Walk up to just about any ATM in the world and you can get your bank account balance. But visit a hospital in another part of the state, and caregivers there may not be able to access your medical history. “Everyone understands how important it is for emergency room doctors to know about an out-of-area patient’s morphine allergy, for example,” says Linda Boles, chief strategist for public sector healthcare at Cisco. “The barriers are funding and sustainability.”

Recognizing this, the U.S. Department of Health and Human Services is now funding grants for states to develop health information exchanges (HIEs). These are groups of healthcare organizations, usually regional, that can securely share patient information over the network using common standards.

**Keeping Costs Sustainable**

The notion of HIEs is not new. Veterans Affairs (VA) and Department of Defense (DoD) hospitals already share some types of commonly needed information, including discharge summaries, allergies, and lab data.

But other public sector healthcare providers are still investigating how to overcome technical challenges. For instance, they need to comply with meaningful use, protect patient privacy, and make sure their healthcare applications can interoperate with any of the dozens of applications that other members of the exchange may be using. And they cannot afford the build-out and maintenance expense for connections between every pair of providers.

**Securely Sharing Healthcare Information in the Cloud**

Cloud computing meets these requirements. The idea is that applications can reside anywhere in a group of servers instead of one specific server, and the application can expand or contract to meet demand at any given time. Each healthcare provider needs only one connection to the cloud instead of one to every provider in the exchange.

And the benefits go beyond lower costs. “The beauty of hosting the HIE in the cloud is that the same platform can be used for other healthcare services involving communications outside the hospital,” Boles says. These include insurance information exchanges, public health reporting, telemedicine, secure image sharing, analytics, collaboration, and more.

Collaboration services become especially important when healthcare providers join HIEs. For example, suppose a patient presents in the emergency room with a head injury, and the physician connects to the cloud to pull up a previous X-ray from another hospital. The emergency-room physician may have questions for a radiologist. “If the cloud also provides collaboration services, the physician could view a list of radiologists in the exchange, see who is currently available, and then just click to communicate with instant messaging, voice, video, or web sharing,” Boles says. Convenient collaboration tools can help to reduce the large percentage of sentinel events attributed to poor communications.

**Keeping it Simple**

The technology building blocks for HIEs are already available, and the impediment until now has been putting them all together. Coordinating with one vendor for routers and security, another for electronic medical records (EMR)-sharing software, and yet another for collaboration can overwhelm healthcare IT departments already stretched thin.

Cisco® Medical Data Exchange Solution provides an end-to-end infrastructure to host HIEs and other shared healthcare services in the cloud. The solution includes the Cisco Medical-Grade Network, the Cisco Unified Computing System™, and Cisco collaboration tools. To participate in the HIE, caregiver organizations can use any of the wide variety of healthcare applications certified as compatible. “Healthcare providers are starting to share new types of data, images, and video,” Boles says. “The Cisco framework gives providers the flexibility to add new services and support new types of access devices as healthcare needs change.
Healthcare in the Cloud: Health Information Exchanges and Beyond

To read more about the Cisco Medical Data Exchange Solution, visit: www.cisco.com/web/strategy/healthcare/medical_data_exchange_solution.html