



Dr. Deb Freisen, an internist with Kaiser Permanente of Colorado, cites the immediacy of e-mail as a benefit for patients, but Kaiser's nationwide electronic medical records initiative isn't a money saver for the company.

GOING DIGITAL

Replacing paper with electronic records is helping the health-care industry improve patient care, but saving money and making the best medical use of new systems will take time, providers say.

By Lisa Marshall
Photography by Sam Adams

It was just before 9 a.m. on a Thursday at The Children's Hospital in Aurora, and Chih Chi Sun was in no mood to fill out paperwork.

She'd been up all night with a feverish 1-year-old, nursing what she and her pediatrician at Kaiser Permanente had thought was a nasty ear infection. By morning, young Zach Kuo, a premature twin with a history of medical problems, was vomiting blood. As his mother rushed through the sliding doors into Children's bustling emergency department – her lethargic boy in her arms – she almost expected to be met with the standard barrage of questions.

What are his allergies? What medications is he on? When was the last time he saw his doctor? But instead, she simply handed over Zach's Kaiser identification card and took a seat as his complete medical history uploaded on a computer screen for the ER doctors who would care for him.

"The woman behind the counter just asked me his birthday and last name, and put this name tag on his wrist," said Sun, rocking her son in an exam room as the X-rays and lab tests he had that morning made their way to his physician's laptop around the corner. "It was pretty simple."

In 2007, The Children's Hospital became the first free-standing pediatric hospital in the nation to replace its tattered paper files and bulky radiology films with electronic medical records to be shared among its own emergency room doctors, pediatricians and specialists. Three years later, it has moved an important step further, joining forces with Kaiser Permanente of Colorado's physician group, Exempla Healthcare, and a handful of pediatrician offices in an ambitious health information exchange network that allows for the sharing of records between facilities.

This effort and that of the nonprofit Colorado Regional Health Information

Organization (COHRIO) – which hopes to create a statewide digital health information exchange within five years – have put Colorado on the map as an epicenter of innovation in the burgeoning field. But as the Obama Administration rolls out billions in incentives to prompt doctors to go digital (and warns that if they don't, there will be penalties to come in 2015) two critical questions are top-of-mind among many in the health-care field.

Do electronic medical records save money? And do they improve patient care? The answer depends on whom you ask.

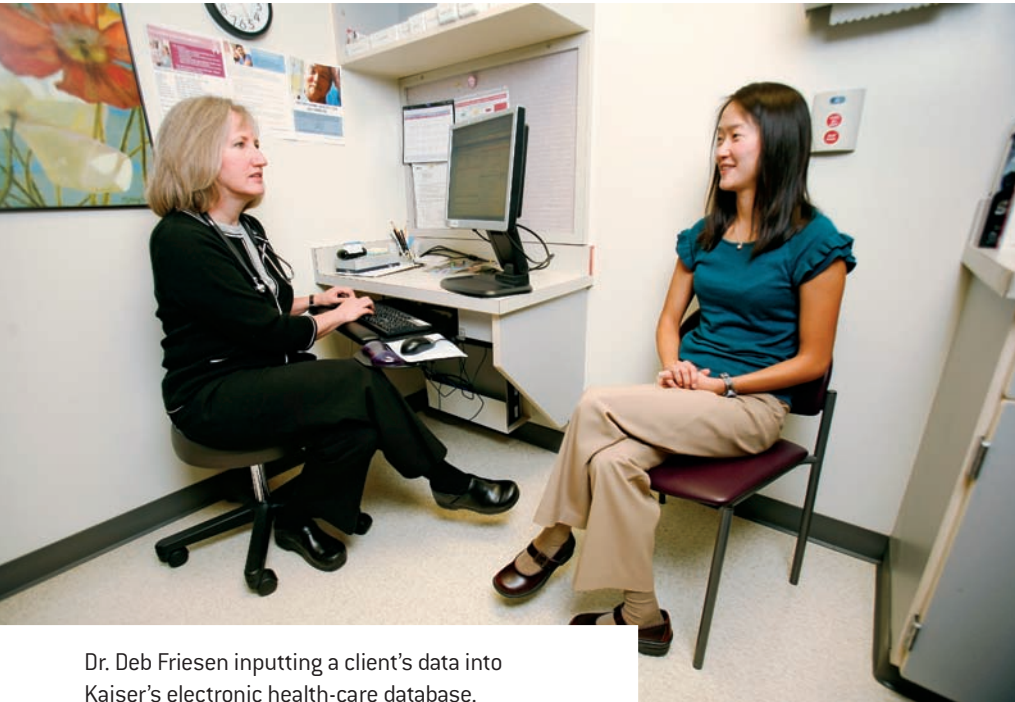
A LONG WAY TO GO

According to an August 2010 report in Health Affairs, just 11.9 percent of hospitals have adopted electronic medical records (EMR) and only 2 percent have put them to what the government describes as "meaningful use." Meanwhile, only 17 percent of doctor's offices have gone digital, and just 4 percent have comprehensive systems. Even fewer have a system in place to share their data with others.

In Colorado, numbers are slightly higher, with 37 percent of physicians using electronic records of some kind and robust health information systems in place on the Front Range and in Grand Junction. But with \$27 billion in federal incentives on the table nationwide over the next decade (roughly \$44,000 per qualifying doctor over five years) those numbers are poised to soar.

"Colorado is a leader in this space," says Phyllis Albritton, executive director of COHRIO, which helps doctors implement electronic records and information exchanges. "In five years, we would hope to see that across the state we would always have information at the right time in the right place to the right provider and to the patient so that decision making about next steps in health care could be better made. It will transform care."

DIGITAL [medicine]



Dr. Deb Friesen inputting a client's data into Kaiser's electronic health-care database.

KAISER'S \$4 BILLION EXPERIMENT

Step into the 60,000-square-foot clinic in Wheat Ridge operated by Kaiser Permanente of Colorado and you can scarcely find a piece of paper in the place. Outside the first-floor pharmacy, patients wait quietly for their names to appear on a digital screen, indicating that their prescriptions have been digitally delivered and are ready to be picked up – avoiding the mistakes that often result from doctor's notoriously bad handwriting.

Exam rooms sport desktop computers, which physicians use not only for entering data on new patients sitting next to them, but also as a tool for discussing their test results or X-rays and going over treatment options. If those patients want to peek at their own record (complete with up-to-the-minute test results) when they get home, they are free to do so. And if they want to e-mail their doctor to discuss them, they can expect a swift response.

"That's an incredibly popular feature," says Dr. Deb Friesen, a Kaiser internist who answers roughly 10 patient e-mails per day. "I have people come in at 8 in the morning

to get their lipids tested, and they are e-mailing me by 10:30 to say: 'What can we do about my high triglycerides?'"

As a pioneer who has invested more than \$4 billion nationwide in the past decade, and millions more dating back to its first crack at electronic medical records in the mid-1990s, Kaiser now boasts a paperless system seen as a national model. It not only allows for swift exchange among its doctors and those at collaborating hospitals but also affords its patients unprecedented access to their own information. Through its HealthConnect program, they can book appointments or call up a list of all the medications they have taken. If a patient signs up for it, HealthConnect will even remind them – via e-mail – to pick up a prescription, or schedule an overdue test.

"At first I thought it was all really impersonal, but now I've realized I actually communicate with my doctor more," says Annette Scheihing, a 50-year-old patient who often shoots Friesen an e-mail in place of coming in with a concern. "In the past, the only way I could communicate

with her was to go in there and see her. I had to take off work, use my personal leave time, pay a co-pay. With this, I'm actually saving money."

But is Kaiser? When *Bloomberg Businessweek* asked the Permanente Federation's Andrew Weisenthal – a major driver behind Kaiser's nationwide electronic medical records initiative – this question in April, he put it bluntly: "We like what we get for the money, but we're not going to save any money. Nobody is going to save any money."

Dr. Michael Chase, another EMR pioneer who has been with Kaiser in Colorado since 1986, couches it more as a mixed bag:

He says the company has saved money on transcribing doctors' notes and filing paperwork, and it has seen a 5 percent to 10 percent reduction of test duplication (no more repeating an MRI or X-ray, because it can't be found fast enough). But Kaiser has also seen a decrease in patient visits (as patients settle for a quick e-mail rather than coming in for an appointment) and some doctors report an increase in workload (all those e-mails to read, and notes to enter into the computer).

The more important question to ask, says Chase: Does electronically enhanced medicine improve patient care?

GOOD FOR PATIENTS?

Early research suggests the answer is yes, with some studies indicating that well-run EMR systems can reduce prescription errors, allergic reactions, treatment delays and other problems. And in the case of Kaiser in particular, one oft-noted 2002 study pointed to its electronic system as one factor in radically reducing death from heart disease in Northern California.

"As you take better care of chronic-disease patients and more reliably deliver the care that they need, you see less cost down the road," Chase says.

There are, however, some downsides, says Heather Haugen, Ph.D., co-director of health information technology at the University of Colorado Health Sciences Center and the co-author of "Beyond Implementation: A Prescription for Lasting

EMR Adoption."

"There can be amazing changes in quality and safety if it is done well, but it can absolutely be dangerous if it is not," she says.

She laments that electronic medical records have largely failed to live up to their hype so far, because many practices that have adopted them have done it hastily and have not been able to afford to implement them to their full extent (a problem the stimulus money may be able to address). In some cases, she points out, costs have gone up and care has gotten worse. One 2005 study conducted at Children's Hospital of Pittsburgh found that deaths among children more than doubled in the months following implementation of an electronic data entry system.

"Let's say I am relying on the electronic health record and I don't understand where to enter allergies or how it works into the work flow, and there is another physician in my practice who believes that everyone is entering allergies. If people are making false assumptions about how it is being used, that can cause problems," Haugen says.

Other recent studies have painted a more positive picture, showing that in hospitals with comprehensive, fully implemented digital records systems – particularly those with health information exchanges – wait times in the emergency room are shorter, doctors make decisions more quickly, and fewer errors are made.

"It's a double-edged sword," says Dr. Tim Givens, director of the emergency department at The Children's Hospital, as he sat at a computer screen, far from his tiny patients, looking over their test results. Yes, it reduces errors, saves time and makes billing easier. But if not handled carefully, it can also have a more subtle effect on the doctor-patient relationship, he warns. "Everyone spends a lot of time here in front of the computer instead of laying hands on the patients."

A LEAP OF FAITH

The looming question now, as efforts to spread electronic medical records to doctor's offices nationwide proceeds: Why

would a lone physician, or small private practice, want to pay tens of thousands of dollars for a system that might bring them fewer patients, cost them more time and not necessarily save them any money?

"Because even if we didn't want to do it, we would ultimately have to," says Longmont internist Laird Cagan, who took the plunge in 2004 and spent roughly \$80,000 (plus \$15,000 annually since for maintenance) on an EMR system. "It is ultimately going to be required."

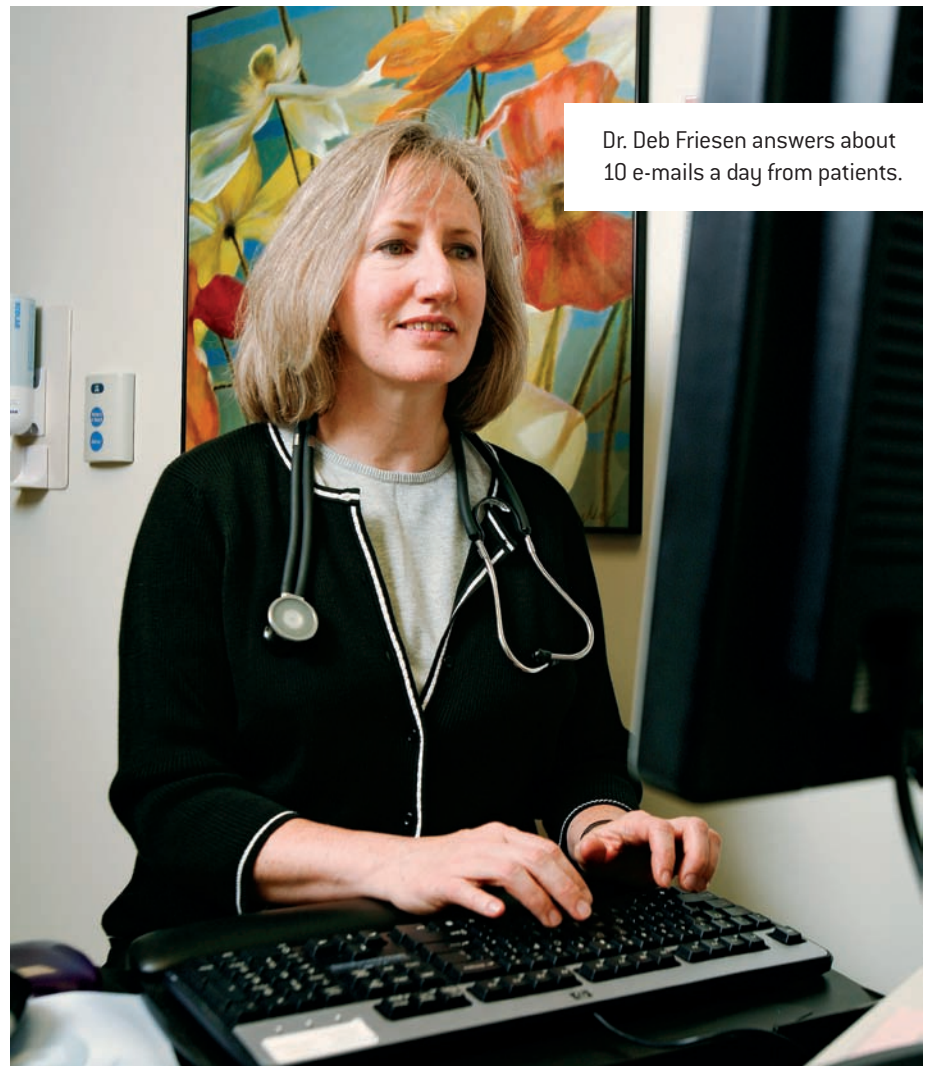
Cagan notes that his own practice's transition has been costly and time consuming – a hard pill to swallow at a time when primary care physicians are oper-

ating on a razor's edge profit margin.

"We thought we would save a lot on employee costs, because we don't have to pull so many charts and the billing would be easier, but in reality it has cost us more than if we had just stayed with paper," he says.

But ultimately, he's convinced his efforts will pay off, not only for his own patients but for the health-care system as a whole. It just may take a while.

"I think it is important for physicians to be leading the way in terms of improving quality of care and bringing down long-term costs, and ultimately I think this can do that. I really do," he says. "If it doesn't, we are all really in deep trouble." 📧



Dr. Deb Friesen answers about 10 e-mails a day from patients.