

# Making the Case For Electronic Health Records

**H**urricane Katrina scattered more than 1 million Gulf Coast residents to all corners of America. Many escaped with just the clothes on their backs, having been plucked from rooftops of their flooded homes, fished out of fetid water or evacuated from inhumane conditions at New Orleans shelters.

Tens of thousands of people with chronic diseases left home

**Tens of thousands** of Gulf Coast residents with chronic illnesses were left with no medical records by Hurricane Katrina. In response, more than 150 companies, organizations and Federal, state and local government agencies collaborated to launch [KatrinaHealth.org](http://KatrinaHealth.org), an on-line service offering medication histories of hurricane evacuees to authorized providers.

without their medications—or even much of a clue about what pills they were taking. Insulin spoiled because there was no way to keep it refrigerated. Dialysis and other medical services were nowhere to be found.

The toxic water in New Orleans raised fears of dengue fever and other diseases not seen in these parts for decades. Even those who were otherwise healthy were suffering from malnourishment, fatigue and more

than a little bit of hypertension.

And, oh, by the way, nearly every evacuee—save for about 38,000 who got care at Department of Veterans Affairs (VA) hospitals and clinics—no longer had medical records, their paper charts washed away by the flood.

It had all the makings of one of the worst public health crises in American history. But then something remarkable happened.

Within a week of Hurricane Katrina's roaring ashore along the Gulf of Mexico on Aug. 29, 2005, dozens of vendors of health information technology and various industry organizations had

come forward with offers to build electronic medical records (EMRs) for hurricane evacuees.

After several days of meetings and conference calls among vendors and Federal officials, it was decided that interested parties should focus on piecing together medication histories rather than trying to create full EMRs for people showing up at evacuation shelters.

This basic information would greatly reduce the chance that someone would be face-to-face with a doctor who had not a clue about the patient's medical condition or history. A medication history also would help physicians prescribe medicine for those who did not know what they had been taking and head off greater problems by preventing harmful drug interactions.

By Sept. 22, more than 150 companies, organizations and Federal, state and local government agencies had come together to launch KatrinaHealth.org, so physicians anywhere could go online to retrieve medication records of people evacuated from the Gulf Coast region. The American Medical Association donated access to its Physician Masterfile, which allows site administrators to instantly verify the credentials of any U.S. physician treating a hurricane evacuee.

A week later, the site was expanded to include individuals scattered by Hurricane Rita, which hit the Gulf Coast near the Louisiana-Texas border and caused a mass evacuation of Houston, where thousands of Katrina survivors had found refuge.

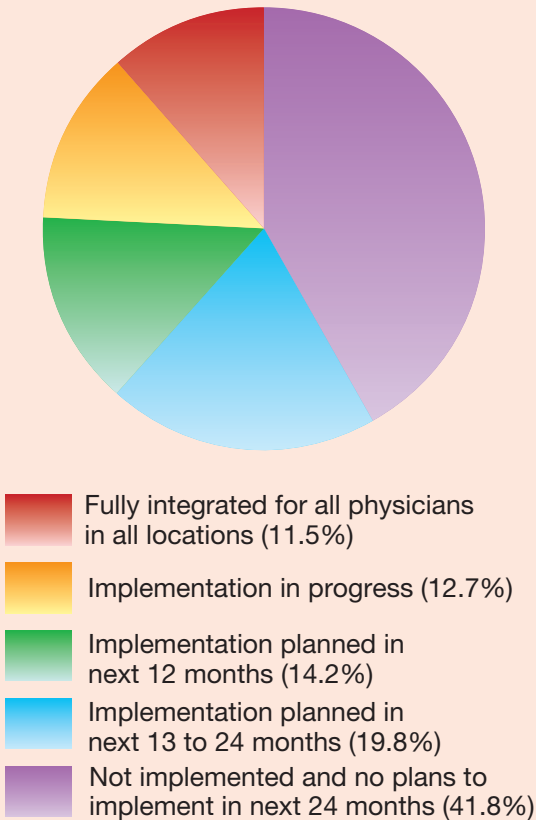
Behind the KatrinaHealth.org site is 90 days' worth of data from pharmacy chains in affected areas of Texas, Louisiana, Mississippi, Alabama and Florida. Formulary reference service RxHub added pharmacy information compiled by commercial health plans, while the VA and several state Medicaid programs also contributed claims data.

(VA patients really never had to worry about their records being lost because the Veterans Health Administration long ago computerized its medical records and linked up all of its facilities nationwide. Less than five days after Katrina crashed ashore, VA technicians in Houston had fully restored records from affected facilities in Louisiana, Mississippi and Alabama. But many VA patients also get care from private doctors.)

The information was comprehensive enough that Katrina-

Health organizers could re-create patient medication histories for 95 percent of the patients they served, according to Dr. Peter Kaufman, chief medical officer of DrFirst, a Rockville, Md.-based company that donated electronic prescribing tools to clinicians who treated hurricane evacuees.

### Degree of EHR Implementation in Medical Practices



Source: Medical Group Management Association Center for Research, University of Minnesota School of Public Health, Assessing Adoption of Health Information Technology, funded by the Agency for Healthcare Research and Quality (AHRQ).

KatrinaHealth patients got the option of signing up for free Web-based personal health records (PHRs), which would make their medical information readily accessible for subsequent care—more than likely in a different setting because of the transient nature of a mass evacuation.

“This type of solution makes sense,” Dr. Edward Fotsch says of personal health records. Dr. Fotsch is chief executive officer of Medem, a project of the AMA and nearly four dozen medical specialty societies. Medem is currently providing the PHRs for KatrinaHealth.

“You don’t have to be in a hurricane to find yourself in front of a provider who doesn’t have your chart,” says Dr. Fotsch. “It would be the equivalent of going to the bank and having someone hand you a clipboard and ask you to write down how much money you have.”

But that sort of thing happens all the time in medicine, where no more than 18 percent of private-sector healthcare organizations had fully functional EMRs in early 2005, according to the Healthcare Information and Management Systems Society (HIMSS). In September, the Medical Group Management Association (MGMA) reported that just 14.1 percent of group practices used EMRs.

In both the HIMSS and MGMA studies, adoption rates have been rather stagnant for about two years. But 62 percent of the chief information officers asked by HIMSS called electronic medical records their top priority among health information technology (IT) projects during the next two years, 10 points higher than in the 2004 survey.

## **Saving Money and Lives**

Healthcare expenditures continue to climb; some \$1.9 trillion was spent on healthcare services nationwide last year, accounting for 14 percent of gross domestic product, according to the Centers for Medicare & Medicaid Services (CMS).

The Center for Information Technology Leadership (CITL), a Wellesley, Mass.-based research organization affiliated with Boston’s Partners HealthCare, reported in early 2004 that an advanced, standardized, nationwide network for healthcare data exchange could save the U.S. healthcare system a net \$86.8 bil-

lion a year, following a 10-year rollout of information technology. Healthcare providers would realize the greatest share of the benefits, some \$33.7 billion annually.

A year earlier, CITL published a study saying that computerized physician order entry (CPOE) in ambulatory environments could prevent more than 2 million medication errors and 190,000 hospitalizations each year, while yielding annual savings of \$44 billion, if instituted nationwide.

How prevalent are medication and other medical errors? Two of the best-known estimates of the number of errors in healthcare today are 44,000 and 98,000, the lower and upper limits, respectively, of the number of preventable deaths that occur in U.S. hospitals each year, according to a 1999 study by the Institute of Medicine (IOM). In 2004, quality-measurement firm HealthGrades put the number at closer to 195,000.

The American Academy of Family Physicians (AAFP) and six other family-medicine organizations studied the specialty for two years in a project called the Future of Family Medicine. Funded by the Robert Wood Johnson Foundation, the groups came up with a list of 10 recommendations to transform primary care. Among those were calls for electronic health records (EHRs), quality improvement efforts, redesign of business practices and new reimbursement models to encourage better care.

Specifically, the project's final report said that the EHR should serve as the "central nervous system" of a new model for family medicine. "The idea is to give practices a touch and feel of the office of the future that is implementable now," says Dr. David C. Kibbe, director of the academy's Center for Health Information Technology.

The AAFP also trademarked the name Intelligent Medical Practice, which Dr. Kibbe describes as "a conceptual framework for the office that is IT-enabled and supports patient-centered

**No more than 18 percent** of private-sector healthcare organizations had fully functional EMRs in early 2005, according to the Healthcare Information and Management Systems Society. In September, the Medical Group Management Association reported that just 14.1 percent of group practices used EMRs. In both studies, adoption rates have been stagnant for about two years.

care.” It includes “smart” medical devices, such as blood-pressure monitors that automatically transmit data into EHRs.

Health information technology came to the fore of the national healthcare agenda in January 2004, when President Bush mentioned in his State of the Union address that he wanted a system of EHRs for most Americans within 10 years.

To this end, in May 2004, Mr. Bush appointed widely respected health informatics professional Dr. David Brailer to be the first national coordinator for health information technology. Dr. Brailer issued a four-pronged framework for achieving the president’s goal: inform practice, interconnect clinicians, personalize care and improve population health.

In June 2005, the Federal government created an organization called the American Health Information Community (AHIC), a public-private commission within the Department of Health and Human Services (HHS), to make recommendations for developing and harmonizing much-needed standards within health IT.

Last fall, HHS issued a series of contracts to test various ideas for building a national health information network, or what Dr. Brailer calls the “medical Internet.” Among the projects is a plan to certify health IT products based on functionality; an ambulatory EHR certification program should be ready before the midpoint of 2006.

Dr. Brailer has promised that his office will analyze the health IT component of the Katrina relief effort to see how its lessons might be applied to the wider goal of providing information-rich EHRs and data-sharing networks across the U.S.

## **Array of Acronyms**

One of the greatest impediments to boosting both adoption and connectivity is the current lack of a definitive standard for EHRs—something AHIC and others are working to remedy. “Theoretically, these things should work together,” Dr. Kibbe says, but some systems are not compatible with each other.

Various components of EHRs, including laboratory reporting, radiological imaging and electronic prescribing, have had standards in place for some time. CMS even published an e-prescribing rule last fall, in advance of the Jan. 1, 2006, debut of the Medicare Part D drug benefit.

“All these standards are done and everybody’s using them,” says Dr. Kaufman. “Compare that to EMR. Eighteen months from now, e-prescribing will be where we want EMR to be in 2012.”

As Dr. Kaufman’s choice of terminology suggests, another source of confusion in the marketplace is the alphabet soup of health information technology, including EMR, EHR, PHR and a host of other acronyms.

In general, an electronic medical record (EMR) is a record of patient history and encounters within a single institution or organization. An electronic health record (EHR) is more comprehensive, a full representation of a patient’s medical history and health status across the continuum of care. A true EHR really remains a future goal because full electronic connectivity between health systems does not yet exist in the United States.

Both terms have mostly supplanted an earlier preferred appellation, computerized patient record (CPR), which these days has come to mean simply a computerized representation of a paper chart. EMRs and EHRs contain real data that can be manipulated and analyzed, not just scanned images of paper forms.

On the management side of medicine, applications might be referred to as physician practice management (PPM) software or

### **Paperwork Time Consuming for Patients: Survey**

On average, patients spend 10 minutes per doctor visit filling out forms. Apply that to the estimated 800 million doctor visits a year, and the result is that more than 135 million hours are spent each year filling out medical forms, according to a survey by the Technology CEO Council, a Washington, D.C.-based business advocacy group.

According to the organization’s surveys, some 77 million people transferred their medical records between healthcare professionals in the past three years. These people say it took an average of six days to transfer or share their records. In addition, approximately 18 million adults have experienced a delay in medical treatment because the healthcare provider had to wait for their medical records, and 16 million Americans have had to have a duplicate medical test or evaluation conducted in the last two or three years because their healthcare provider did not have the necessary medical records.

physician office management information systems (POMIS).

Dr. Brailer calls such terms essentially meaningless. “I don’t think we should be making distinctions in these systems based on labels. The way we should make distinctions is based on functional criteria,” he says.

“Largely speaking, once we accept certification criteria, our definition of the ambulatory EHR is anything that has the features, minimally, that are in the certification criteria. That is an EHR, from our perspective, and the rest of it is just labels,” Dr. Brailer says. “We want to get past these semantic debates about what’s the difference between an EMR and an EHR. It’s kind of like what’s the difference between the letter H and the letter M.”

In 2003, the IOM identified eight “core functions” of an EHR:

■ **Health information and data.** According to the IOM, having timely access to key, patient-specific information such as diagnoses, allergies, laboratory results and medications would improve the ability of practitioners to make informed, accurate clinical decisions.

■ **Results management.** Ready access to new and past test results by all providers participating in the care of a patient, regardless of the setting, would increase patient safety and the effectiveness of care.

■ **Order management.** The ability to enter and store orders for prescriptions, tests and other services in a computer-based system should enhance legibility, reduce duplication and improve the speed and accuracy of order execution.

■ **Decision support.** Computerized clinical decision support, in the form of electronic reminders, prompts and alerts, would help improve compliance with best practices, ensure regular screenings and other preventive care, identify possible drug interactions and facilitate proper diagnoses and treatments.

■ **Electronic communication and connectivity.** Efficient, secure and readily accessible communication among providers and patients would aid the continuity of care, improve the timeliness of diagnoses and treatments and reduce the frequency of adverse events.

■ **Patient support.** Tools that give patients access to their health records, provide interactive patient education and help individuals monitor and test their conditions at home can improve con-

trol and management of chronic conditions.

■ **Administrative processes.** Computerized administrative tools, such as scheduling systems, would greatly improve the efficiency of healthcare facilities and allow provider organizations to deliver more timely service to patients.

■ **Reporting.** Electronic data storage following uniform data standards will enable healthcare organizations to respond more quickly to Federal, state and private reporting requirements, including those that support patient safety and disease surveillance.

According to Dr. Brailer, all clinical IT products are bundles of various tools. “Some of the features and functions are so core that they define what that product is, and others are peripheral and secondary. And then it gets even more complicated by vendors taking to market other bundles of functionality that are packaged in,” he says.

**In general, an electronic medical record (EMR) is a record of patient history and encounters within a single institution or organization. An electronic health record (EHR) is more comprehensive, a full representation of a patient's medical history and health status across the continuum of care.**

“We’re trying to separate out the bundling from the core and then trying to define the core based on function rather than label, and that’s what certification is all about,” Dr. Brailer continues. “It brings clarity to the market.”

One standard already in place is the Continuity of Care Record (CCR), a minimum data set required to assure that patients receive proper care when they move between healthcare settings. The Web-based PHRs offered to Katrina evacuees follow the CCR standard, but, like most forms of clinical information technology, adoption among the population as a whole remains low.

In theory, patients would carry CCRs with them, perhaps on a machine-readable “smart card,” a miniature CD, a memory device that plugs into a computer’s USB port, or even on a piece of paper. Records also could be stored on-line.

When a patient switches care settings, the new provider would have ready access to basic patient history, medication lists and allergy information, even if the patient arrives unconscious at an emergency room. Following each encounter, the CCR would be updated so the next provider has the most current information.

## Changing the Economics

Of course, all this technology costs money, and today's health system is set up to encourage a high volume of services; the more patients and the more procedures a practice can handle, the higher the income level. Thus, medical practices can profit from the inefficiencies in the current system. When you eliminate these inefficiencies through IT, reimbursement from payers will fall. In other words, providers foot the bill for clinical information technology, yet payers often are the ones who reap the greatest financial benefit.

"How do you change the economics?" asks Scott Wallace, CEO of the National Alliance for Health Information Technology, a coalition of hospital and physician advocates, payers, technology companies, government agencies and large employers that purchase healthcare services. The growth of pay-for-performance and other quality-based reimbursement plans might help, as might certification of EHRs, Mr. Wallace suggests.

"Every innovation requires investment," he says, adding that those who don't make the change won't survive in the future.

Technology represents an entirely new way of practicing medicine, one based on access to information that helps practitioners deliver the right care to the right patient at the right time.

"It's the fear of the unknown that has people resisting change," says Rosemarie Nelson, a Syracuse, N.Y.-based consultant for the Medical Group Management Association (MGMA) in Englewood, Colo.

"While physicians are often maligned for being late adopters of technology, that's really not the case," says David Kates, Columbia, Md.-based vice president for clinical product management at Emdeon Practice Services, formerly WebMD Practice Services. "They are readily adapted to technology, but it's got to be an instrument or a tool that's useful to them."

Consider, again, the hurricane scenario.

Athenahealth, a medical billing software and services company in Waltham, Mass., had 20 clients in Louisiana and Florida whose offices were destroyed by either Hurricanes Katrina or Wilma. But each practice outsourced its back-office functions to the vendor, which processed and submitted claims via the Internet—and kept backups of all pertinent data.

“None of them experienced any interruption in collections,” reports athenahealth CEO Jonathan Bush. Meanwhile, neighboring practices had no idea about the status or even the whereabouts of their billing claims. “They don’t know what claims they did or didn’t have. They don’t have a basis for going and asking for money,” Mr. Bush says, and businesses tend not to last very long after cash flow dries up.

## Outcomes and Quality Data

Even in the absence of a natural disaster, the cost of not automating is rising, with the advent of pay-for-performance and other quality-based reimbursement programs and with improvements in technology. “As those things become mature, our technology investments are going to provide the capability to be able to provide that,” Mr. Kates says.

Quality reporting is a key component of a current Medicare pay-for-performance demonstration program that may serve as a model for widespread quality-based reimbursement plans in the future. “In terms of pay-for-performance guidelines, some of those things where outcomes and quality metrics are going to be important to justify to the payer [include] how you are managing your diabetics and your congestive heart failure patients and the like,” adds Mr. Kates.

“If you are in a pay-for-performance world, you have to be able to get data out,” says Ms. Nelson. An EHR not only can extract the necessary outcomes data, it can also organize the information in a format suitable for reporting.

Such a feature has applications well beyond new reimbursement models. Just ask Susan R. Miller, R.N., administrator of Family Practice Associates of Lexington (Ky.), who first investigated clinical IT back in 1997, when the practice was in a heavily capitated environment.

“We felt that it was real important for us to understand exactly how we were taking care of our patients, and that one of the ways

**“While physicians are often maligned for being late adopters of technology, that’s really not the case,”** says David Kates, vice president for clinical product management at Emdeon Practice Services. **“They are readily adapted to technology, but it’s got to be an instrument or a tool that’s useful to them.”**

we could do that was by implementing a point-of-care electronic medical record,” says Ms. Miller. “We understood that we needed to be taking care of patients very well so that we could be successful in the long run.”

Ms. Miller was not satisfied with commercial EMR products available at that time, but by 1999 the practice started computerizing its records by scanning paper charts—about the time capitation had fallen out of favor in the Lexington area.

**Having IT lets a practice add capacity to see more patients, says Rosemarie Nelson, a Medical Group Management Association consultant. Physician groups may have to hire a “higher level of staff” than file clerks and pay for nurses who know technology, she says, but they gain efficiencies by reducing the number of steps required to access information.**

“From knowing qualitatively how we took care of patients, it became more of a volume game for us,” Ms. Miller says. “We knew we had to see as much volume as possible to be successful at that point.”

Having IT lets a practice add capacity to see more patients, according to Ms. Nelson, the MGMA consultant. Physician groups may have to hire a “higher level of staff” than file clerks and pay for nurses who know technology, she says, but they gain efficiencies even from document scanning by reducing the number of steps required to access information and by reducing the number of “touches” to get the chart to the doctor.

Groups also save money that otherwise would go to making extra copies of documents, then shredding the extras after they no longer are needed. This was exactly the advantage that Ms. Miller sought, and, since Family Practice Associates opened a second office in 1998 and added physicians, the EMR became the easy answer for sharing charts between the two locations.

As an unexpected bonus, the EMR was such a time-saver that the practice could offer value-added services that bring in ancillary revenue. “You have staff that was pulling charts and prepping them for visits before,” Ms. Miller says. “Well now, why don’t we dispense prepackaged pharmaceuticals to our patients when they check out?”

Patients love the fact that they can get medications for acute,

episodic conditions right at the doctor's office, and the extra income has allowed the practice to add more technology, such as data-mining capabilities, in order to further clinical and financial improvements.

When Merck & Co. recalled its once-popular arthritis drug Vioxx (rofecoxib) in 2004, Family Practice Associates could search its database and immediately identify every patient who had been prescribed that drug. "We were able to pull a report that showed us everyone we had prescribed Vioxx for," Ms. Miller says.

A practice still operating in a paper environment could choose between the achingly laborious task of rifling through every folder in the file room or hope that patients would take it upon themselves to contact the practice for an alternative prescription. "From a simplistic mining event, that's an enormous benefit, and there's an enormous liability that gets pulled off of their back as well," Emdeon's Mr. Kates says.

"It allows you to be proactive, and then also it's bringing in and making more capable this idea of longitudinal care," says Dr. Jason Butler, a medical officer with Allscripts, a Chicago-based company that counts Family Practice Associates of Lexington as a customer. "Instead of one visit at a time, you to see the patient as a whole, as they go through maybe a chronic illness with several acute illnesses there, and then preparing health maintenance-type ideas," Dr. Butler explains.

Data mining allows practices to send out reminders to patients to come in for routine care and preventive tests and helps identify candidates for disease management programs and revenue-generating clinical trials. In the case of disease management, the practice controls which patients are contacted, so the physicians do not feel as if health plans are forcing anything on them. "Doctors feel empowered," Dr. Butler says.

Also, data mining from an EHR can be much more accurate than information gleaned from billing claims. Claims data, according to Ms. Miller, "may or may not be complete and it may or may not be pertinent."

## **How Much Will It Cost?**

Inevitably, the debate about whether to invest in technology comes down to financial considerations.

The MGMA, in a study conducted with the University of Minnesota School of Public Health and published in September 2005 in the policy journal *Health Affairs*, reported that the median initial cost per physician of implementing an integrated commercial EHR/practice management system in a group practice is \$32,000, with ongoing maintenance running \$1,200 per doctor each month. (Multi-specialty groups tended toward the top of the scale, while the cost generally is less for primary care and other single specialties.)

Dr. William F. Jessee, MGMA chief executive officer, offers this bit of advice for practices shopping for health IT: “Whatever it is that people think it costs, it’s going to cost more.”

However, simply automating the prescription process can save at least \$20,000 per doctor per year, according to the MGMA, so there is potential for a quick return on investment. “Sixty percent of chart pulls are for things other than patient visits,” Ms. Nelson says.

MGMA researchers reported in 2004 that practices waste more than \$20,000 per full-time-equivalent physician in unnecessary labor expenses each year from time on the phone with pharmacies, verifying patient insurance coverage and re-submitting denied insurance claims.

The most expensive line item, accounting for nearly 40 percent of these costs, is physician time on the phone with pharmacies to refill prescriptions. A good portion of calls is to clear up uncertainties due to poor handwriting on paper scripts.

The legibility issue alone is a good enough reason to consider e-prescribing, Dr. Kaufman says. While physicians routinely check for potential side effects and harmful interactions with other drugs and allergies, plenty of medication errors happen anyway. Moreover, they rarely check formularies during patient encounters, so patients often do not know what a drug will cost until they get to the pharmacy.

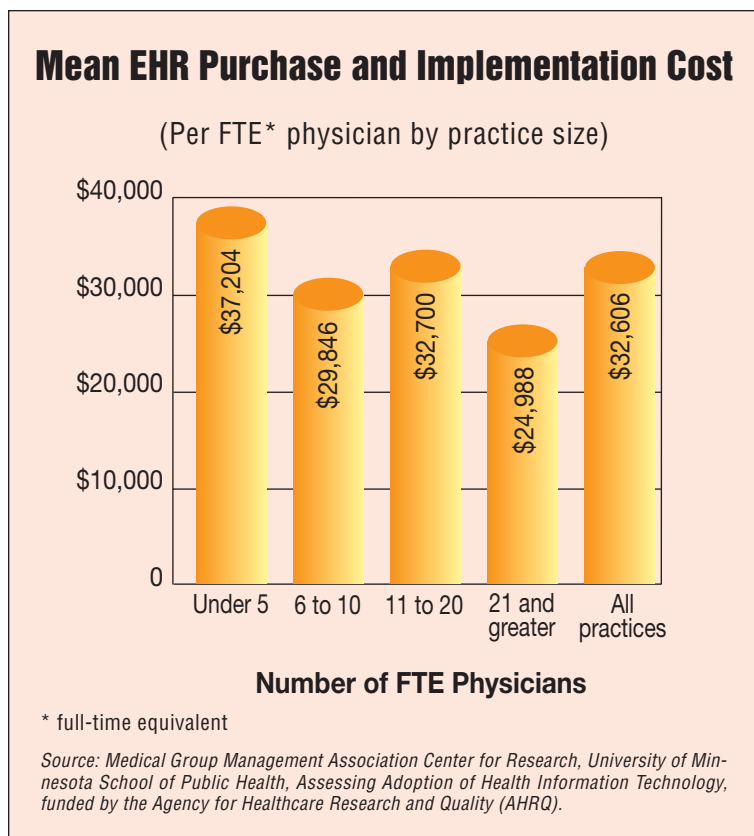
Clinical IT also can trim costs because rare is the vendor or implementation consultant who does not insist on redesigning inefficient work processes.

“If you’re going to do a comprehensive EHR, one that advances patient care and advances the efficiency of the practice, it’s imperative that one has to look at the paper process,”

says Mr. Kates of Emdeon. “Eliminating paper in and of itself isn’t the solution, but it’s a prerequisite in order to get the benefits. You’re actually going in there and making process change and making workflow changes in the practice to get the benefits of the system.”

Another necessity when redesigning outmoded processes is the integration of technology between various workflow functions, says Mr. Bush of athenahealth. He considers it “extremely valuable” for scheduling software to be integrated with billing and receivables workflow.

Mr. Bush says that the few athenahealth clients who have gone with another company’s scheduling system and had to build a



custom interface between the two have about a 10-percent “performance deficit.”

Explains Mr. Bush, “A lot of moves that drive claims denials happen when visits are being scheduled.” He says that practices create denials by inadvertently scheduling non-eligible patient visits. If a practice knew ahead of time that a visit would not be covered, the patient could reconsider the appointment, ask for a referral or seek a new insurance authorization, he says.

“The big wins are threefold,” when it comes to technology, says Mr. Kates. Offices are able to make better use of human resources; billing becomes more accurate, and documentation expenses decline.

“One is the operational efficiencies, being able to reduce staff filing charts and pulling charts,” Mr. Kates says. “From a financial-benefit standpoint, the biggest gains tend to be that the documentation that’s created as a result of using tools like this allows you to bill at more appropriate levels. Doctors traditionally have been reluctant to bill at the higher levels because they really don’t have the supporting documentation, but now with the tools, they have justification for that and get paid appropriately.”

On the cost side, clinical IT systems may help practices save on pricey transcription services. “They may continue to have some doctors dictate. They may even use parts [of transcribed notes],” Mr. Kates says. But most of today’s popular EMRs give users the option of documenting patient encounters with drawings, typed text, drop-down menus, handwriting and dictation. Some can record dictations digitally and save the voice files for later reference.

Documentation was the motivation behind Dr. Greg Hinson’s decision to automate his Nantucket, Mass., family practice. “When I started my solo practice four years ago, probably the hardest thing that I did was adequately document what I was doing,” Dr. Hinson recalls. He was concerned not only about billing for all services he delivered, but also about being able to see what he had previously done the next time any given patient came to the office.

Dr. Hinson, who already had good computer skills, opened the practice with paper charts, but from time to time experimented with home-grown electronic charting templates. “It was obvious

that there were a lot of potential benefits as far as just not having to deal with the paper chart and trying to track down and find lost charts,” he says.

“It was almost like a 2½-year search to find out what would work, but it became obvious that I was going to have to go with one of the stronger commercial programs in order to make it work.”

He eventually chose an integrated EMR and practice management system from eClinicalWorks, a software vendor based in Westborough, Mass. Dr. Hinson now runs his practice with only a receptionist, a medical assistant and a nurse practitioner. Patient visits are charted on a highly portable Tablet PC that links to other office computers via a wireless network.

### Security Concerns

At first, Dr. Hinson had some concerns about the security of information flying through the air, but some assistance from a technician at his local hospital in setting up an encrypted signal assuaged those fears. “That’s one of the main areas that I got the IT personnel to help me out with, just to make sure that I was doing it properly,” Dr. Hinson says.

“The way I see it is that I’m sure that if someone really wanted access and they parked outside my office, they probably could get access, but if someone really wanted access to a chart, for example, it would be a whole lot easier to get it as a paper chart,” he says. “Bust the window and there it is.”

Laurence A. Kinzler, practice administrator of Virginia Adult & Pediatric Allergy & Asthma, a seven-physician group in Richmond, Williamsburg and Newport News, Va., agrees that electronic records are better than paper charts when it comes to compliance with Health Insurance Portability and Accountability Act (HIPAA) privacy and security regulations.

He notes that there is nothing to stop the cleaning staff from flipping through manila folders, but people with after-hours access to the office can’t look at computerized records without password authorization.

Mr. Kinzler also believes that EMRs help cut the risk of malpractice suits and compliance violations, though few medical professional liability insurers have begun to offer any reductions in premiums for physicians operating with such safeguards in place.

An additional benefit of clinical information technology is as a recruiting tool, says Dr. Samuel Bierstock, a longtime health IT guru who now consults with medical groups and hospitals for IBM.

“What many hospitals are failing to realize is that if they want to attract people coming out of training who are both very talented and computer-knowledgeable, they need to have this in place,” Dr. Bierstock says. “What you need to bear in mind is that we are seeding the industry with 25,000 new physicians a year. Here are people who, in many cases, are trained on clinical information systems, and who are certainly computer-knowledgeable. These kids coming out of training are expecting to go into clinical situations where they have the technology available.”

**“The big wins** are threefold,” when it comes to technology, says David Kates of Emdeon. Offices make better use of human resources; billing becomes more accurate, and documentation expenses decline. “The documentation that’s created as a result of using tools like this allows you to bill at more appropriate levels,” he says.

In other words, practices without technology are going to lose out on the best doctors. “This whole issue of physician technophobia is going to disappear much faster than people would think,” Dr. Bierstock says.

But to get to that point is going to involve huge investments of time and money, not to mention the inconvenience that comes with process redesign and technology installation. Dr. Bierstock says that some minor interruptions are more than worth it.

“My particular expertise is on the physician adoption side—what I prefer to call physician integration—and to explain to clinicians why they should be willing to have a temporary disruption in their workflow that comes with the use of this technology,” he says.

“It’s not temporary overall. It’s temporary in increments. Whereas initially it might be a matter of learning how to do a discharge summary, perhaps results reviewing, that very quickly will evolve over time,” Dr. Bierstock explains. “As the organization moves into implementing computerized order entry, for instance, there’s going to be another brief period of time during which

you've got to learn to work a little differently." Following each stage, clinical and/or financial performance should improve.

In terms of cost, Dr. Brailer has set a goal for the health IT industry to bring the price of EHRs down to \$100 per physician per month. The market remains a long way from that price point, but prices should continue to fall as standards evolve and physician organizations exercise their considerable purchasing power.

The rate per doctor may be higher for smaller practices because numerous vendors have said that it takes the same amount of resources to sell to a solo practitioner as it does to pitch the same product to a large, multi-specialty group practice for a much larger potential payoff.

### Reading Between the Lines

Two current government initiatives could change these dynamics of the health IT market, though plenty of questions remain.

The healthcare community was practically giddy after a July 21, 2005, New York Times headline proclaimed, "U.S. Will Offer

### Wanted: Affordable Electronic Health Records Systems

In 2003, frustrated with the dearth of affordable and reliable products available for small and mid-sized primary-care practices, the American Academy of Family Physicians (AAFP) challenged vendors to come up with an EHR system for primary-care practices that would cost each doctor no more than \$150 per month, including all routine support and maintenance. Ideally, the offering would be an open-source program, one free of commercial copyrights and licensing requirements, so that any computer programmer could alter and improve on the source programming code.

The academy was not able to find anything meeting those original specifications, but it was able to convince several vendors of computer hardware, EHR software, networking equipment and medical devices to offer discounts of 15 percent to 50 percent to the AAFP's 94,000 physician members, in a program called Partners for Patients.

Participating vendors are required to sign a pledge in support of four principles the AAFP has established for clinical IT: affordability, compatibility, interoperability and data stewardship. "Alignment around these principles, we believe, will ensure that our work is guided

Doctors Free Electronic Records System.”

The Times reported, incorrectly, “Medicare, which says the lack of electronic records is one of the biggest impediments to improving health care, has decided to step in. In an unprecedented move, it said it planned to announce that it would give doctors—free of charge—software to computerize their medical practices. An office with five doctors could save more than \$100,000 by choosing the Medicare software rather than buying software from a private company, officials say.”

The story refers to the promise of a low-cost EHR from the Federal government called VistA-Office EHR, a scaled-down version of the Veterans Health Information Systems and Technology Architecture (VistA) that the VA has used for decades.

But, alas, there still is no such thing as a free lunch. Although the software is in the public domain and thus free of most vendor licensing fees, the full-blown VistA is known for being difficult and labor-intensive to implement in private enterprises.

Also, the VistA-Office EHR software that CMS released last

by mutual trust and respect,” the academy says on its Website.

“Our goal now is to have a series of options available for family physicians,” explains Dr. David Kibbe, director of the AAFP’s Center for Health Information Technology. “We’re working with the vendors to make their products more affordable.”

The results so far are telling. EHR usage among family physicians has grown from 10 percent to about 30 percent in the past 2½ years, he says. The goal is to get 50 percent of family practices by 2007. (An AAFP survey in August 2005 indicated an adoption rate of 46 percent, but the academy calls the results skewed upward because the survey was conducted entirely on the Web.)

Meanwhile, the AAFP recently asked a group of vendors to quote the full, true cost of EHRs for three-physician family practices over a three-year period. The average was \$65,000, or about \$7,200 annually per doctor.

At a per-physician monthly rate in excess of \$600, the price still is well above the original goal, but Dr. Kibbe is comfortable with any type of progress. As he describes it, “It’s not a one-night stand. It’s a relationship.”

September was a beta, or test, version. The software won't be generally available until the second half of 2006 at the earliest, as only a handful of practices are participating in the test.

Nor will the software be anywhere near free. CMS will charge a nominal fee of about \$36 to prepare and ship a basic copy of VistA-Office on CD, and users will have to license the Caché database program from commercial software developer InterSys-

**Dr. David Brailer**, national coordinator for health information technology, has set a goal for the health IT industry to bring the price of EHRs down to \$100 per physician per month. The market remains a long way from that price point, but prices should fall as standards evolve and physician organizations exercise their purchasing power.

tems. CMS estimates that for an office with seven users, Caché will cost about \$1,600 in one-time licensing fees, plus perhaps \$900 per year for support services and \$240 for annual software updates. Practices also must license Current Procedural Terminology (CPT) code sets from the AMA for \$89.95 a year so that VistA-Office can generate proper insurance claims.

And then there are the additions. The beta version contains some basic e-prescribing functions such as drug-drug interaction checking and a list of medications tracked by the Doctor's Office Quality-Information Technology (DOQ-IT) program, plus about 100 other drugs. It does not have any payer formularies. CMS officials say that the program requires additional work before physicians can send electronic scripts directly to pharmacy information systems.

Robert Tennant, government relations manager for MGMA, likens VistA-Office to a basic car model. "It's a little like buying a Chevy. Then you'd be able to buy a vendor's leather seats and air-conditioning," Mr. Tennant says.

In this case, a practice could start with the VistA chassis and add good practice-management and scheduling systems. But, Mr. Tennant says, "The interface with a physician practice management system has to be seamless." That is the only way practices will see real efficiency improvement and a quick return on even a small investment.

However, CMS is counting on vendors and consultants to build such seamless interfaces for VistA-Office. "Right now, it

doesn't interface with anything," Dr. Kibbe complains.

The AAFP's Center for Health Information Technology ([www.centerforhit.org](http://www.centerforhit.org)) has attempted to calculate the true cost of VistA-Office. According to the center's Website, "Other software and operating system requirements (e.g. Windows 2000 and Windows 2003 Server) could cost several hundreds or several thousands of dollars, depending on the number of users."

While noting that costs to small practices likely will vary according to specific needs, the AAFP estimates that first-year expenses will range from \$5,000 to \$10,000 per physician during the first year—plus the cost of hardware and networks to run the EHR. Ongoing maintenance could be 20 percent of start-up costs in each subsequent year.

"Roll-out and training are not included, nor is the cost of an associated billing or practice management software program and the interfaces that must connect it to [VistA]. These could easily add another \$5,000 to \$10,000 per doctor in the first year of purchase and implementation," the AAFP site says.

The other government effort to lower the cost of automation appears much less controversial.

Right now, Medicare anti-kickback regulations and the so-called Stark laws against physician self-referral effectively prohibit hospitals and health systems from offering financial support for IT to affiliated physician practices. The rules also discourage hospitals from offering private practitioners discounted access to their institutional technology infrastructure, something that certainly would drive down the per-doctor price.

But HHS has proposed granting exemptions to both sets of rules. A public comment period closed in early December, and the department may issue a final rule at any time.

"In the absence of any significantly legitimate concerns, we want to push it forward as fast as reasonably possible," Dr. Brailer said in November. He and HHS Secretary Michael O. Leavitt have publicly stated that this is a priority for them.

"If that becomes final, that will be another source [of affordable EHR technology]," Dr. Brailer says.

Dr. Kibbe is equally excited about the proposed change. "The Stark exemption is going to have a major impact on this environment," he says.