

Overview

For health care providers lacking stroke care resources, telestroke programs are showing promise in improving acute stroke treatment. Mount Sinai Health System—which includes seven hospital campuses in the New York City metropolitan area, as well as a large, regional ambulatory footprint—is one such organization that has used telestroke technology to maximize accurate diagnoses and early intervention.

To answer the growing demand for stroke care within its community, the emergency department at Mount Sinai Queens implemented videoconferencing to consult in real time with a stroke-team specialist at The Mount Sinai Hospital in Manhattan. Using a state-of-the-art video telecommunication system, the off-site expert conducts a standard stroke evaluation, helps diagnose the patient, and determines if immediate intervention is needed. At the Queens hospital, emergency medicine physicians and nurses have all completed specialized training in stroke diagnosis and treatment. Patients who are diagnosed in conjunction with the off-site specialist as having a stroke and meet certain criteria receive immediate tissue plasminogen activator (t-PA) therapy, which helps dissolve the blood clot, hindering the blood from flowing freely to the brain.

Impact

Stroke treatment has advanced rapidly in the 21st century, but particularly during the last three

years. Stanley Tuhim, MD, director of the Mount Sinai Stroke Center, says that one of the goals of the telestroke program is to harness these breakthroughs and provide more rapid and accurate treatment. For example, endovascular therapies such as mechanical clot extraction are promising options.

“Through our telestroke program, we can now triage for the endovascular clot retrieval interventions that have become so important in the past few years,” says Tuhim. “Although at this time, our impact

is primarily anecdotal, we know that our ‘door-to-needle’ time has decreased dramatically, and our ability to decide if a patient is a candidate for one of the clot retrieval procedures has greatly improved.”

Tuhim notes that in addition to enhancing patient care, the telestroke program has had a positive impact on clinicians. The Queens hospital staff has demon-

strated increasing comfort with their own assessments of patients presenting with acute stroke symptoms.

“At this point, sometimes a simple telephone call will suffice, making direct, remote interaction with the patient unnecessary,” says Tuhim. “That said, the level of comfort and expertise among the emergency department physicians is highly variable, which is why having the telemedicine option is so important.”

Lessons Learned

Overall, the telestroke program has been well received by clinicians and staff. The most notable challenge has occurred with operational issues around technology.

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“The level of increased security with things like firewalls can make the interactions between the applications and the hospital environment challenging,” says Tuhrim.

Another area of focus has been ensuring that staff are familiar with how the technology actually works.

“Emergency departments tend to have a great deal of turnover and large staffs to begin with,” says Tuhrim. “As new staff come in and shifts change, keeping everyone updated on how to perform even the most basic functions such as turning the system on is necessary and important.”

Future Goals

Mount Sinai Health System is in the process of trying to refine and unify its acute stroke coverage. This


includes plans to provide telestroke support to all of the system’s hospitals throughout the city.

“But Mount Sinai Health System has even a wider reach beyond the system walls,” says Turhim. “We want to use our experience and expertise to help other hospitals and health care providers as well.”

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