page document," McAdams says.

## Costs of EMR

"Mid-Carolina spent about \$40,000 per doctor to implement EMR," McAdams says. That includes hardware such as personal computers, laptops, pen tops and upgrades to the practice's intranet. Add in system licenses and training for all the users and the total cost came in at roughly \$1 million.

One key to the success of the EMR was getting buy-in from the entire practice staff. "You can put an electronic medical record in your practice, but if you don't reengineer your practice around this tool, you won't be successful," McAdams warns.

"When you hear about a practice that put in an EMR and scrapped it a year later because it didn't work, it's usually because either the physicians wouldn't let the management team reorganize the practice and the work flow around the capabilities of the computer, or they bought a system that didn't have the capabilities that they wanted."

Staff members were sent to Indianapolis to learn the system and trainers also visited Mid-Carolina to train physician assistants and doctors. "Typical training time for the physicians ranged from four to 16 hours," McAdams says.

"Some resisted having the paper chart taken from them so we formed a committee of physicians, administrators and nurses who looked at the chart and said to the doctor, 'When you see this patient for the first time on the electronic record, what information do you want to already be there?'"

After identifying 14 items—such as updated labs, last EKG, echo report, cath report—the doctors wanted on the chart, the items were scanned into the EMR. "When a patient came in, a nurse or medical assistant entered the recent medical history, medications and allergies. This was a chance to start fresh with everyone who came through the door," McAdams says.

## Outsourcing technology support

Adding EMR does require technical expertise. "We started off with one person running the intranet, putting all the computers in, getting them going, fixing faxes and printers that didn't work," McAdams says.

"But when we got to this level of sophistication with a huge data base that was our business-critical machinery, we eventually needed a chief information officer, a data base administrator, someone who could get into the Microsoft Sequel data base and write queries."

Realizing they couldn't hire all the staff necessary to maintain the system, Mid-Carolina outsourced many of the IT functions to a local firm that includes a help desk that operates 24/7 and an on-site technician during working hours.

"That service costs us about \$25,000 a month," McAdams says, and the fee includes a T-3 communication line, help desk and leased computers. "They also took the cost of our IT employees under their payroll, so it is a good deal."

## Overall results

"Overall, Mid-Carolina is extremely pleased with the EMR system," McAdams says. Among the other results he says the practice is experiencing:

- 71 percent of the practice's money in accounts receivable is less than 60 days old because billing is completed so much more quickly with EMR. In the

old billing system, 35 percent of Mid-Carolina's money was over 120 days old.

- Because it tracks patient encounters so well, the EMR helps identify problems in workflow.
- Liability also may be reduced because the practice is not relying on paper records and sticky notes to document patient care.

Finally, and perhaps most importantly, patient satisfaction has improved.

"When the doctors are sitting there with a paper chart, flipping back and forth looking for a lab or X-ray report, they don't seem very efficient," McAdams says. "On the pen top computer screen, they are just pointing and clicking so they still have eye contact with the patient as they are taking the history."

Also, when a patient calls Mid-Carolina with a question, they get a nurse who knows something about them because he/she is looking at their chart on the computer screen. "They are not put on hold or told, 'I'll call you back,'" McAdams says. "Our patient satisfaction has gone up every year since we put this in. Now, they only complain about the parking."



**Barbara J. Linney,**  
*is the director of professional development at the American College of Physician Executives in Tampa, Fla. and a member of its faculty. She can be reached by calling (800)562-8088 or by e-mail at [blinney@acpe.org](mailto:blinney@acpe.org).*