

Presented by:

Rochester Regional Health Information Organization, the Rochester Business Alliance,  
Greater Rochester Health Foundation, and the Monroe County Medical Society

# Going Electronic in Health Care

Rochester Leads the Way



# Improving quality and reducing the cost of health care were the motivations for a community effort to convert to an electronic system for record-keeping and health information exchange

You may have signed a consent form allowing your doctor to view your health information online or noticed your physician toting a laptop into the exam room. But you may not realize what's gone on behind the scenes to make this enormous change possible – or how far ahead Rochester is compared with the rest of the country. The Rochester business community and Greater Rochester Health Foundation were key forces in pushing forward two separate but linked initiatives:

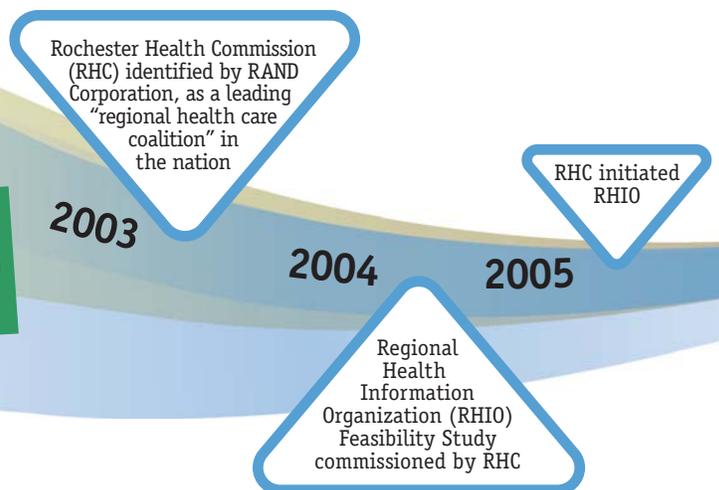
- Development of the Greater Rochester Regional Health Information Organization (RHIO), a secure, web-based health information exchange that allows patients' medical information to be shared among providers in the community.
- Implementation of Electronic Health Record systems within medical offices. This transfers patient records from paper files to a computer-based system.



How can computers improve the quality of health care? Storing and exchanging medical information electronically means that doctors have more accurate information available more quickly to diagnose and treat problems, from chronic conditions to emergencies. The tracking of medications is improved, reducing the risk of harmful interactions, and more effective treatments can be identified due to the ability to analyze large volumes of data on patient conditions, treatments and outcomes.

And cost savings can be achieved in several ways. More effective treatments mean patients get better faster. The availability of test and lab results through the health information exchange can cut down on duplicative testing. In addition to providing health system efficiencies from improved data flow, health information exchange can help reduce preventable rehospitalizations by supporting transitions of care with robust, comprehensive patient care information. Patient information can be instantly available in an emergency, supporting the providers in choosing the most appropriate patient care. And, end-of-life care can be informed by patient Advance Directives. "These benefits are critically important to the local business community, which struggles to maintain health coverage as a benefit to employees," said Sandy Parker, president and CEO of the Rochester Business Alliance and chair of Greater Rochester RHIO.

## The History and Development of ROCHESTER RHIO



“Employers face a double-edged sword. They want to offer health care benefits to their workers as an incentive to attract the best, yet they struggle with the impact of rising health insurance costs on their company’s bottom line,” Parker said. The RHIO “helps safeguard employees’ health through a system that safely makes their medical records readily available to those providing their health care, and it will reduce costs in the system by improving efficiency with a seamless process for accurate transmission of patient medical records.”

“The business community, the health care community, insurers, Greater Rochester Health Foundation and the physician community came together around a common good,” said John Urban, president and CEO of Greater Rochester Health Foundation (GRHF). “As a result, the Rochester RHIO operates one of the most robust information exchanges in the country. In addition, about half of doctors in our area have implemented fully functional electronic health records systems, about five times the level nationally.”

That progress prepares the medical community well for federal health care reform. Rochester providers are ahead of many in being able to show they are complying with the government’s “meaningful use” standards for using patient data to drive improvements in health status – which can mean reimbursement payments for most physicians and hospitals.

As is the case with any major transition, there have been significant obstacles along the way. Some medical practices are reluctant to switch over. Typing is not exactly part of medical training, and many doctors who trained before email or the Internet are uncomfortable with computers. Many offices are still in the throes of converting, and some have yet to take on the task. And for those that do, the choices are expanding as new software systems are developed.

What’s been accomplished in the Rochester community – and the promise of what’s to come – is a story worth telling.

## Electronic Health Records: How do they benefit patients?

### Immediate

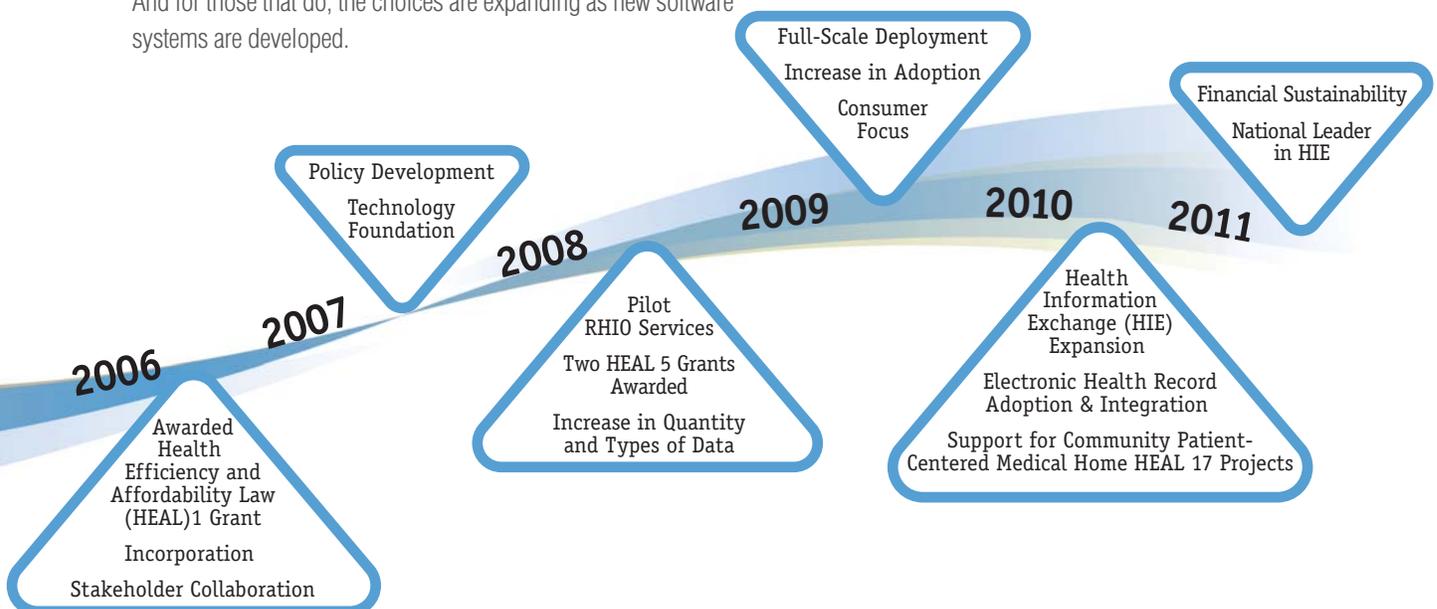
- Better tracking of medications – reduced risk of harmful drug interactions
- Improved accuracy of information – no one is deciphering handwriting
- Doctors have quick access to records – including the doctor on call who is not your doctor
- No toting your health records around – your doctor can access them online

### Near-term

- Receive electronic reminders – texts, automatic calls – about preventative care, screenings
- Better monitoring and treatment of chronic conditions, such as diabetes
- Receive educational materials, including videos, targeted to your health concerns

### Future

- Sophisticated analysis of chronic conditions, treatments and outcomes reshapes medical practice and improves care
- Reductions in costs or cost growth as duplicative tests are avoided due to seamless access to results



# Building a Health Information Exchange

For Dr. Richard Kennedy, a family medicine doctor at Anthony L. Jordan Health Center in Rochester, it used to be that if one of his patients ended up in the hospital, it could be very difficult for him to get information about what happened. Now, he can ask a nurse to check the Rochester RHIO, and he can have information on admission, discharge and any tests that were ordered by the time his patient shows up for his appointment.

Not only that, having a large quantity of data at his fingertips can help pinpoint diagnoses, such as distinguishing between two different kinds of anemia. “I’m increasingly using it. I’m very pleased,” Dr. Kennedy said.

The seeds for the RHIO were planted in 2004, when the Rochester Health Commission, a community health planning organization, outlined a set of steps aimed at creating efficiencies and driving unnecessary costs out of the health care system, including becoming a leader in the use of technology. The Rochester Business Alliance partnered with the commission, rallying business leaders behind the cause and raising \$685,000 to help start up a health information exchange.

With critical start-up funding from the business community and GRHF, Rochester was well-positioned in 2005 to obtain nearly \$5 million in state grants to create a Health Information Exchange. A nonprofit, the Rochester Regional Health Information Organization was incorporated in 2006.

In 2007, the RHIO received a GRHF Opportunity Grant award of \$237,000 for planning work. The primary activities conducted with the grant funding consisted of: 1) Working with the Health Information Technology Evaluation Consortium to conduct an analysis of local programmatic Health Information Exchanges, 2) Performing a survey of nationwide RHIO best practices as well as approaches to sustainability, and 3) Developing a business plan.

After hiring staff, choosing vendors, designing a system for information exchange, and developing policies, procedures and sound legal footing, the Rochester RHIO began piloting its services in 2008 to a small number of physicians and hospitals. RHIO Executive Director Ted Kremer has always believed the exchange must offer value to doctors in order to encourage participation. For this reason, one of the first services offered by the RHIO was electronic delivery of lab and imaging results to doctor’s offices.

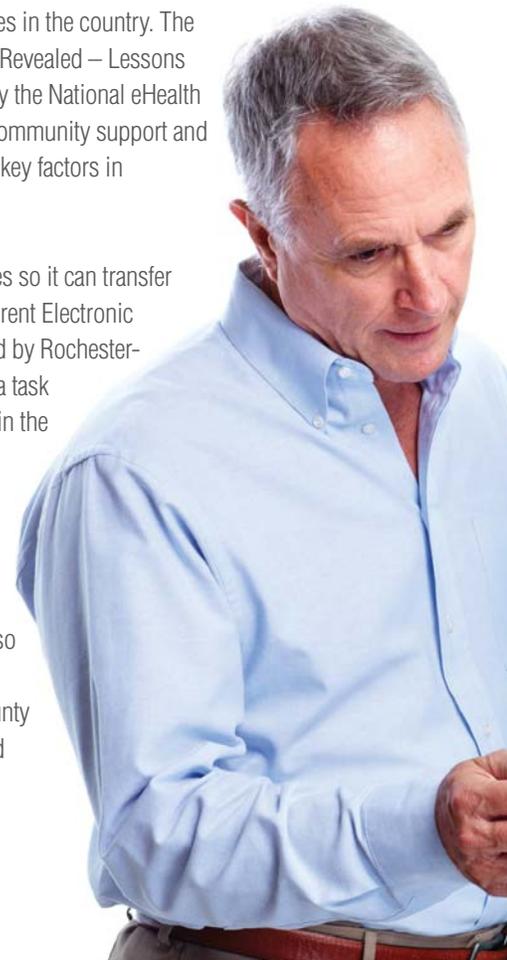
Another guiding principle for the RHIO has been becoming sustainable. Many RHIOs across the county have started up only to fail. In Rochester, 18 large and small hospitals and the health insurance companies have agreed to support the RHIO, and physician offices don’t pay to connect.

“New York State is ahead of pretty much everyone in the country,” said Jason Dunn, Anthony Jordan’s HEAL 17 program manager, an attorney who worked for a Preferred Provider Organization in Massachusetts before coming to Rochester in January. “The Rochester RHIO is leaps and bounds ahead of others.”

Having established itself, the RHIO is now working to enable a deeper exchange of clinical information. A growing part of the RHIO is Continuity of Care Documents (CCDs) that package information about patients together in a standard way to support referrals among doctors. The RHIO recently added a patient portal where patients can register their consent preferences, see which doctors have viewed their information and upload advance directives spelling out what actions they want or don’t want taken if they are incapacitated due to illness or injury. Creating the ability for patients to download their personal health information is another work in progress.

“Looking out 2 to 5 years, I think we’re going to see an extremely robust RHIO that’s going to be a model for the country,” Dunn said. In fact, the Rochester RHIO was recently profiled as one of 12 best health information exchanges in the country. The report, “Secrets of Success Revealed – Lessons from the Leaders,” issued by the National eHealth Collaborative, cites broad community support and a focus on sustainability as key factors in Rochester’s success.

The RHIO has built interfaces so it can transfer information into the 15 different Electronic Health Record systems used by Rochester-area medical providers. It’s a task complicated by differences in the formats of various systems and the ability within many systems for providers to customize aspects of it. Providers with or without an electronic system can also access patient information from throughout the 13-county region through a web-based viewer.



Both in the RHIO and within practice systems, there are opportunities to streamline the organization of data and make it easier for providers to find what they need more quickly, said Lou Schneider, a managing consultant for Anthony Jordan. “The presentation and the analysis of the data are still in the early stages of what software can do.”

And needed information is constantly being added – for example, prescription drug information for people covered by the Medicaid government health insurance program for low-income and disabled people is currently not available but is expected to be added in 2012.

The impact of the RHIO is being studied to determine how much it may be changing practice within doctor’s offices, reducing the ordering of duplicative tests and improving health system efficiency. Doctors should no longer have to order lab or imaging tests that were done recently – whereas in the past, if a test result couldn’t quickly be found, the test would be re-ordered.

Results of the first evaluations are expected to be released this and next year, and supporters are hopeful that they will bear out the common-sense argument that making more data available more quickly to medical professionals has improved efficiency in the medical system.

## From Paper Charts to Computers

In Dr. Leslie Algase’s office, conversion to electronic records had been considered for a long time, but the internal medicine practice, like many physician offices, didn’t act on the idea quickly. Electronic Health Record systems were expensive and not everyone in the office was supportive of the move.

In early 2007, GRHF gave a total of \$1,078,037 in grant awards to support the successful implementation of electronic health information projects at two community health centers. Because of the emerging national focus on EHR systems, GRHF and the Monroe County Medical Society decided an assessment was needed regarding the readiness of independent physician practices. GRHF funded a study of the readiness of independent physician practices to implement electronic health record systems in the summer of 2007.

The results of the study provided insights for future EHR implementation efforts. More than half of surveyed physicians believed that implementation of electronic health record systems was inevitable. Barriers to proceeding with EHR implementation included cost and the lack of outside support for software and hardware vendor selection and subsequent implementation issues. In short, independent physicians wanted help from a neutral resource throughout the implementation process.

In 2008, the RHIO received a New York State Health grant (HEAL 5) to support the installation of EHR in the community health centers and private physician offices. GRHF provided a cash match of \$500,000 to the RHIO to support EHR acquisition and implementation for community physician practices and two local community health centers. This funding enabled the RHIO to partner with the Monroe County Medical Society to create a service bureau to support primarily small physician practices and to provide technical assistance, advice and implementation guidance to physicians converting to electronic health records systems. Grants covering up to 40% of the costs of the new records systems were also available. GRHF gave the RHIO an additional \$100,000 for this effort.



# Invaluable Help Through Major Transition

The Medical Society's service bureau provided critical help through the transition for Dr. Algase's office. The bureau had good knowledge of available systems and relationships with vendors and understood the legal requirements related to privacy and security of the systems. The service bureau helped the office work through the many thorny questions that confront physician offices as they work through a conversion process:

- What vendor offers the best system for a particular office?
- What should be done with the thousands of paper-based medical charts each office has?
- How many of the documents in the charts should be scanned into the new system?
- What information should be entered by hand into data fields within the system?
- What can safely be left out of the system?
- What additional staff may be required to load the system with information?

Every doctor's office confronts these same basic questions around choosing a system and managing the conversion – and expert advice from the Medical Society service bureau has helped many navigate this unknown territory.

"They provided invaluable help through the transition," Algase said. "They've been a godsend."

About 225 physicians converted to electronic medical record systems through this HEAL grant project, including many solo practitioners. Under GRHF's leadership, the focus of the HEAL grant and the Medical Society's work has been primary care.

The Foundation's role has been critical, said Nancy Adams, executive director of the Medical Society. "Without them, we would be moving, but the community doctors would be struggling."

For Dr. Algase, advice from the service bureau also helped her make optimal use of training time from the system vendors.

Rather than sending everyone in the office to all the training available, the practice was able to make smarter decisions about who needed to be at what.

Even with all the support she received, Dr. Algase said converting in March 2010 was a tremendous challenge. Initially, productivity declines during the transition, and for private practices, that means a drop in revenue.

"You have your upfront costs of hardware and software and then the loss of productivity – it's really a double whammy," said Dr. Derek tenHooopen, an OB/GYN with the practice. For the first two weeks of the conversion in his office, doctors saw about half the number of patients as usual. After that, they resumed a full schedule.

Managing changes to the flow of work has been a challenge in many offices including Oak Orchard Health, a community health care center with offices in Brockport and Albion. For example, electronic delivery of lab results can be faster, but it also requires a new process. It used to be that a nurse received a result, pulled a patient's chart, attached the lab and put it on a physician's desk for signature. Once signed, often the nurse called the patient with results and returned the chart.

Now, lab results are received electronically through the RHIO, resulting in the development of new workflows in medical practices. Although most results flow directly to a patient's record in the system, sometimes inconsistencies in how a patient's name is spelled or what a particular test is called must be reconciled. Some of that additional work is done by doctors. "It ends up being with an EMR that a lot of work that the nurses used to do, the provider does," said Pam Keller, chief information officer at Oak Orchard.

But the benefits to patients of an electronic system are worth it, according to Dr. Algase. First and foremost is the reduced chance of prescribing medications that will cause harmful interactions. This is because electronic tracking of medications is far better than paper records.

"The prescription list is dramatically, hundreds of times more accurate than it was before," she said.

In cases of emergency or when they are on call, doctors can also easily access information on patients – including patients of other doctors in their practice. In critical cases, having accurate lists of medications and problems at their fingertips is invaluable.

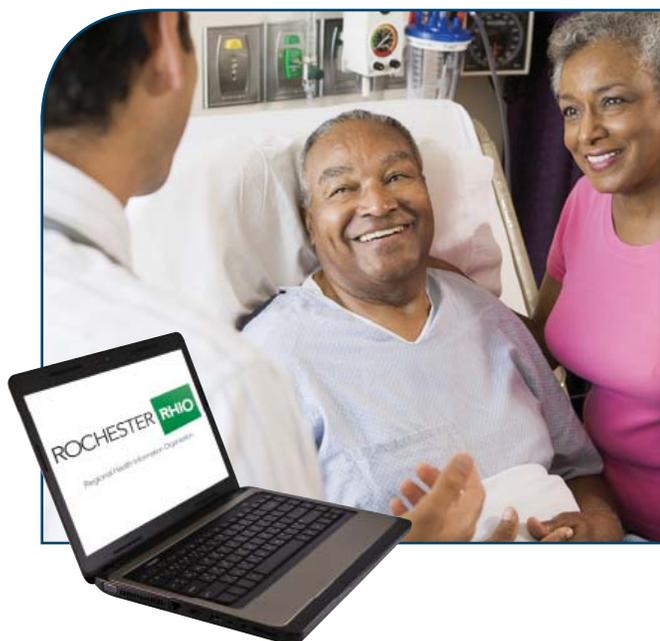
# What's Ahead – Sophisticated Use and Analysis

One of the institutions furthest along in going electronic is Unity Health System, which started by converting ambulatory care centers in 2004. The hospital converted in 2006 and last year Unity became the first system in the area to go live with a Computerized Physician Order Entry system allowing doctors to make all their orders for tests, medicines, nursing and other types of care electronically.

The electronic system allows providers to better analyze and treat conditions and track patients' progress. For example, patients with diabetes use a blood glucose meter to check their blood sugars four times a day. When they see the doctor, the doctor can download all the readings and compare that against any changes in the patient's medicine, diet or lifestyle. The doctor can then use charts of the data to talk to the patient about his condition and recommended treatments – the computer becomes an aid instead of a barrier between the doctor and patient.

“It did take a little change in how you interact with the patient,” said Dr. K.K. Rajamani, chief of endocrinology at Unity and head of the Unity Diabetes Center. “You can use it to show things to the patients – pictures of tests, trends, labs. You can actually engage the patient a little more.”

Unity is in the process of even bigger changes in the use of data to improve patient care – using care managers who are registered



## Protecting Patient Privacy

Policymakers at the state and national level as well as the local designers of the Rochester health information exchange have taken several steps to ensure patient privacy.

- New York is an opt-in state, meaning patients have to provide consent for doctors/medical personnel to view records in the health information exchange.
- Medical staff accessing records log in with a password, and the records they access are tracked.
- Patients can audit their records and see which health care providers have accessed their information, and the RHIO conducts its own periodic audits to ensure proper use of the exchange by authorized users.

nurses to analyze patient data, identify gaps in care and communicate electronically with patients to schedule appointments, provide educational materials and make lifestyle, diet and other recommendations. Care managers can shoot text message reminders or educational videos to patients.

Such electronically facilitated communication could go a long way toward helping diabetic patients reach their ideal dose of medicine, said Jean Bauch, manager of the Unity Diabetes Center. It can take up to 18 months of tweaking to get a patient on the right dose, and in the meantime their body is suffering the effects of improper blood sugar levels. It's hoped that faster communication between a care manager and patient can accelerate that process to as little as six weeks.

“As the RHIO continues to grow, more information will be available community-wide about chronic conditions, preventative care, various treatments and outcomes. Down the line, research on costs, benefits and most effective and efficient approaches will inform medical decision-making. Communication between primary care doctors and specialists will continue to improve through the electronic exchange of information – resulting in more coordinated care for patients. And additional opportunities to reduce costs will likely be identified,” says Urban.

“I still remember when my whole desk was covered with charts,” said Dr. Rajamani. It's clear he doesn't miss those days. Now, “the patients actually like the computer. They appreciate that their care is well-documented and retained in a standardized format.”



### Sandy Parker

President and CEO,  
Rochester Business Alliance



“Employers face a double-edged sword. They want to offer health care benefits to their workers as an incentive to attract the best, yet they struggle with the impact of rising health insurance costs on their company’s bottom line. RBA helped found, and continues to support, RHIO because we feel it offers great promise in addressing both those concerns: It helps safeguard employees’ health through a system that safely makes their medical records readily available to those providing their health care, and it will reduce costs in the system by improving efficiency with a seamless process for accurate transmission of patient medical records.”



### Ted Kremer

Executive Director,  
Rochester RHIO



Regional Health Information Organization

“Rochester RHIO is successful because we think like a business, but we are a community asset. The reason we can do that is because we have such strong support and participation from the community – including the health insurers, hospitals, physicians and patients of the Greater Rochester region, the Monroe County Medical Society, Rochester Business Alliance and Greater Rochester Health Foundation.”



### John Urban

President and CEO,  
Greater Rochester Health Foundation



“Process improvements can help make the system work better and improve community health, which is why GRHF is pleased to fund this initiative. The kinds of improvements our health systems are making can help return Rochester to its status as a national role model community for cost, quality and access to health care.”



### Nancy Adams

Executive Director,  
Monroe County Medical Society



“The foundation’s role has been critical. Cost and ease of implementation are huge barriers in adopting new technology, especially for smaller practices. The assistance we received from GRHF allowed us to address those issues and help physicians gain faster access to improved care through the use of electronic medical records. Without it, we would be moving forward, but at a much slower pace as many community doctors would be struggling.”

Rochester Business Alliance  
150 State Street  
Suite 400  
Rochester, NY 14614

Rochester RHIO  
150 State Street  
Suite 400  
Rochester, NY 14614

Greater Rochester Health Foundation  
150 State Street  
Suite 100  
Rochester, NY 14614

Monroe County Medical Society  
The Park at Allens Creek  
132 Allens Creek Road  
Rochester, New York 14618