



Dragging health records into the Digital Age

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Walk through a typical Kaiser Permanente doctor's office or hospital, and you won't find a paper chart lying around. Kaiser, with 450 hospitals and offices around the country, is almost entirely paperless.

But as the rest of the health care industry rushes to follow in Kaiser's digital footsteps, Kaiser's paperless success story--a 10-year, \$4 billion effort--might actually serve as a cautionary tale.

By no means has the Kaiser e-health project failed. In fact, besides some hiccups, it has gone well: Kaiser said it has seen more satisfied patients and a slight dip in emergency room visits and hospital stays, which cuts costs. Even the doctors grumbling the loudest beforehand don't know what they would do if they were forced back to paper.



Unfortunately, the rest of the health care system looks nothing like Kaiser.

Kaiser Permanente is testing a tablet computer to enter health care information within its hospital walls. It has been using a desktop cart on wheels, but the tablet is less intrusive and can run longer without needing a charge.

Kaiser is a rare beast: both an insurance provider and medical provider. Investing in digital technology was projected to create efficiencies in its medical services

and boost the bottom line.

Most hospitals don't operate like that. They provide a service, bill the insurance company or the government, and move on to the next patient, efficiency be damned.

Nonetheless, the United States appears to be barreling ahead with a far-reaching health care digitization effort that even proponents say leaves many questions unanswered. The Obama stimulus package provides \$19 billion for hospital technology efforts, which could go a long way toward prodding penny-pinching hospitals and doctors to finally leap into the 21st century.

But then what? Most experts believe that \$19 billion is only a down payment on what it will really take to digitize American hospitals. What's more, successful digitization will require the reinvention of the rest of the medical industry--with insurance companies on one side and doctors on the other, in an often-nasty tug-of-war over patients and dollars. That means a change in policy as much as technology, and perhaps the most drastic overhaul of an industry in American history.

"What I worry is that there are some very, very high expectations that may result in significant disappointment," said Andy Wiesenthal, the doctor who helped set up Kaiser's system. Digitizing the whole country's medical records could take a decade of sustained commitment, and "as a country, our attention span is not lengthy," Wiesenthal said.

“ I got a full dose of what's wrong with not having digital records (during cancer treatment)...You don't necessarily need to have a connection between two hospitals, as long as a patient can make them available to the next doctor.”

- Billy Tauzin
CEO of Pharma and
Former Louisiana
Congressman



"Finding 50,000 high-quality professionals is going to be hard," said [John Halamka](#), who serves as chief information officer of New England's CareGroup Healthcare System and also chairs the U.S. Healthcare Information Technology Standards Panel. "The one thing you do worry is that there are going to be a lot of fly-by-night companies. There has to be real vigilance to make sure people are actually getting what they are paying for."

Unfortunately, it's neither clear from where all those new workers will come, nor who will be policing for shoddy technology acquired in a [government-funded buying spree](#).

In a three-day special report, CNET News will take a look at the rapidly digitizing health care industry and try to answer the question: What took them so long? In the process, we'll explain the dangers inherent in the digitization, what the stimulus plan and e-health legislation means to the average person, and maybe inch a little closer to answering one of the most vexing questions of American medicine: why are doctors such Luddites?

If the country's hospitals really are going to go digital, they would do well to be asking these questions and getting answers--fast. In the past, health care information spending has been like a steam train just sort of chugging along, said Patick Heim, Kaiser's chief information security officer. Now "we have a new engineer--Obama--dumping tons and tons of coal ([\\$19 billion worth](#))," Heim said. "That steam train is driving faster and faster. Have we tested the rails to make sure we understand that speed? Do we have the brakes in place?"

Does spending equal efficiency?

Like most businesses in other industries, Kaiser benefits financially from efficiency. If people need less treatment because electronic records help prevent duplicate tests or enable doctors to spot issues sooner, Kaiser's bottom line gets a boost.

Most hospitals and doctors, though, get paid only when they deliver service, regardless of whether it's done efficiently. And in that environment, there's little reason to invest dollars up front in order to squeeze costs out of the system over the long haul.

Nonetheless, Kaiser said it is a big supporter of what President Obama is trying to accomplish by providing financial incentives for the industry to move to digital records. It just wants to make sure that the money is spent with focus on improving care, as opposed to merely adding technology.

“We certainly have seen that disparity of cost and effectiveness (in health care technology)...It's like an inverse correlation between what we put in and get out.”

- Sean Hogan
VP of IBM Health
Care Delivery Systems



Although there is some debate, the consensus among medical professionals is that electronic records should be able to improve care, said Matthew Holt, the co-founder of the [Health 2.0 conference](#) and author of a [well-regarded blog on health care technology](#). But he cautions that the speed at which the industry is moving may mean that more money is spent on older, readily available technology.

The problem, Holt said, is that many prevalent products were developed 10 or even 20 years ago. Most of the software on the market uses a traditional client-server approach, as opposed to the kind of Web-based hosted service that might make the most sense these days, Holt said.

Even companies lining up to land contracts in the digital push are urging care and caution over how the dollars are spent. [Peter Neupert](#), head of Microsoft's Health Solutions Group, has urged the industry to put IT spending in the context of broader health care reform, saying medical records are a "necessary, but not sufficient," step.

"I'm trying to transform the discussion just a little bit," Neupert said in [a January interview with CNET News](#). "Don't focus on spending money on tech, per se. Focus on what outcomes we want."

The outcome we want

In a perfect world, there would be a national system in which each hospital and doctor is connected. A patient would arrive at a hospital he had never visited, and all of his records would be available. That would mean that tests would not have to be repeated, and those tests that were ordered would be in the hands of doctors as soon as the results are ready. Doctors would have access not only to patient records, but also to software that provides

recommended drugs and treatments. And patients would feel confident that their medical records are secure.

But even just basic digital health records could make a big difference.

Former U.S. Rep. [Billy Tauzin](#) (R-La.) said he learned that firsthand during his recent battle with cancer. For months, he was bleeding internally, and it took five trips to the emergency room and seven hospitalizations to nail down the problem.

[{Billy Tauzin video at America's Agenda Summit in San Francisco – visit article link to see video}](#)

Billy Tauzin, a former congressman who now runs drug industry trade group Pharma, discusses how he became aware of the importance of easily accessible personal medical records.

(Credit: Ina Fried/CNET)

"For six months, I had to constantly fill out the same forms," he said. "I had to go through interrogations to get the pint of blood I needed," said Tauzin, who now runs the drug industry trade group Pharma. One time, he said he found himself lying on the floor of an emergency room because he couldn't sit up as he tried to get through all the required paperwork.

Another time, Tauzin said he had an unnecessary operation because the doctor performing the surgery didn't know about an earlier procedure he had undergone--one requiring the use of longer surgical instruments than the ones the doctor had on hand.

"I got a full dose of what's wrong with not having digital records," Tauzin said.

Tauzin said that while some of the hospitals he visited had some digital records, none were able to share data with one another. For his part, Tauzin said it would have been good enough, if there had been some sort of Web-based system through which he could share a digital health record with his doctors.

"You don't necessarily need to have a connection between two hospitals, as long as a patient can make them available to the next doctor," he said. "We don't need to reinvent the wheel."

Actor Dennis Quaid, who spoke at this year's health technology industry trade show, is using personal experience to argue for better digital record keeping and accountability in medical practices. Quaid's twins nearly died as babies after being given a drug at 1,000 times the recommended dose for newborns.

"100,000 people are killed every year because of medical mistakes," actor Dennis Quaid says in a "60 Minutes" interview.

(Credit: CBS News)

"It's time for the medical industry to do what the airline industry figured out about technology a long time ago," Quaid said, according to a [CRN account of his speech](#). Just as commercial airlines have a "black box" that records mistakes, there needs to be a technological way to track the life-and-death decision making in medicine, he suggested.

"There is a staggering number of medical errors each year that go unnoticed by the general public. One hundred thousand people die every year because of medical errors," Quaid said.

For proof that a digital-records system can reduce errors, Kaiser's Wiesenthal points to the fact that his company saw its malpractice claims drop significantly after it digitized its practice in Colorado. Actual payouts went down by 50 percent within 18 months.

There were two reasons for the drop: care improved, and everything is documented and time-stamped. Being self-insured for malpractice also represented a cost savings for Kaiser.

There is also hope that electronic health records could cut unnecessary costs from things like duplicative tests. "You go to a doctor, and they run a test. You go to the hospital, and they run the exact same test," said Halamka of CareGroup and the HITSP, who estimates that 15 percent of laboratory tests are redundant or unnecessary.

But there's no escaping the importance of changing policy along with technology. Since most hospitals aren't structured like Kaiser, many medical experts believe that the move to digital records needs to be part of a broader shift that adds financial incentives for a healthy lifestyle.

"If individuals are actually healthy, if they are actually controlling a chronic disease and don't need to utilize the industry, it is a cheaper system," said David Merritt, a project director at Newt Gingrich's Center for Health Transformation. "We need to find ways to incent health and promote health."

Systemic change is imperative, according to Sean Hogan, vice president of health care delivery systems at IBM. While Big Blue sees opportunity in selling technology and services to health care companies, Hogan said that as a large employer, IBM is also experiencing the inefficiency that characterizes today's industry.

"We certainly have seen that disparity of cost and effectiveness," Hogan said. "It's like an inverse correlation between what we put in and get out."

Hogan and others stress that the key is equipping doctors and hospitals with effective tools for both maintaining and sharing medical data. But it's when medical records move between different parties that consumer privacy and security concerns are highest.

The privacy risks

"The challenges are more on the policy side than they are on a technology side," Halamka said. "It's who gets to see what? When do you get to see it? What is the patient consent?"

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Healthca



There is a federal law--the Health Insurance Portability and Accountability Act of 1996 (HIPAA)--that [issues some regulations](#), but many states also have their own [privacy rules](#). The language of the stimulus bill adds some additional protections, but [valid concerns remain](#), said Deven McGraw, the director of the [Health Privacy Project](#) at the Center for Democracy and Technology.

One of the lingering issues is the legal use of digital health records by insurance companies to deny membership or hike prices beyond affordability for those with existing medical conditions. While such issues also exist in the paper world, digital access also makes it easier for insurers to find reasons to deny coverage, McGraw said. "You can call it a double-edge sword."

The Kaiser example again shows the promise. In its largely self-contained world (under most circumstances, Kaiser patients have to see Kaiser doctors), doctors have instant access to any patient's medical records.

Digital records have meant lots of changes, down to the way doctors prepare to see patients, Kaiser's Wiesenthal said.

For example, Wiesenthal, like many doctors, used to prepare to see a patient by quickly skimming through a patient's chart on his way into an exam room. These days, Wiesenthal said he does all his prep work in the morning, before he begins seeing patients.

That's a big shift, but it also allows him to get a head start on providing care, such as asking for additional tests or asking a technician to get more data before the patient enters the exam room.

Health care chains are one thing, but any digitization effort will have to reach into the nooks and crannies of a vast medical system. A good chunk of the nation's health records are stored in doctor's offices.

"Generally, few, if any, industries in the country need modernization more than health care," said Merritt of the Center for Health Transformation. "Go into virtually any physician's office, and you will see tech from the 1960s, which is mostly a clipboard, a pen, and manila envelopes."

The stimulus bill provides physicians with up to \$44,000 to buy a system for digitizing their practice, a move that should help remove one big hurdle to going digital--that is, if someone is available to deal with it.

"It doesn't work to put servers in doctors' offices," said CareGroup's Halamka, who expects a boon in hosted services that doctors can use to enter and store digital records online. "The doctor is not only going to be your primary health care provider, he's also going to be an Oracle administrator? That's not going to work."

Not surprisingly, there is a range of well-known companies already selling products meant to digitize health care. In addition to [Epic Systems](#), which created the software that powers Kaiser's system, there are large medical-software makers such as Allscripts, Cerner, McKesson, NextGen Healthcare Information Systems, and General Electric's Centricity EMR. Hardware makers such as IBM, Dell, and EMC, meanwhile, are pushing their wares for businesses.

In addition to the competition to outfit hospitals and doctors with electronic records, a separate battle between Google and Microsoft is brewing over so-called personal health records--digital files kept by the individual and containing things like drug records, test results, and other medical information.



At the recent Healthcare Information and Management Systems Society trade show in Chicago, start-up Medsphere tried to play up its populist open-source appeal by parking a Volkswagen van near the luxurious trailer set up to demo high-end health management software from Cerner.

While much of the attention (and money) is likely to go to the big companies, there are plenty of upstarts as well. One is [Medsphere Systems](#). Although the company dates back only to 2002, its technology is actually quite old. [Medsphere bases its product on Vista](#), the freely available source code the U.S. Veterans Administration uses to power its systemwide digital health records.

Critics say the open-source Vista code itself is dated and lacking, given that it was designed only for the VA, but Medsphere Chief Medical Officer Edmund Billings says the system is well-tested and can reduce the cost of digitizing hospitals.

"The Vista system is very deployable," Billings said. He noted [one customer, Midland Memorial Hospital](#), that was facing a \$20 million cost to upgrade a system it had in place from McKesson. Medsphere helped put in a Vista-based system for \$6 million. They took some of the savings and bought laptops, remodeled nursing stations, and paid to train medical staff to use the system.

"They used the significant margin they saved, and they applied some of it to driving adoption," Billings said.

Billings has won a fan in Sen. John Rockefeller (D-W.V.), who recently introduced legislation that would mandate the use of open-source technology. But the big software makers are also pushing for guidelines that would encourage their adoption.

Although the stimulus bill has been passed, wrangling continues over which systems will qualify, as well as how to define one of the bill's key terms. Hospitals and doctors are to be paid not just for installing the systems, but also for creating "meaningful use."

"Implementing or automating technology just for the sake of getting automated is obviously not the end game," said Aurelia Boyer, a former practicing nurse who now serves as chief information officer for NewYork-Presbyterian Hospital. Her hospital is not only digitizing its own records, but also [making those records available to referring physicians and patients](#) as part of a broad digital push.

"Here is an opportunity to put our patients first," Boyer added, "empower our patients in a way that technology has done for other industries already."

http://news.cnet.com/Dragging-health-records-into-the-Digital-Age/2009-11393_3-6249503.html