Health information exchanges (HIEs) aren’t just for government organizations, large delivery networks, and high-volume practices. The Charlotte Hungerford Hospital’s pioneering success shows that HIEs can deliver tremendous value by facilitating more coordinated care with community hospitals, small physician practices, and often-overlooked members of the healthcare community such as nursing homes, visiting nurses, and medical equipment providers. Using MobileMD* technology from Siemens and Intel® data center technologies, the Charlotte Hungerford Hospital (CHH) and its CHHconnect partners are demonstrating meaningful use, coordinating care, and improving efficiency across their extended community.

Improve Care Across the Community
Health information exchanges, which enable disparate organizations to securely share patient data, have emerged as a core element of healthcare reform. But most of the organizations developing HIEs are large systems willing to commit extensive resources to a massive effort. The Charlotte Hungerford Hospital is a notable exception. A 109-bed, not-for-profit hospital in Torrington, CT, CHH established an innovative HIE in 2011. CHH’s leaders began the HIE with a clear understanding of the information gaps in their community, a strong focus on the patient, a “start small and grow” philosophy, and a cloud-based implementation model that makes it easy to add new members. Within 18 months of CHH’s initial planning sessions, the HIE, branded as CHHconnect, has enrolled more than 100 members and is yielding significant value for the hospital, its community members, and their patients.

Targeting the Void in the Information Flow
CHH is the sole hospital in Torrington, a former mill town in northwest Connecticut. Torrington’s population of 36,000 makes it the largest community in Litchfield County, and its median household income of $46,689 puts it well below the state average of $67,034.1 Litchfield is primarily a rural county—the largest Connecticut county geographically, but the least densely populated one. The Naugatuck River, which runs through it, is a popular trout-fishing destination.

CHH is an independent, forward-looking hospital with a commitment to providing high-quality, affordable, compassionate healthcare to a population base of around 100,000. It operates in the black, and has a five-year strategic plan to continue growing and thriving. CHH has maintained an A+ score in compliance with The Joint Commission Standard of Care for nine consecutive years.

One of the leaders in establishing CHHconnect is Mark R. Prete, MD, an emergency room physician at CHH and the hospital’s vice president of medical affairs since 2002. “We started from the basis of knowing that there was a big void in information flow out of the ER that was probably being compounded in the primary care offices and specialist offices,” Dr. Prete recalls.

At the same time, CHH had been using Meditech for business/financial computing and limited electronic medical record (EMR) capability, and was looking for a more clinically focused EMR solution. In exploring options, the hospital’s leaders decided to do some blue-sky thinking.
Charlotte Hungerford Hospital MobileMD/HIE Case Study

**IMPACT ON PATIENT CARE**

CHH offers the basic portal capability at no cost to organizations in the CHH catchment area. “We originally were going to charge for the service, but we didn’t think most groups could afford it,” says Kathy Carlson, HIE outreach coordinator for CHH. “The hospital took a huge leap of faith by funding the cloud and offering the initial phase at no cost.”

Phase 2 will move to two-way and eventually all-to-all communications, with integration between HL7-compliant or IHE-compatible EMRs. Phase 2 also targets greater support for communication and collaboration—capabilities that are increasingly important to caring for an aging population with higher rates of chronic conditions. For example, high priorities will include exchanging Continuity of Care Documents (CCDs) for patients at discharge, and eventually exchanging Consolidated Clinical Document Architecture (CCDA) for patients during care transitions. With simpler information exchange, healthcare professionals have easier access to more comprehensive information about decisions, with the potential to improve treatment planning and optimize care transitions.

Moving into Phase 2, CHH is engaged in several pilot projects. One focuses on case managers and discharge referrals, using the MobileMD Secure Messaging collaboration tool to securely exchange CCDs and other documents with physician practices to streamline and optimize placement decisions. Phase 2 will also include an information portal for patients and their families to securely access their health records, an important element of Stage 2 Meaningful Use. CHH is also moving forward with plans to connect to the state HIE, eHealthConnecticut.

**Community Outreach and a Secret Weapon**

Collaboration and outreach have been critical to the success of CHHconnect, and many who are part of the HIE point to Kathy Carlson as its secret weapon. Carlson has lived and worked in the Torrington area for more than 20 years, many of them as a primary care practice manager. “With that kind of background, you know where the information needs to go, who needs to know what, and when they need it,” she says. “I knew we could have a huge impact by reaching out to the people on the front lines: the nursing homes that are admitting a patient, the visiting nurses who are going out on a Saturday morning to see a new patient and can’t reach the doctor’s office, the durable equipment companies and pharmacies. It is so much better for everyone when they have the information they need.”

As CHH started mapping out the HIE, Carlson began putting on seminars with the full range of healthcare professionals, paraprofessionals, and related organizations, as well as hospital personnel. As the HIE has moved forward, Carlson and CHH have consistently prized cooperation and transparency over competition and secrecy. In many cases, the HIE is becoming a driver for process reengineering and optimization across organizational boundaries. For example, a Community Transitions Committee headed by a CHH case manager and including representatives from multiple institutions is working together to design the new CCD and optimize CHH’s discharge processes.

Above all, CHH and its HIE members have kept the patient front and center in their decision processes. “If you keep the focus on what’s best for the patient, a lot of decisions become very easy,” says Carlson.

**Phased Implementation**

Guided by their vision of delivering broad value throughout their extended healthcare community, CHH leaders decided against rolling out a comprehensive, bi-directional information exchange with a few high-volume practices. Instead, they began by casting a wide net for all their care community members, concentrating on simple initial use cases, and growing from there. This phased approach is allowing CHH to deliver immediate value, generate tremendous enthusiasm, and make learn-as-you-go adjustments.

CHH’s initial use cases focus on sharing clinical information originating within the hospital. Authorized CHHconnect members log into the secure MobileMD Clinical Portal and access lab and radiology results and transcribed clinical records. Member organizations include not only physician and specialty practices, but also visiting nurse organizations, skilled nursing facilities (SNFs), nursing homes, long-term care centers, pharmacies, billing agencies, medical equipment companies, and more.
Technology Foundation

In choosing Siemens Healthcare’s MobileMD HIE, CHH selected a health information exchange solution that encompasses the four key dimensions of care, service, economics, and technology. MobileMD provides health professionals with real-time and secure clinical and administrative information regardless of an organization’s location, affiliation, EMR technology, or vendor. It supports a wide range of healthcare information standards and handles information in HIPAA-compliant ways.

The MobileMD product suite helps coordinate care across communities via clinical and patient portals and custom EMR interfaces. This cloud-based solution can be deployed quickly by dedicated client service representatives who educate the physician community on behalf of the sponsoring acute care facility. MobileMD can be tightly integrated with Siemens products like Soarian®, or installed just as effectively with non-Siemens solutions.

In addition to the product’s feature set, CHH has been impressed with the MobileMD team as a strong collaborator. “The solution is cost-effective, and the MobileMD team is very flexible and accommodating to the needs of the organization,” says Richard Daigle, CIO at CHH. “They are much more of a true partner than you find in a typical vendor/client relationship.”

The solution is hosted on a secure private cloud based on Intel® Xeon® processors. The Intel Xeon processor E5 provides high performance and I/O throughput for data-intensive workloads along with hardware-aided encryption support to increase information security. As a cloud-based solution, MobileMD speeds and simplifies the work of implementing and supporting the HIE, according to Daigle. “Because it’s cloud-based, we didn’t have to develop the HIE in house,” he comments. “We didn’t have to create the interface for each individual practice or organization that joined. It makes it a cleaner system for us, and much faster to roll out. The portal interface has been very easy for our members to join and use. It is exactly what many of our members have been looking for.”

MobileMD’s cloud-based portal also provided critical scalability. “If you’re going to do something like this, you have to be prepared for the demand,” says Daigle. “Our practices and other groups wanted to get in immediately. You need a vendor and a solution that can handle the demand, so you don’t have to put them in a queue and wait six months.”

For Community Members: Saving Time, Improving Care

Health organizations that interface with CHH say the HIE saves them time and helps them deliver more coordinated care. “The more you know about the patient, the better,” says Denise Quarles, administrator at Litchfield Woods Health Care Center. “When we have more information, everyone can make better decisions, and the patient gets better quality of care across the whole continuum of care.”

Litchfield Woods is a 160-bed SNF that handles 50 admissions in an average month. “We’re busy, and the health network is a time saver,” Quarles adds. “Instead of waiting for information on lab tests and cultures, you can go right online and check. There’s no waiting at the fax machine to get the results, and you’re faster following up with physicians. It’s very convenient to have the information at your fingertips.”

Quarles and her staff gave the HIE an enthusiastic welcome. “When Charlotte told us about the opportunity, we were excited,” she says. Around 20 department heads and other staff attended an initial training session presented by CHH and MobileMD. Within months, all Litchfield Woods supervisors were using the network and charge nurses were being trained—and staff interest continues to grow. “More people want to be part of it as we become more familiar with it,” Quarles adds.

"Patients get the best care because other physicians have the information they need, and it takes the stress off the practices."

Kathy Carlson, HIE Outreach Coordinator, Charlotte Hungerford Hospital

Figure 2. Mobile MD HIE with clinical and patient portals.
Benefiting CHH and the Community

By facilitating secure information exchange with a broad community of health system participants, CHH is providing a practical way to help organizations deliver more coordinated care, increase the productivity of health professionals throughout the community, and improve the economics of care delivery. This burnishes CHH’s reputation as a progressive, community-centered institution that is exerting clear leadership to promote high-quality, efficient care. It fosters better care for patients and their families and helps promote a healthier and more vibrant community. In an era of hospital mergers and competition, it helps maintain the viability of CHH, and in turn promotes the economic well-being and growth of Torrington and the county of Litchfield.

“There is a strong sense of pride, that we’ve brought people together and made this happen, right here in rural northwest Connecticut,” Carlson says. “Now we’re moving into the next phase, which is the exciting part.”

What Works? Advice from CHH Leaders

• Focus on what’s best for the patient.
• Keep the architecture open and flexible.
• Have an outreach coordinator who knows the community and its health stakeholders.
• Work collaboratively to understand what data needs to flow where and in what order. Look beyond practices to identify stakeholders whose information needs are not being met.
• Use the HIE as an opportunity to redesign and optimize processes, especially at hand-off points between institutions.
• Be ready for heavy demand. Have a full-time position to act as a liaison between practices and the HIE provider.

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Richard Daigle, CIO, Charlotte Hungerford Hospital

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