



TELESTROKE

How Telestroke Enhances Patient Outcomes For Stroke Care

With an increase in stroke patients, the demand for neurological care continues to rise. Despite increased demand, the U.S. faces a shortage of neurologists to care for stroke patients. Telestroke offers health systems a highly effective way to prevent deaths and minimize long-term damage from strokes.

Every passing minute following a stroke is crucial for patient outcomes. A quicker delivery of proper diagnosis and treatment means the less likely either death or long-term effects from the stroke will occur. Simply put, streamlined stroke care can save and maintain a high quality of life.

As a result, telestroke is rapidly expanding within healthcare. By enabling greater collaboration between healthcare providers, telestroke delivers unparalleled patient care and access in spite of the traditional barriers that have so often hindered the stroke treatment process.

The Need for Telestroke

Approximately 800,000 Americans suffer a stroke each year, causing 129,000 deaths.¹ Strokes are the country's fifth-leading cause of death.²

Once a victim suffers a stroke, only 10 percent fully recover, and 40 percent suffer moderate to severe impairments.³

The most common type of stroke is an ischemic stroke, which is when a blood clot blocks a blood vessel in the brain. Eighty-seven percent of all strokes are ischemic. The best way to improve outcomes in patients who suffer from ischemic strokes is to streamline care and ensure access to the "gold standard of stroke treatment" — tissue plasminogen activator (tPA) or Alteplase. For the best results in stroke recovery, tPA needs to be administered within three hours (or up to 4.5 hours in certain patients) of symptom onset.⁴

Unfortunately, many stroke victims fail to arrive at the hospital or stroke center in time for tPA treatments. Only 3.8 percent of stroke patients receive tPA.⁵

The emergence of telestroke technology is bridging the gap in stroke care, allowing healthcare organizations to provide critical timely access to appropriate treatment for stroke patients.



1 The Internet Stroke Center: "Stroke Statistics"
2 Centers for Disease Control and Prevention: "Deaths: Final Data for 2015"
3 National Stroke Association
4 American Stroke Association: "Ischemic Strokes (Clots)"
5 University of Pennsylvania School of Medicine: "Half of Americans live more than an hour away from lifesaving stroke care."

Breaking Down Geographical Barriers

A 2016 report discovered that stroke patients in the Northeastern states had double the odds of receiving tPA treatment than those living in the Midwest and the South — or rather, the more rural areas of the country.⁶ A quarter of patients eligible for the medication in rural areas did not receive it.

Since only 22 percent of rural Americans live within a 30-minute drive of a neurologist-staffed medical facility,⁷ it's no surprise that stroke victims in rural areas are more likely to suffer long-term disabilities or death because they aren't able to receive treatment in the crucial few hours following a stroke.

The disparities between rural and urban areas in stroke care are furthered by a worsening neurologist shortage. It's estimated that by 2025 the neurologist shortage will be at 19 percent⁸, leaving even more rural patients at risk.

Telestroke helps patients overcome geographical barriers to care, decreasing access times to neurologists. In addition to a direct, bed-side connection to patients, telestroke also enables remote neurologists to receive critical patient information in real-time. CT scans help neurologists rule out hemorrhage and identify patients that would benefit from removal of the clot through mechanical thrombectomy. Everything a neurologist needs to quickly diagnose and treat stroke patients in the optimal window is made available through telestroke.



Evidence-Based Treatment

A 2016 study of 2,500 patients diagnosed with an acute ischemic stroke found that telestroke increased the timely use of clot-dissolving drugs by 75 percent.⁹ The study also found:

- Diagnostic imaging tests were given 12 minutes sooner
- Clot-dissolving drugs were administered 11 minutes sooner
- tPA administration increased by 55 percent in rural areas

6 Neurology "Why are acute ischemic stroke patients not receiving IV tPA?"

7 2013 Population Statistic Census

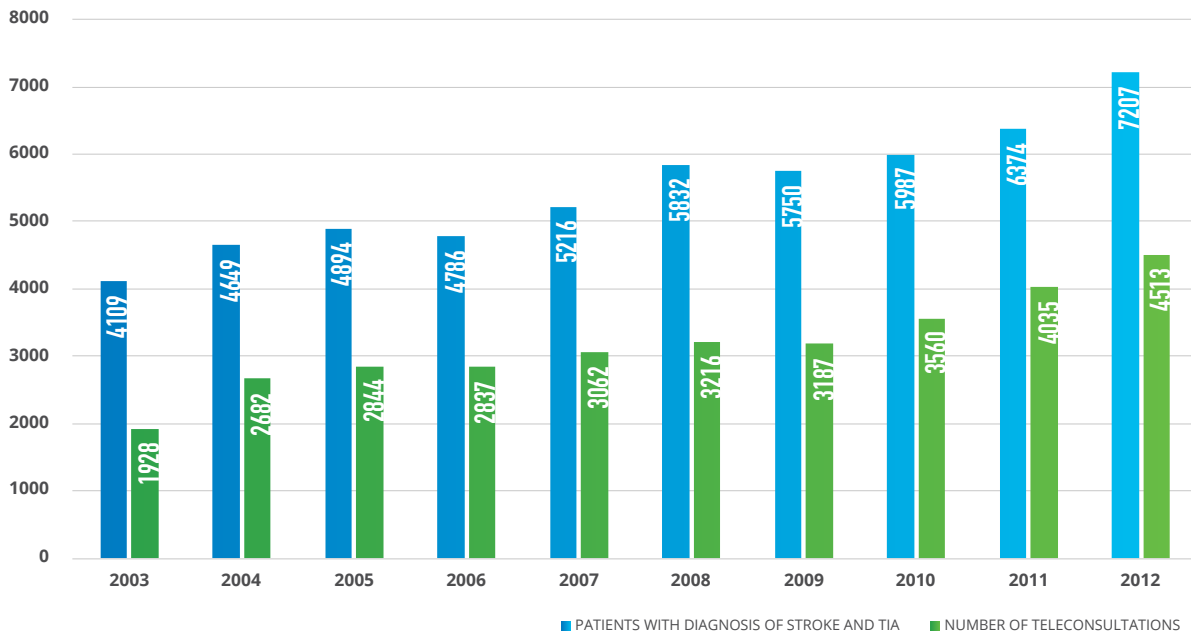
8 RSC "The Neurologist Shortage in the United States"

9 Kaiser Permanente: "Safe and Effective Implementation of Telestroke in a US Community Hospital Setting"

The use of telestroke over a long period of time demonstrates lasting improvements in rural stroke care. Between 2003 and 2012, the American Heart Association analyzed a telestroke network in rural Germany of 12 rural hospitals connected to two neurological stroke centers. The network served more than 31,000 patients during this time period and decreased the number of patients transferred out of local hospitals to stroke centers by four percent. Additionally, survival rates of in clot-caused strokes rose from 2.6 percent to 15.5 percent. Patients also received faster delivery of tPA administration, which is the best indicator for stroke recovery. The median time between patients' arrival at the hospital and tPA administration decreased by 50 percent, down to 40 minutes from 80 minutes.¹⁰

For underserved or rural hospitals, telestroke reduces time to treatment, improves quality of care and empowers providers to make the most effective, well-informed stroke treatment decisions.

Stroke Diagnoses and Telestroke Consultations in a Rural Germany Telestroke Network, 2003-2012



A study conducted by the AHA of a telestroke network in Germany shows that diagnosis of stroke and teleconsultations increased upon establishing a telestroke network.

Source: American Heart Association, "Telestroke Units Serving as a Model of Care in Rural Areas"

The Unique Value of Telestroke in Stroke Care

Timing is everything when it comes to diagnosing and treating a stroke patient. Telestroke is revolutionizing stroke care by overcoming traditional treatment barriers and increasing the speed in which stroke patients receive the most effective treatment options

By providing the equivalence of on-site treatment from a neurologist, telestroke's ability to rapidly evaluate and treat patients — regardless of resources or location — provides unique value to any hospital or stroke center. Telestroke is the most cost-effective and efficient way to treat patients presenting with stroke in a rural hospital. The methodology benefits patients and hospital alike, enhancing the diagnostic and treatment process of a life-threatening condition.

¹⁰ American Heart Association, "TeleStroke Units Serving as a Model of Care in Rural Areas"