

Recommendations for the Implementation of Telemedicine within Stroke Systems of Care A Policy Statement from the American Heart Association

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Summary Brief

Background

The U.S. has approximately 4.0 neurologists per 100,000 persons, who ideally need to be caring for over 780,000 acute strokes per year, and many parts of the US are without access to acute stroke services entirely. Telemedicine technology can help bridge this gap, by providing medical specialists with the data necessary to assist remotely-located bedside clinicians in stroke-related decision making for patients presenting at neurologically-underserved facilities. There are now a growing number of telestroke programs established in the United States and abroad ranging in size from small networks of individual campuses in a single hospital system, to large multihospital “hub and spoke” networks in which nonprofit, academic medical centers or tertiary hospitals serve as the *hubs* (e.g. regional specialty care stroke centers) to a series of *spokes* (e.g. rural or community hospitals that lack readily available stroke expertise). The reported numbers of telestroke consultations overall and that subset of consultations that lead to thrombolysis demonstrate that stroke telemedicine (also called “telestroke”) is feasible and has already impacted local stroke care. However, its use must be extended substantially to have a meaningful impact on reducing the burden of stroke disability in our society, and ensuring that all parts of the country can benefit equally from this innovative care delivery model. Barriers to effective telestroke implementation still remain, and include licensure regulations, medical-legal liability, technology deployment, community outreach/education, and assuring compliance with current privacy and confidentiality requirements. Simplifying the process of requesting and delivering telemedicine consultations while also improving the training and education of the end users will help with adoption. Finally ensuring adequate infrastructure funding and reimbursement models, and acceptance of the practice by patients, providers and payers will help support a stroke systems of care model to increase access to care and improve long-term patient outcomes.

General Policy Recommendations

- 1. Whenever local or on-site acute stroke expertise or resources are insufficient to provide around the clock coverage for a healthcare facility, telestroke systems should be deployed to supplement resources at participating sites. This should be done within the context of a stroke system of care framework wherever possible.**
- 2. Organizations providing or requesting telestroke services should operate under rules and principles governed by contractual agreements between the parties.**
- 3. Medical advice should be provided during telestroke consultation in a manner similar to that which occurs during on-site consultation, and documentation of the recommendations should be made available to the originating site within a reasonable time after completion of the consultation.**
- 4. Technology providers should adhere to widely accepted industry standards.**
- 5. Technology solutions should include easy to use standard features to ensure an adequate visualization of the patient and surrounding environment, examination of the patient and opportunity to interact with others at the bedside including providers and caregivers.**

6. **New models and codes for reimbursement of telestroke services should be developed to reflect the increased upfront costs to providers and reduced long-term healthcare costs to insurers.**
7. **A mechanism for a uniform national U.S. licensure process limited to telemedicine practice should be adopted by State Medical Boards, and a uniform streamlined credentialing and privileging process for telestroke providers should be adopted by hospitals.**
8. **Telestroke networks should be deployed wherever a lack of readily available stroke expertise prevents patients in a given community from accessing a primary stroke center (or center of equivalent capability) within a reasonable distance or travel time to permit access to specially trained stroke care providers.**
9. **Institutions seeking to develop hub and spoke telestroke networks should attempt to include key stakeholders from the beginning of the process to ensure successful adoption and sustainability.**

Specific Recommendations Organized by Stroke Systems of Care (when sufficient evidence exists to support recommendations)

1. Telestroke for acute stroke treatment (emergency phase)

Telestroke networks should be deployed wherever a lack of readily available stroke expertise prevents patients in a given community from accessing a primary stroke center (or center of equivalent capability) within a reasonable distance or travel time to permit eligibility for intravenous thrombolytic therapy.

- a. **Organizations providing telestroke services should reliably provide access to personnel with an appropriate level of expertise in stroke care and experience with the relevant telemedicine technology.**
- b. **Organizations requesting telestroke services need to provide the elements of emergency stroke diagnosis and treatment as defined in the primary stroke center recommendations, and maintain competency in telestroke procedures.**

2. Telestroke for subacute stroke treatment and secondary prevention

Telestroke networks should be deployed wherever a lack of readily available stroke expertise prevents patients in a given community from accessing a primary stroke center (or center of equivalent capability) within a reasonable distance or travel time to permit admission to an organized stroke unit. Providers and recipients of these telestroke services should follow the general guidelines described in the acute stroke treatment section.