

Telemedicine extends stroke experts' 'REACH'.

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Telemedicine extends stroke experts' 'REACH'

Rural facilities can access consultants 24/7

Proponents of telemedicine have long touted its ability to provide expert consultation for rural facilities that otherwise must deal with a dearth of subspecialists, and nowhere is such help more critical than in stroke care, where time is such a vital element. One such program, called REACH (Remote Evaluation of Acute isCHemic stroke), is now serving 85 hospitals in seven states, including Alaska and New York.

The program, formally launched in 2006, was developed at the Medical College of Georgia (MCG) in Augusta. The system is simple, says David C. Hess, MD, professor and chair of the Department of Neurology at MCG. "It involves a laptop and a webcam on a cart which sits in the ED and can be moved anywhere in the hospital," Hess says.

When the ED staff members needing help log into the secure password system, they connect with the server and, in turn, can connect with a consultant or make a toll-free call to the MCG ED in the event they have to transfer the patient immediately. There are five MCG consultants serving rural facilities in Georgia, says Hess. "We are all on a call schedule, and we take call 24 hours a day and in weekend blocks," says Hess. Four of the consultants are vascular neurologists, and one is an ED physician, Hartmut Gross. His position on the team is important, says Hess. "He has a lot of experience in strokes, and he often goes out to the EDs to set up the technology," he explains.

In 2006, the partners formally launched REACH as a company and spun it off to other regions, which in many cases set up their own regional doctors and a "hub and spoke" structure modeled after MCG's in Georgia. With telemedicine, the consultants can be accessed anywhere. "We simply go to our laptop, and we can move the camera and see the CT scan," Hess explains. The online consult can be printed in the rural ED. "For tPA [tissue plasminogen activator], we can actually do orders based on the patient's weight," he says. "The nurse will log in the patient's name and weight and initial vital signs and time of onset." Prior to REACH, he adds, tPA was not used in these hospitals.

The final decision on treatment resides with the local ED physician, Hess says. "The ED doc pulls the trigger on tPA," he says. "We always offer to take the patient in transfer if they are not comfortable with that option."

It is difficult to compare outcomes at these facilities before and after REACH, because the level of care they now receive is so different, Hess says. However, "the patients we treat today have a hemorrhage rate of about 2%-3%," he says. "We know we use more tPA, and by inference we believe the outcomes are better."

Harry L. Wingate, MD, an ED physician at Elbert Memorial Hospital in Elberton, GA, has been using REACH for three years. "If you look at our HealthGrades rating, for 2009 we had a 5-star rating on care of stroke -- about 60 cases with zero deaths," Wingate says. "You can't get much better than that."

Prior to using REACH, "we handled stroke patients inconsistently," he says. "This really helped us step up our care to current standards."

Program requires training, equipment

Before the REACH (Remote Evaluation of Acute isChemic stroke) program can be implemented in a rural facility, staff must be trained and the necessary equipment acquired, says David C. Hess, MD, professor and chair of the Department of Neurology at the Medical College of Georgia (MCG), Augusta, where the program was developed.

"We train the ED staff and EMS about stroke care: how to recognize a stroke, how to stabilize a patient, when to call us, how to treat elevated blood pressure, and so on," he says. The training also includes what not to do. For example, if heparin has been given, you can't use tissue plasminogen activator (tPA). Use of tPA is "one of the big decision trees" and receives much of the focus "because there's such a short time window in which to give it," Hess says. Once the training is complete, he says, "we set the system up and instruct the staff to call us on any suspected stroke within six hours of onset."

Hess acknowledges that the medical portion is a refresher course for many ED staff, but he says that his team tries to retrain staff every six months. "Booster training is very important," Hess says.

The main reason such training is important is there is a lot of staff turnover in small, rural EDs, he says. "Also, like anything else, reinforcement is important because you do not see stroke patients every day in these facilities -- in fact, they are, relatively rare," Hess notes. "Some of them may only see such patients once a month."

In addition, the staff are trained in how to call the MCG consultants, how to log onto the system, and how to access the toll-free number. "We also make our own clinical pathways available if they want to adopt them," says Hess.

They basically had a turnkey operation, recalls Harry L. Wingate, MD, an ED physician at Elbert Memorial Hospital in Elberton, GA, which has been using REACH for three years. "They provided the training and the mobile units with the webcam and computer interface," he says. "Basically all you need to have is secure Internet access."

The cost of the program is typically "a few thousand dollars a month," says Hess, adding that it is negotiable. In some cases, the rural facility is owned by a larger system that pays for the service; in other cases the cost is covered by grants, he says. "We try keep the

costs as minimal as possible, but there has to be something to help maintain the system since it can't fail; it must be open 24/7," Hess explains.

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