

## **Broadband USA Applications Database**

**Applicant Name:** National Stroke Association

**Project Title:** National Stroke Association Broadband-Based Telestroke Pilot Project

**Project Type:** Sustainable Adoption

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### **Executive Summary**

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Stroke has long been the third leading cause of death in this country, and a leading cause of adult disability. In 1996, the first therapeutic treatment to treat stroke patients became available in the United States, a powerful 'clot-buster' drug known as tissue plasminogen activator or tPA. While highly effective, this treatment has a small window of opportunity to be used, which is a mere three hours from the onset of stroke. Additionally, it requires hospitals to have met strict requirements (known as stroke center certification) to administer this life-saving drug, requiring certain hospital specialists and diagnostic equipment. The small time window, limited access to specialists, and lack of significant public education about stroke recognition and response explains why only 3-5 % of stroke patients receive tPA.

While most hospitals in this country have the required diagnostic equipment, few have the 24 x 7 access to the necessary physician specialists, particularly in rural areas. While there are roughly 4,500 hospitals in this country, it is estimated that only about 700 of them are recognized stroke centers. Therefore, depending on where you live will likely determine your ability to survive a stroke with minimum disability. This barrier of access to care regardless of where a stroke patient resides is the problem we plan to address with broadband service adoption.

Overall approach and how the approach is innovative:

National Stroke Association and Western States Stroke Consortium (WSSC) propose a broadband-based telestroke pilot project to advance telemedicine for acute stroke treatment, e.g. "telestroke," in the US. Utilizing two-way real time video and audio via broadband technology, we will connect physician specialists at stroke center hospitals (hub hospital) to the stroke patients at non-stroke center hospital emergency rooms (spoke). This will virtually bring the physician specialist to the emergency room of the patient spoke hospital, as though the physician were literally in the same room. It is imperative that the physician specialist be able to diagnose the patient for a stroke by observing subtle reactions in the patients face, limbs and speech, as well as viewing x-rays and reading routine lab tests to properly diagnose stroke and determine if the patient will benefit from the use of the tPA drug. The combination of video and audio in real time with the use of broadband technologies will allow the limited number of

physician specialists to reach stroke patients regardless of their locations, and afford treatment to patients who would otherwise fall outside the narrow three hour stroke treatment window. The aims of this pilot project are innovative in that they will provide a compelling demonstration of the effectiveness of broadband-based telemedicine to overcome the time/distance barriers for stroke treatment.

Areas to be served; population of the target areas including demographic information and the estimated number of potential broadband subscribers the project will reach:

Our pilot project will target 30 rural hospitals without stroke centers. The 30 hospitals (subscribers) are located in rural counties in Northern California, Nevada, Colorado, Arizona, and New Mexico. They will be connected via broadband technology to four hub hospitals located in Scottsdale (Arizona), Reno (Nevada), San Francisco (California) and Englewood (Colorado). Target demographics will include all persons (regardless of age, gender, ethnicity or socio-economic background) living within these rural and often isolated communities--all of which are served by hospitals that do not have stroke centers.

Qualifications of the applicant:

Established in 1984, National Stroke Association's mission is to reduce the incidence and impact of stroke. Since its inception, the organization has grown to become a leading resource for improving all aspects of stroke care in the United States. Its diverse range of programs covers the full spectrum of stroke: prevention, acute treatment, and rehabilitation and recovery.

National Stroke Association helps save lives, improves the quality of those lives, and creates a more responsive health care system for patients through programs that include awarding research fellowships, training health care professionals and emergency medical personnel, teaching children via Hip Hop music to influence their families' health lifestyles in at-risk African American communities, supporting the certification of stroke centers, sponsoring conferences for survivors and their care partners, and disseminating extensive print and electronic educational information about a range of stroke topics from prevention to symptom recognition and response to acute treatment to rehabilitation.

The Western States Stroke Consortium was founded in 1998 to improve the diagnosis, treatment, and rehabilitation of patients with cerebrovascular disease in the Western United States, addressing in

particular the West's unique challenge of sparse, widely scattered populations who often live far from major stroke centers.

Jobs to be saved or created: Our primary goals with this project are to improve treatment outcomes for stroke patients, regardless of their geographic location, to improve overall care for stroke patients and their caregivers, and to reduce the cost of providing stroke care. However, widespread adoption of the broadband-based telestroke treatment model could result in the addition of hundreds of technology-related jobs across the United States.

Overall cost of the project: Our total project cost is \$1,261,540