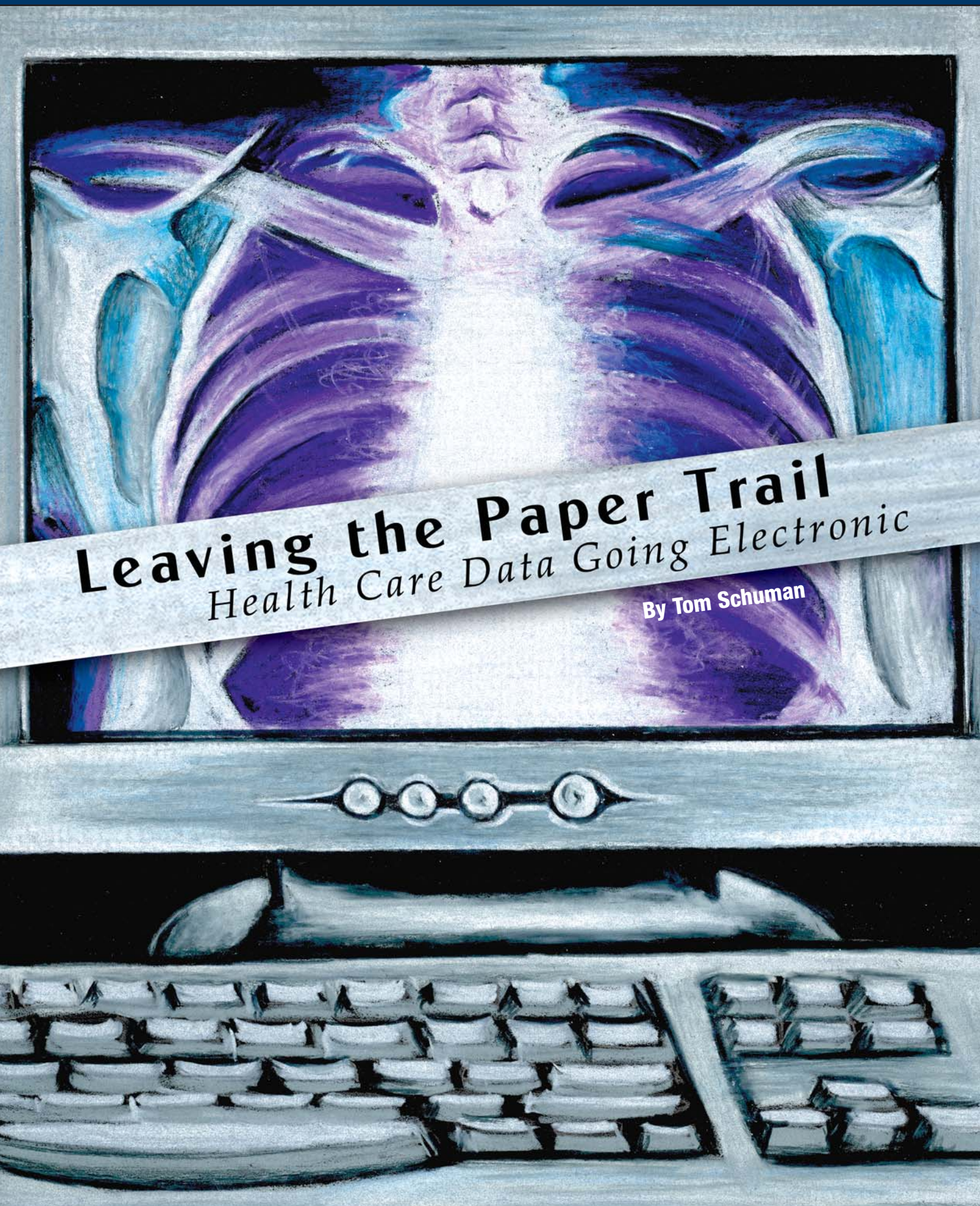


Leaving the Paper Trail

Health Care Data Going Electronic

By Tom Schuman

Advances in health care research and development take place every day. Once deadly diseases can now be controlled or cured. Surgical procedures, pharmaceutical options and preventive measures help people live longer and more productive lives.

The medical community has embraced the technology changes needed to help patients. It has lagged behind, however, in adopting the information-sharing technologies that can not only make the job easier, but provide additional safety benefits for health care consumers.

The large file cabinets filled with manila folder files are still common in most physician offices. But lost x-rays or diagnostic test results; repeated phone calls, faxes and couriers to deliver needed medical information; and inefficient recordkeeping and billing systems are slowly becoming a thing of the past.

Data networks and information exchanges are emerging as popular terms. The progress – in terms of technology and cooperative attitudes – in the business of medicine is beginning to take a similar path as that achieved in health care treatment. The two, in the future, can work together to provide cost savings, improved efficiency and an even stronger health care climate.

Indianapolis, through the efforts of the Indiana Health Information Exchange (IHIE), is gaining notoriety nationally for its clinical messaging system and other electronic information efforts. The South Bend area, with the Michiana Health Information Network, has seen similar success grow out of a Healthy Communities Initiative that began as early as 1992. In Fort Wayne, more than 93% of the health care community is connected through a private sector initiative led by Medical Informatics Engineering.

Insurers are also seeking to play a role in the information gathering and sharing. In addition, a number of companies are doing work beyond the state's borders and making a national impact. Included among the latter is Indianapolis-based MOST (Managed OutSourced Technologies).

David Harsha, M.D., (right) of the Faculty Practice in Indianapolis was an early adopter of electronic medical records (in 1999), including going from thick paper files to information at the touch of a button. Harsha and his staff rave about their improved efficiency.

Leading the way

In too many instances Indiana is trailing the research or development efforts of other states and nations. Not so in the case of electronic medical information. U.S. Surgeon General Richard Carmona praised Indiana's work in a visit to IHIE last fall.

Indiana received an early start in medical recordkeeping with establishment in 1969 of the Regenstrief Institute on the campus of the Indiana University School of Medicine. Since its inception, the organized has focused on research. Its research scientists developed a database of more than three million patients, with its work going beyond the laboratory.

"Regenstrief has always taken a pragmatic approach to health care tools and information," reports Marc Overhage, M.D., associate professor of medicine with the IU School of Medicine, an investigator with the Regenstrief Institute, and president and CEO of IHIE. "It's had a living lab, physicians and health care organizations using the tools Regenstrief has developed."

The Regenstrief work went on behind the scenes for many years. The creation of BioCrossroads, the public-private effort to promote the life sciences sector, led to development of IHIE.

"IHIE has taken it out of academia into practical application," comments Vince Caponi, CEO of St. Vincent Health and chairman of the board for IHIE. "BioCrossroads brought the business community (into the equation)."

The state will continue to benefit from the work at Regenstrief. Thomas Inui, M.D., the president and CEO of Regenstrief, is vice chairman of IHIE. In 2004, the Regenstrief Foundation and Purdue University formed the Regenstrief Center for Healthcare Engineering. The goal is to

Paper records are expected to be a thing of the past for medical practices that fully embrace the possibilities of electronic recordkeeping.

apply the principles of engineering, science and management to study and improve the health care system.

Although the work will continue to evolve over many years, others are looking in Indiana's direction. "I get calls every week," Overhage declares. "Other states and communities are interested in moving in this direction. They say, 'Can you help us do something?' "

On the national level, President Bush has called for the elimination of paper medical records. Former Speaker of the House Newt Gingrich is leading the Center for Health Transformation, working toward creating a universal electronic medical record for every American by 2014. Kraig Vondran, CEO of MOST, is serving on the advisory board.

MOST demonstrated its products at a 2004 Washington health information conference that included a member of the Gingrich group. Two days later, Vondran received a call to serve on the advisory panel, with a special emphasis on Georgia's e-health initiative. MOST has worked in the state previously and received an endorsement from the Georgia State Medical Association.

Gingrich's overall goal, according to Vondran, is the "complete transformation of the health care system because it's a situation where we can no longer afford it." Vondran describes the former fiery House leader as possessing a fatherly type mentality. "If you can't come out of his meetings motivated, something's wrong. He gets the masses to work together in a bipartisan way."

At that same Washington conference, Vondran says he was approached by three different groups talking about Regenstrief and IHIE. "It's an opportunity for Indiana to do something very special. Now is the time for Indiana to take steps forward. The other states (Nebraska, Wisconsin and Tennessee are among those that have invested state resources), they're coming."

Doug Horner credits part of Medical Informatics Engineering's success to the fact that it is an independent party in bringing health care providers to its MedWeb system.

Building on the base

Regenstrief's work over the years laid the foundation for the recent advances. A family practice physician had developed the DOCS4DOCS messaging system. Other hospitals had their own variations. IHIE needed to make the systems compatible. To do that, however, was far less expensive than building a new system from scratch.

Of the five large hospital systems in Indianapolis, Overhage says St. Vincent and Community were fully up and running as of late March. Clarian, St. Francis and Wishard were close to completion. Of the approximate 3,500 physicians (some residents and those serving fellowships without active practices are included in that total) in the region, about 2,000 were using clinical messaging data. Penetration had reached 65%-70% of physician practices.

The clinical messaging system allows doctors and their staff to access test results, lab reports, previous admission information and other data through a secure network. Patient information can be requested that will be delivered electronically. For most, that translates into what Overhage says resembles the inbox of an e-mail account.

"Our customers (hospitals, laboratories and other medical facilities; not physicians) pay us to deliver the results. Some, though, are still printing them out and sending them to the doctor also," Overhage reports. "It's hard to turn off all the old ways."

For physicians, there are costs and benefits. Overhage says implementation and re-engineering of the work flow – "the six months of decreased productivity, those are where the real costs are" – are the obstacles. The benefits include less handling of paper, fewer documents to track down while the patient is waiting, greater efficiency in office management and the potential ability to see more patients.

"It saves time, money and effort," Caponi contends. "The big piece too is the opportunity to tie together not only hospitals but doctors' offices, ambulatory surgery centers, diagnostic centers." Although there is always some hesitancy when introducing new technology, he adds that physicians, "Once they've seen it and utilized it, they're ready to move on. They ask what's next."

Looking ahead

For IHIE, the strategy is to focus on expanding clinical messaging into the nine-county central Indiana area throughout 2005, while at the same time working on deepening the extent

Insurer Seeks Data to Improve Payment System

Health care insurance companies have their own reasons for applauding the advances in electronic medical information. Further efforts, they believe, can be a primary factor in controlling the rapidly rising health care costs of recent years.

"It is our belief that one of the key elements for reforming the health care system is restructuring reimbursements based on clinical outcomes," states David Lee, M.D., vice president of Indiana HSA health care management for Anthem Blue Cross and Blue Shield. "There's the recognition that those patients with chronic diseases tend to be the largest drivers of health care costs. We want to reward physicians for the health quality of those patients."

David Lee, M.D., and Anthem seek to continue to work with providers on payment-for-value programs.

Although various pilot programs have achieved some success, the most difficult part of the process is extracting data. Lee says that's the "beauty of medical records" and their ability to make payment-for-value programs much more effective.

That's where the Indiana Health Information Exchange (IHIE) and other state efforts come into play, as well as the federal Center for Medicare and Medicaid Services (CMS). A hoped-for pilot program with CMS would bring some continuity to the wide number of clinical outcomes that could potentially be measured. It would raise the awareness level of physicians to what is being evaluated.

In his discussions with physicians about electronic recordkeeping, Lee cites three concerns that are emphasized: initial cash outlay, personal learning curve from paper to electronic records and learning curve for office staff.

"Physicians ask, 'What value does this ultimately bring me?' In my opinion, that's where we come in," Lee reasons. "By putting incentives in place, we can help ease that financial strain."

Marc Overhage, M.D., IHIE president and CEO, says the aggregate claims and clinical data may be complementary in improving health care. If the payer (insurance company) incentives are lined up, physicians can get those incentives and invest them back in their practice."

Vince Caponi, CEO of St. Vincent Health and IHIE chairman, believes it is important to get insurers involved. "I'm of the opinion that the current state of health care and its payment system is dubious at best." Caponi says additional significant infrastructure investments are needed to make that a reality.

In South Bend, Alan Snell, M.D., says insurers were not invited to the table for the early development of the Michiana Health Information Network. Their inclusion, he believes, would have complicated the process.

Anthem's payment-for-value pilot programs have mostly been with primary care physicians. Lee wants to see an expansion into the specialty care realm, as well as continued collaboration with physicians.

"We've involved them in development and implementation, but there is some skepticism of the whole concept," Lee admits. "Some think it's another flash in the pan or a ploy by health plans to shift money around. Anthem has a ton of information; claims data, but not clinical information. IHIE has the (connectivity) to make our payment-for-value programs much more effective."

Resource: David Lee, M.D., Anthem at (317) 287-6260 or www.anthem.com

of data and making the system more interactive. In 2006, Overage sees moving out to an approximate 65-mile radius to include communities such as Richmond, Muncie, Lafayette and Terre Haute. Such growth allows for taking advantage of synergies – a large pathology lab in Muncie, for example, that serves a wide area – that are already in place.

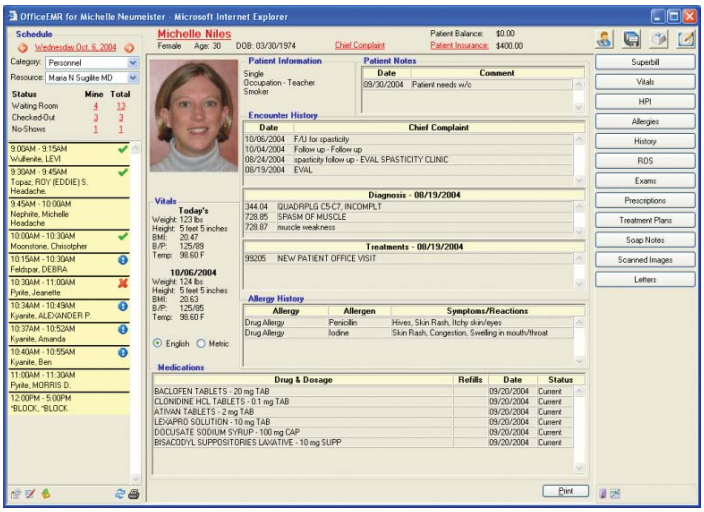
A next natural step that is in the process of being developed, Caponi offers, is a clinical reminder system. This would incorporate the evidence-based medicine protocol that Regenstrief and others have worked on for years. The end result would be electronic reminders to physicians about patient needs such as annual exams, additional tests based on age and individual medical circumstances, medicine interactions and much more.

Innovations like these that involve information technology come at a high infrastructure cost. Caponi says of the investment, "I worry about it every single day. It's not unusual for our information technology budget to be 25%-40% of our annual capital expenditures. That's another reason to do a collaborative system. There's no way, in my estimation, one hospital system could take on any of this by themselves."

Another IHIE objective, Overhage explains, is to work with the private sector in developing a vehicle to make full electronic medical records available to all physicians at a reasonable cost. Complete medical records available in real time are expected to bring tremendous patient safety and business efficiency results for the entire health care profession.

Private sector initiative

MOST is one of many providers that could help fill the bill in expanding the electronic capabilities. Its web-based solutions, according to Vondran, take the high information technology costs out



Electronic medical records (this product developed by MOST) make complete information available at the touch of a keyboard.

of the equation for the small doctors' offices that dominate the profession. (Of more than 650,000 doctors in America, two-thirds are in physician groups of three or fewer).

"Our market is inundated with competition. There are over 600 vendors of practice management systems," Vondran notes. "If you include emergency medical records with the other components, you're down to a couple dozen. If it's web-based, there are two or three, and we're one of them. Big players are starting to move toward this technology. President Bush says the solution must be web-enabled."

Founded in 2000, MOST first developed office management and billing systems. Its OfficeEMR™ system was released in September 2004. A February 2005 demonstration in Nevada successfully shared a complete electronic patient chart between two medical practices utilizing different software systems. The company has clients in 25 states and four foreign countries.

Vondran, who says there will never be one solution that meets all physician needs, believes his company's work can complement the efforts of IHIE.

"It's mind-boggling the information that they are capturing. We can capture that same information from physicians and specialists, and integrate it into what they already have," he shares. "They would have to write separate interfaces for each practice (to access the information). We can do it in one dump (of information)."

Physicians are seeing significant savings in the reduction of mail, fax and courier services needed. National studies have shown problems or errors on as many as 80% of medical charts and potential savings of $77 billion a year with complete electronic records.

"The possibilities are unlimited if we can all agree on working together," Vondran concludes. "We'd like to expand and keep everything here in Indiana. Indiana has really taken steps forward, and we're excited about that."

Different model

Vondran points out that one software solution for providers is not feasible. Likewise, the sharing of medical information within a community can take on different forms.

In Fort Wayne, Medical Informatics Engineering (MIE) was incorporated in 1995. Doug Horner, co-founder and president, had authored a white paper on the need for a secure, private communications health care network. The company has carried out the concepts in that paper.

Most previous Community Health Information Networks (CHINs) had been unsuccessful. "The failures were because they had been started by some health care entity and competitors balked," Horner says. "The white paper called for using Internet technology. That would not give any competitive edge to one provider over another."

The system that became known as MedWeb differs from others in that the information is not centralized. Efforts were made to do so, but the intensely competitive health care players in the community didn't want to lose any control over their data. Backing off on the centralization allowed much more information to eventually be made available.

No one can argue with the results. Horner states than more than 93% of health care practitioners are connected to the system, with the ability to access and share information. Hospitals, at first reluctant, came on board when physicians began to demand the services the MedWeb network provides. The hospitals have since actively engaged in "one-upping" each other to deliver additional capabilities for their physicians.

From the physician perspective, Horner says costs are typically no more expensive than what it takes to become connected through an Internet service provider. MedWeb, of course, provides far more services essential to effectiveness and efficiency.

"I chuckle anytime people say physicians won't pay for technology," Horner discloses. "The majority of our revenue comes from physicians. We have wireless based roaming, which allows physicians to use their own laptop in the office or at the hospital. We have cardiologists at Parkview rushing for their laptops. They've gotten rid of the paper charts in their office since

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MedWeb exists. The costs do not have to be astronomical."

Coming soon for MIE is a program called No More Clipboard. This will give patients a secure way to share medical information with a variety of practitioners. Patients will control the process, electronically delivering the data they typically fill out when they go to a new medical provider. Hence, the No More Clipboard name. Without an official rollout and little fanfare, as many as 15 patients a day at one practice are already using the system.

Results in South Bend

In South Bend, the Michiana Health Information Network (MHIN) has succeeded through the leadership and support of the Saint Joseph Regional Medical Center (SJRMC) and the South Bend Medical Foundation. Cerner Corporation, a top clinical system software firm, has provided key technological assistance.

Alan Snell, M.D., is a family doctor, chief medical information officer at SJRMC and longtime MHIN leader. He says 350 area physicians, four hospitals, radiology groups and others are connected to the information sharing system. In the last two years, approximately 70 physicians have incorporated full use of electronic medical records into their practices.

Some of the CHINs that failed, he recalls, were due to one-time grants that were "here today, gone tomorrow. We've had committed owners who shared the financial commitment. We were pushing data out to practices, giving them the same data as what was on paper. Initially, we were not asking physicians to pay for that.

"Physicians are finding some amazing results and savings. Now that they're seeing the value and utilizing the infrastructure that's been built, they're paying a fee," Snell continues. "That is creating a revenue stream to help pay for the organization."

One five-physician family practice used to manually pull 9,000 charts a month. That number is now down to fewer than 100. Compiling electronic notes, rather than dictating information, has saved another practice 90% of its $5,000 monthly transcription cost. Emergency room doctors are using the MHIN system to look up information on ambulance-transported patients before they hit the ER door.

Prescription safety benefits and future electronic information possibilities energize Snell. He rattles off electronic prescriptions, a database with various drug interactions and proper dosing according to weight and other personal health information as being included in the former.

More widespread use of full electronic medical records is among the initiatives. One of the challenges is "figuring out how to still share information across disparate systems. Inoperability is a term they use on the national level." The larger the critical mass of physicians and providers working together, the more opportunities that will exist, he adds, using the phrase "person-centric record" as a key to those possibilities.

Statewide need?

The challenges in establishing and enhancing local information networks are substantial. Can it be done on a statewide basis? Does it need to be statewide?

Overhage says it's difficult to project out past the next few years. The struggles in introducing change to physician practices will only be multiplied by expanding the scope beyond the local area.

Horner reasons that statewide connectivity is not that important for physicians, but does have strong interest among insurance companies (see sidebar on Page 24) and national pharmacy chains. He says it's not known yet whether existing programs can be brought together on a larger scale.

"We've been pretty successful here with our approach, but if you scale it up the level of information might drop. A centralized database, I'm totally against that. There needs to be a responsibility to manage your own information," he reiterates. "That doesn't give Marc (Overhage) what Regenstrief is looking for – centralized information so they can see outcomes and do research. This (our model) is a simple business approach."

Snell sees little potential success in trying to build a statewide network similar to the local models. Connectivity of existing efforts, however, may be possible through the efforts of IHIE.

"Medicine is delivered locally and regionally," he shares. "I only need to be connected to Indianapolis, where some of my patients go (to specialists). There's a great incentive for Indianapolis to be connected to all hubs around the state. It's very complex work; it's hard enough to do locally."

The complexity in central Indiana has been overcome for various reasons. Overhage lists enlightened leadership, the credibility Regenstrief has built up over the years and an agenda that has been strong, but not too aggressive.

"Hospital leaders have taken the blinders off and looked beyond their own organizations," he says. "Regenstrief has the reputation for being fair and impartial, like Switzerland. And we didn't try to bite off too much, be too perfect. Others have failed because they've tried to do everything for everybody."

As one of those hospital leaders, Caponi praises his colleagues. "We have to do things differently and harness technology along the way. We have to be able to share data, move data and get it to the caregiver. The hospitals have got more than enough to compete on. When it comes to data," he closes, "we have to think about how to do it collaboratively."

INFORMATION LINK

Resources: Marc Overhage, M.D., at (317) 630-7070

Indiana Health Information Exchange at www.ihie.org

Vince Caponi, St. Vincent Health, at (317) 338-7080

Kraig Vondran, MOST, at (317) 542-7211 or www.mostllc.com

Doug Horner, Medical Informatics Engineering, at (260) 459-6270 or www.mieweb.com

Alan Snell, M.D., at (574) 251-8309

Michiana Health Information Network at www.mhin.org