

Telestroke Services Connect Specialists, Patients More Quickly Than Ever

Don Fluckinger, Features Writer

Published June 2, 2011

TAMPA, FLA. -- While vendors and IT leaders trumpeted the potential value of [telemedicine technology](#) to all corners of the health care world at the [American Telemedicine Association's 2011 annual meeting](#), three specialties seem to possess the lead in real-world implementations: Dermatology and radiology -- because their diagnoses rely almost solely on digital images, which providers can easily pass back and forth online -- and stroke care, also known as telestroke services.

Stroke care, like dermatology and radiology, relies on specialists, of whom there typically are not enough to help patients who need them. Stroke care requires neurologists; caring for patients who are experiencing a stroke right now requires an even rarer breed -- emergency neurologists. Telestroke services thus connect emergency neurologists, typically concentrated in urban areas, with stroke victims in rural areas.

When treating stroke, time is of the essence

In Texarkana, Texas, Christus St. Michael Health System stroke nurse Sandra Bowden helped set up a telestroke service. A half-dozen neurologists practice in a building next to the hospital -- in fact they lease the building from Christus -- but they don't want to be on call for stroke patients and disrupt their practice.

"We didn't have a choice," said Bowden. "We're all about the quality and providing the care. We were not about to transfer stroke patients out -- not unless there was a need for an interventional stroke procedure and we didn't have the people there to do it...Telemedicine and teleneurology was the answer."

Time is the crucial factor; [stroke is the third largest cause of death](#) in the United States, behind heart disease and cancer. The sooner patients are treated, the less likely they are to suffer permanent brain damage.

As far back as 1999, health care researchers recognized the [value of telestroke services](#) to more quickly reach patients suffering from stroke outside of urban stroke centers. One key treatment is administering clot-buster [tissue plasminogen activator \(tPA\)](#) within a three-hour window of the onset of symptoms. However, tPA cannot be used for all stroke cases, and it comes with side effects as well as risks, such as [brain hemorrhages](#), that patients must comprehend before it can be administered.

Telemedicine technology good fit for stroke care

[Telemedicine is effective for treating stroke patients](#) because care involves a lot of verbal communication for diagnoses as well as tPA counseling, said Baltimore emergency neurologist Dr. Todd Samuels. He treats stroke patients for [Specialists on Call](#) via video feeds from remote hospitals that are piped into his home office.

There are not a lot of hands-on components of stroke treatment that would require a neurologist in the room with a patient, Samuels said, adding that, when a physical examination is required, a nurse can do it just as well. "You can examine a patient by talking to them [and] by asking them to do certain tasks," Samuels said.

"I believe that telemedicine really saved my life."

Sandra Bowden, stroke nurse & stroke patient, Christus St. Michael Health System

Specialist on Call CTO John Moynihan added that, from a business point of view, stroke care dovetails with telemedicine technology. Every hospital CFO has a line-item in the budget for 24-hour on-call neurology coverage, but "it's extremely hard, and extremely expensive, to find full-time neurologists who are willing to do it." Telestroke services typically pair emergency neurologists with patients within minutes of a call, he noted.

"[Hospitals] don't have the funds to purchase or employ a stroke neurologist," said Mark Volovic, director of University of Pittsburgh Medical Center (UPMC) physician information services division. Volovic helps manage the telemedicine initiatives among the system's 20 hospitals and 400 physician offices.

"What do you do in a case like that? The best solution is the telemedicine approach," he said. "For a smaller facility, you do it for survival. For a bigger medical center, you do because you can offer it to help smaller communities."

That community aspect is a key element, in a field where resources are scarce, he added. "If you're a [primary care physician] or a specialist, guess what? You can be a recipient of this. And it doesn't always have to be a take, it can be a give. If you're available and a patient wants to see *you*...you may get that call to help treat that patient. It's just a bigger network of care in an area of limited resources."

IT platforms opening for telestroke services

At the ATA show, UPMC announced a joint venture with [Alacatel-Lucent](#) to develop a telemedicine platform through which it can relay services from its main hospitals to smaller facilities -- hospitals, clinics and physician offices -- through cloud-based "virtual exam rooms" slated for commercial rollout in 2013.

The platform will include a cloud network as well as applications to support patient care service lines in a secure environment. It expects to port patient data into electronic health record (EHR) systems at both the physician's office and the remote site, supporting devices such as smartphones and tablets in addition to PCs. The health system said the goal is to keep the audio, video and data connections real-time.

Telestroke is just one of the 16 services UPMC currently supports in one way or another and is developing on the new platform in order to extend further out into its provider network; others include cardiology, pathology, dermatology and ophthalmology.

While UPMC is incorporating telestroke services into a closed IT ecosystem and providing its own network of physicians to deliver the services, Specialists on Call provides the infrastructure and physicians in a turnkey model. The Joint Commission-accredited company manages Cisco Systems Inc. videoconferencing gear on the hospital site as well as at the neurologists' offices, which it inspects to ensure compliance with Joint Commission standards as well as regulations such as HIPAA.

"We don't let them do this from Starbucks," Moynihan said. "We have the ability to let them do a consult from anywhere, but we choose not to. We chose to go, inspect, make sure the background's good...We let them work wherever they want to work, as long as those locations fit the criteria."

The company also must credential its physicians in the 17 states where the company offers its services. Specialist on Call's credentialing department is the company's busiest, Moynihan said. Samuels, for example, is credentialed as a staff physician at more than 100 hospitals.

While rural facilities are a good fit for telestroke services -- and there are some of those on Specialists on Call's roster -- the majority are suburban and urban hospitals, primarily with 100 to 200 beds.

Bowden's Christus St. Michael facility, in fact, is licensed for 312 beds. It's a community hospital designated as rural despite seeing 70,000 patients annually in its emergency department.

Combining its various successful quality initiatives with its telestroke service, the facility earned state designation as a stroke center. This means ambulance drivers encountering stroke patients within a certain radius are most likely to bring them to Christus.

Bowden knows this firsthand -- she eventually wound up as a [telestroke patient at Christus](#) and shared her experience during a moving press conference at the 2011 ATA conference. "I believe that telemedicine...really saved my life," she said.

Let us know what you think about the story; email [Don Fluckinger, Features Writer](#).