

# What is a System of Care?

- Optimal healthcare delivery requires
  - Structure (people, equipment, education, prospective registry data collection)
  - Process (policies, protocols, procedures)
  - System (programs, organizations)
  - Outcomes (patient safety, quality, satisfaction).





## What is a System of Care?

- A system of care is an organized, coordinated effort in a defined geographic area that delivers the full range of care to all patients and is integrated with the local public health system.
- The true value of a system of care is derived from the seamless transition between each phase of care, integrating existing resources to achieve improved patient outcomes. Success of a system of care is largely determined by the degree to which it is supported by public policy.

(https://www.heart.org/en/professional/quality-improvement/mission-lifeline)

## Definitions

### Accreditation

- 3<sup>rd</sup> party attestation of organizational performance standards and quality
- Certification
  - 3<sup>rd</sup> party attestation of disease specific capabilities and performance

### Designation

- System/governmental recognition of destination facilities by disease
- Legislation
  - Law which has been promulgated by a legislature or other governing body

FY 2016										
AO	Hospital	Psych Hospital	САН	HHA	Hospice	ASC	OPT	RHC	Total	
AAAASF						Х	Х	Х	3	
AAAHC						Х			1	
ACHC				Х	Х				2	
AOA/HFAP	Х		Х			Х			3	
CHAP				Х	Х				2	
CIHQ	Х								1	
DNV GL	Х		Х						2	
IMQ						Х			1	
TCT								Х	1	
TJC	Х	Х	Х	Х	Х	Х			6	
Total	4	1	3	3	3	5	1	2	22	

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S	GENERAL ASSEMBLY OF NORTH CAROLINA SESSION 2021 SENATE BILL 683	1			
Short Title:	Prehospital Stroke Protocols/EMS Personnel.	(Public)			
Sponsors:	Senator Perry (Primary Sponsor).				
Referred to:	Rules and Operations of the Senate				
	April 8, 2021				

Stroke Volume 50, Issue 7, July 2019;, Pages e187-e210 https://doi.org/10.1161/STR.000000000000173





#### Recommendations for the Establishment of Stroke Systems of Care: A 2019 Update

#### A Policy Statement From the American Stroke Association

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## How To Make It Work in LA County?



### State of Stroke in 2018

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What will the System Look Like?

- Currently in LA County we have 44 Stroke Centers
  - Primary Stroke Centers or (PSCs) 41
  - Comprehensive Stroke Centers (CSCs) 3
- Over the next 12 to 24 months we would like to approve at least 10 additional CSCs
- The goal is to improve our Stroke System and patient outcomes by identifying the patient that will benefit from specialized advanced stroke center care.



#### SPECIAL REPORT

#### Recommendations for Regional Stroke Destination Plans in Rural, Suburban, and Urban Communities From the Prehospital Stroke System of Care Consensus Conference

A Consensus Statement From the American Academy of Neurology, American Heart Association/American Stroke Association, American Society of Neuroradiology, National Association of EMS Physicians, National Association of State EMS Officials, Society of NeuroInterventional Surgery, and Society of Vascular and Interventional Neurology: Endorsed by the Neurocritical Care Society

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Recommendations for Regional Stroke Destination Plans in Rural, Suburban, and Urban Communities From the Prehospital Stroke System of Care Consensus Conference: A Consensus Statement From the American Academy of Neurology, American Heart Association/American Stroke Association, American Society of Neuroradiology, National Association of EMS Physicians, National Association of State EMS Officials, Society of NeuroInterventional Surgery, and Society of Vascular and Interventional Neurology: Endorsed by the Neurocritical Care Society | Stroke (ahajournals.org)







- Provides common definitions of rural, suburban and urban environments leveraging the widely used US Census Bureau's rural-urban commuting area (RUCA) code system & some helpful background on tiers of stroke centers;
- Identifies a common set of principles that should apply to all SSOCs, regardless of geographic classification; and
- Recommends modifications to SSOCs for rural, suburban, and urban environments. Most notably, includes recommendations for identifying the most appropriate first hospital transport destination depending on the type of stroke suspected, degree of severity based on validated scales, and availability of specific levels of certified stroke centers

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## **Common Principles**

- **1. Regional SSOC:** A region-specific SSOC should be developed by all local stakeholders with consideration and integration of all regional stroke resources.
- 2. Destination Plans: Ideal destination plans are complex, nuanced, and factor in all available data sources including traffic patterns, site-specific performance data on the frequency of use, and timeliness of IV thrombolytics and EVT, and their associated clinical outcomes.... Regional destination plans should consider general eligibility for IV thrombolytics and for those patients with suspected LVO within 24 hours of LKW should prioritize a nearby CSC over other centers of lower capability when available within acceptable transport times
- **3. Public Education:** All members of the SSOC should be engaged in public education on stroke risk factors, warning signs of a stroke and the importance of calling.
- **4. 911 Stroke Screening:** Public safety answering points should utilize specific screening protocols for potential stroke patients and prioritize EMS dispatch at the appropriate level for patients screening positive for acute stroke.
- 5. Integration of Regional EMS into the SSOC:
  - Harmonization of stroke management protocols and use of evidence-based stroke screening tools and severity scales across all First Responder and EMS agencies in a region
  - Yearly stroke education for EMS providers
  - EMS agencies should develop and utilize, in conjunction with their local, regional, and state EMS and hospital stakeholders, stroke destination plans based on stroke hospital locations and capability, anticipated transport times, and patient acuity
  - EMS agencies should use prehospital stroke notification protocols with their receiving stroke hospitals.

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## **Common Principles**

- 6. Emergency Department Stroke Expertise: EMS should prioritize hospitals that have ED staff who can assess and treat patients, and have immediate access to local and regional stroke expertise either onsite or via telemedicine
- 7. Advanced Imaging: For patients with suspected LVO, rapid access to intracranial vessel imaging and interpretation should be available at most initial destination hospitals recommended in prehospital triage algorithms. In all regions, ASRHs and PSCs should develop plans to implement non-invasive vessel imaging (e.g., CT or Magnetic Resonance [MR] angiography) in selected patients, with rapid interpretation by staff onsite or via teleradiology.
- **8. Evidence-based Inpatient Stroke Care:** When options exist, prehospital destination plans and interfacility transport policies should prioritize the transport of patients to a hospital with a dedicated stroke unit for post-stroke care.
- **9. Coordinated Interfacility Transport:** When prehospital severity scores suggest the presence of an LVO, EMS personnel should alert the receiving hospital of the suspected LVO to facilitate subsequent rapid interfacility transport if the initial hospital is not EVT capable.
- **10.Rapid Access to Appropriate Level of Care:** The regional SSOC should ensure rapid access to the appropriate level of care, during both the prehospital and hospital phases of care. In general, when more than one stroke center is within close proximity from the scene, transport to the highest level of care is preferable.
- **11.Coordinated Quality Improvement:** All participating EMS agencies should engage in QI programs coordinated with the SSOC as a whole, with emphasis on dispatch, response, field triage, and transitions of care.
- **12.Required Data Collection and Reporting:** States should require standardized data collection and reporting from healthcare entities, and data sharing and transparency



### **Rural Transport Recommendations**



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### Suburban Transport Recommendations





### **Urban Transport Recommendations**





## **Editorial Comment**

- Guidelines are a snap shot in time of current best data. They are a lagging indicator of current practice.
- Guidelines are not intended to be prescriptive and they are one of several options for improving the quality of care.
- Statements, advisories, etc. are meant to be living documents and serve as a foundation upon which settings can develop best practices unique for their circumstances.
- Optimal implementation requires collaboration and transparency.





### Resources

• Summary document and rural, suburban & urban infographics available at:

Stroke.org/stroketransportplans



SUMMARY

Recommendations for Regional Stroke Destination Plans in Rural, Suburban, and Urban Communities from the Prehospital Stroke System of Care Consensus Conference:

A Consensus Statement from the American Academy of Neurology, American Heart Association/American Stroke Association, American Society of Neuroradiology, National Association of EMS Physicians, National. Association of State EMS Officials, Society of NeuroInterventional Surgery, and Society of Vascular and Interventional Neurology. Endorsed by The Neuroritical Care Society.

#### **3 THINGS TO KNOW**

- The proven benefit of endovascular therapy (EVT) for patients with large vessel occlusion (LVO) has created the need for more specific guidance for updating regional stroke systems of care (SSOC) plans. The recommendations can help ensure that acute stroke patients are triaged to the right place in the right amount of time for the most appropriate intervention, including intravenous thrombolysis and EVT. Selected patients with suspected stroke due to LVO should be preferentially triaged to the nearest EVTcapable stroke center.
- With varying levels of stroke center certifications and unique regional and geographic considerations, local public health agencies are the organizations best suited to determine the most appropriate acute stroke destination plans that are simple, balanced and actionable.
- 3. When a stroke facility with a lower certification level is closest, there is uncertainty concerning the acceptable additional transport time to a more comprehensive stroke facility. This paper provides local and regional Emergency Medical Services (EMS) agencies and stroke advisory committees with guiding principles and recommendations for how to integrate the elements of a stroke system of care in three key regional settings.

Stroke.org/stroketransportplans





# Thank You.

