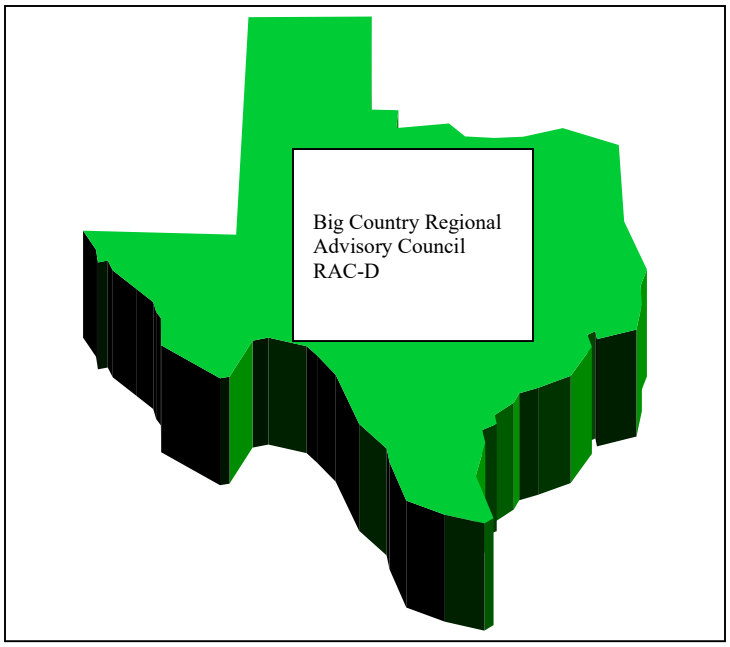
Big Country Regional Advisory Council (BCRAC)

Trauma Service Area (TSA) - D

Regional Stroke Plan

Big Country Regional Advisory Council
4373 Rio Mesa Drive
Abilene, TX 79606

2021



For the state service delivery area including Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Knox, Mitchell, Nolan, Shackelford, Stephens, Stonewall, Taylor and Throckmorton

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Organization

The Big Country Regional Advisory Committee (RAC-D) is comprised of the Central West Texas counties of **Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Knox, Mitchell, Nolan, Shackelford, Stephens, Stonewall**, **Taylor and Throckmorton**. BCRAC represents the Trauma Service Area-D, a geographic area as defined by the Texas Department of State Health Services and is a non-profit organization.

The BCRAC Stroke Committee mission is to provide a comprehensive continuum of quality health care for all stroke victims in TSA-D, through continuing Education, Research, Prevention and Performance Improvement.

Service Area/Facilities

The BCRAC Service Area is comprised of fifteen (15) rural counties and one (1) urban county (Taylor). Located in Taylor County, Abilene is home to 117,000 residents with Taylor County estimated population at 127,690 residents.
Abilene is a regional commerce center for residents of west central Texas. The area economy is based on agriculture, oil and gas production, education, and manufacturing. Of the top 20 largest employers in Abilene, 5 are directly involved in health care in some format and employ a minimum of 5,000 employees at any given time. Located three hours from Dallas/Fort Worth and four hours from San Antonio, Abilene serves a regional trade area and is considered the *primary catchment area* for our EMS system. Abilene is home to Dyess Air Force Base, home of the B-1 bomber squadron, which employs some 6,000 civilian and military personnel. The population in the remaining fifteen county service area is estimated at 166,388 for a total service area population of 294,078. Individual counties and estimated populations in this service area include*:

COUNTY	POPULATION	SQ. MILES	HOSP./TRAUMA LEV.
Taylor	*127,690*	*917*	*Hendrick Medical Ctr North -III* *Hendrick Medical Ctr South -IV*
Brown	38,664	936	*Hendrick Medical Ctr* Brownwood -IV
Callahan	13,516	899	No Hospital
Coleman	8665	1277	Coleman Co. Med. Ctr-IV
Comanche	13,709	930	Comanche Co. Med Ctr-IV
Eastland	18,393	924	Eastland Memorial Hospital-IV
Fisher	4089	897	Fisher Co. Hospital-IV
Haskell	5541	901	Haskell Memorial Hospital-IV
Jones	19,736	931	Anson Gen. Hospital-undesignated
Knox	3781	845	Knox Co. Hospital- IV
Mitchell	9698	916	Mitchell Co. Hospital- IV
Nolan	14,878	915	Rolling Plains Mem Hosp - IV
Shackelford	3167	915	No Hospital
Stephens	9561	894	Stephens Memorial Hosp - IV
Stonewall	1372	925	Stonewall Mem Hosp - undesignated
Throckmorton	1618	912	Throckmorton Co. Hosp - IV
TOTALS	**294,078**	**14934**	

(*Italicized county, population, and square mileage indicates “primary” catchment with all others indicating “secondary” catchment.)
Abilene is served by two acute care hospitals. Hendrick Medical Center, a 504 licensed bed, not-for-profit hospital serves as the Level III Lead Trauma Facility for this service area. Hendrick Medical Center South is a 231-bed hospital. Hendrick North and Hendrick South work closely together to provide the optimum in trauma and emergency care throughout the area. With many physicians and dentists practicing multiple specialties, Abilene is widely recognized as a regional medical center. Other specialized medical facilities include: a regional rehabilitation center, geriatric care facilities, wound care centers,

a mental health and drug rehabilitation hospital and 10 rural hospitals in the service area that refer patients needing specialized care. There are several institutes of higher learning located in Abilene, among them are Abilene Christian University, McMurry University and Hardin-Simmons University: as well as Texas State Technical College and Cisco Junior College. Affiliation with these higher education facilities as well as local and area paramedic/EMT programs enables students in varying aspects of health care to acquire experience and knowledge by providing one-0n-one patient-caregiver interaction and also serves to promote ongoing communication and interaction between the organizations and provide potential jobs for these students.

	Primary Catchment Area
	Secondary Catchment Area with Level IV Facility
	Secondary Catchment Area with Emergent Access Facility
	Secondary Catchment with NO facility in county

HOSPITALS

1.	Hendrick Medical Center North
2.	Hendrick Medical Center South
3.	Hendrick Medical Center Brownwood
4.	Coleman Co. Med Ctr
5.	Comanche Co Med Ctr
6.	Eastland Memorial Hospital
7.	Fisher County Hospital
8.	Knox Co. Hospital
9.	Mitchell Co. Hospital
10.	Rolling Plains Mem Hospital
11.	Stephens Memorial Hosp
12.	Throckmorton Co. Hospital
13.	Anson General Hospital
14.	Haskell Memorial Hospital
15.	Stonewall Memorial Hospital

Regional Plan

This Plan has been developed in accordance with generally accepted Stroke guidelines and procedures for implementation of a comprehensive Emergency Medical Services (EMS) and Stroke System plan. This plan does not establish a legal standard of care, but rather is intended as an aid to decision-making in general patient care scenarios. It is not intended to supersede the physician's prerogative to order treatment.

TSA D - EMS SERVICES

Citizens EMS
Counties Serviced: Callahan 815
South 2nd Street, Clyde, 79510
EMS Director: Kellie Batangan
Email: cems.batangan@gmail.com
Phone # 817-915-4581 Fax #325-893-4127
RAC Rep: Kellie Batangan

Air EVAC Abilene
Counties Serviced: Taylor, Nolan, Haskell, Jones, Knox, Throckmorton, Fisher, Callahan, Stonewall, Shackelford, Runnells
1900 Pine Street, Abilene, 79601
Director: Marta Pagura
Email: marta.pagura@air-evac.com
Phone # 417-274-9016
Fax # 325-672-2996
RAC Rep: Marta Pagura

Air EVAC Eastland
Counties Serviced: Eastland, Erath, Stephens
9614 I 20 Eastland, 76448
Director: Erik Burleson
Email: erik.burleson@air-evac.com
Phone # 254-433-1444
RAC Rep: Erik Burleson

City of Cross Plains DBA Cross Plains Emergency Medical Service
Counties Serviced: Callahan, Brown, Eastland, Coleman
116 NW 2nd Street, Cross Plains, 76443
EMS Director: Susan Schaefer
Email: susan.schaefer49@gmail.com
Phone # 3256653553 Fax #2547254080
RAC Rep: George Matthews

City of Ranger FD-Ems
Counties Serviced: Eastland 500
Loop 254 East, Ranger, 76470
EMS Director: Darrell Fox
Email: firechied@randertx.gov
Phone # 254-210-3026
Fax #254-647-3398
RAC Rep: Darrell Fox

Comanche County EMS
Counties Serviced:
210 SA. Houston St., Comanche, 76442
EMS Director: Steven Sanford
Email: ssanford@comanchecmc.com
Phone # 325 356 9110
Fax #325 356 3919
RAC Rep: Steven Sanford

Eastland EMS
Counties Serviced: Eastland 304
S. Daugherty, Eastland, 6448
EMS Director: Gene Wright
Email:gene.wright@emhd.org
Phone # 254-631-5261
Fax #254-629-3212
RAC Rep: Gene Wright

Eula Volunteer Fire Department
Counties Serviced: Callahan
9070 Farm To Market Road 603, Clyde, 79510
EMS Director: Kellie Batangan
Email: cems.batangan@gmail.com
Phone # 325-893-5754
Fax #325-893-4127
RAC Rep: Jonathan Roy Galinak

Fisher County Hospital District EMS
Counties Serviced: Fisher County
774 St Hwy 70 N, Rotan, 79546
EMS Director: Chase Jarvis
Email: cjarvis@fishercountyhospital.com
Phone # 325-735-2256 ext 281
Fax #325-735-3070
RAC Rep: Chase Jarvis

Hamlin County EMS
Counties Served: Hamlin
PO Box 400, Hamlin, 79520
EMS Director: Gary Morgenson
Email: glm702@sbcglobal.net
Phone # 325-576-3646 Fax # 325-576-3797
RAC Rep: Samantha Trevillian

Haskell County Ambulance Service, Inc.
Counties Serviced: Haskell 1300
S 1st, Haskell, 79521 EMS
Director: Kara Pierce
Email: haskellems@gmail.com
Phone # 940-864-3945 Fax #940-864-2575
RAC Rep: Kara Pierce

Knox EMS
Counties Serviced: Knox, Baylor, Haskell, King, Foard
701 SE 5th, Knox City, 79529 EMS
Director: Logan Morrow
Email: knoxhospital@srccacess.net
Phone # 940-657-3535 Fax #940-657-1313
RAC Rep: Logan Morrow

MetroCare Services Abilene-L.P. Counties Serviced: Taylor, Callahan, Jones, Shackelford
4550 S. 3rd, Abilene, 79605 EMS
Director: Louis Aguilar
Email: louis.aguilar@amr.net
Phone # 325-691-8906 Fax #325-690-0625
RAC Rep: Louis Aguilar

Mitchell County EMS
Counties Serviced: MITCHELL 1602
Chestnut, Colorado City, 79512 EMS
Director: Jason Gruben
Email: jgruben@mitchellcountyhospital.com
Phone # 325-728-3483 Fax #325-728-9153
RAC Rep: Jason Gruben

Native Air of Texas
Counties Serviced: Scurry, Nolan, Kent, Stonewall, Fisher, Mitchell, Howard, Bordan
5305 Etgen Blvd, Snyder, 79549
EMS Director: Shawn Salter
Email:shawn.salter@airmethods.com
Phone # 325-573-2333 Fax #325-573-2365
RAC Rep: Steven Hobbs

Scurry County EMS
Counties Serviced: Scurry
3902 College Ave., Snyder, 79549
EMS Director: Jason Tyler
Email: jason.tyler@co.scurry.tx.us
Phone # 325-573-1912 Fax #325-573-0533
RAC Rep: Russel Thomas

Shackelford County EMS
Counties Serviced: Shackelford
840 Gregg St., Albany, 76430
EMS Director: Tina Ulbrich
Email: tulbrich@schdtx.com
Phone # 3257623313 Fax #3257622342
RAC Rep: Tina Ulbrich

Stamford EMS, Inc.
Counties Serviced: Jones, Haskell, Shackelford, Throckmorton, Stonewall
301 E. Hamilton, Stamford, 79553
EMS Director: Marc Flores
Email: emsstamford@gmail.com
Phone # 325-338-3871 Fax #325-773-2970
RAC Rep: Kara Pierce

AMR Breckenridge
Counties Serviced: Stephens
200 South Geneva, Breckenridge, 76424
EMS Director: Kenny Hoffman
Email: Kenny.hoffman@amr.net
Phone #940-322-1506 Ext 104
Fax #254-559-9000
RAC Rep: Kenny Hoffman

Sweetwater Fire Department
Counties Serviced: Nolan
900 E. Broadway, Sweetwater, 79556
EMS Director: Grant Madden
Email: gmadden@coswtr.orgPhone
325-235-4304 Fax #325-933-6578
RAC Rep: Grant Madden

Stonewall County EMS
Counties Served: Haskell, Kent,
King, Nolan & Stonewall
821 N Washington, Aspermont 79502
EMS Director: Jaffin Durham
Email: jaffin.durham@stonewallhospital.org
Phone # 432-209-1943
RAC Rep: Jaffin Durham

Taylor County EMS
Counties Serviced: Taylor County
1458 County Road 314, Abilene, 79606
EMS Director: David Allman
Email: david.allman@taylorcountyems.com
Phone # 325-733-7098 Fax #888-317-8101
RAC Rep: David Allman

Throckmorton County EMS
Counties Serviced: Throckmorton 802
North Minter, Throckmorton, 76483
EMS Director: Tina Hantz
Email: hantztina@windstream.net
Phone # 940-849-2151 Fax #940-849-7141
RAC Rep: Tina Hantz

Goal

Recognition of a facility's capability to treat stroke patients within TSA-D based on the State requirements for Stroke Center Designation.

Objectives

1. To identify facilities and corresponding level of stroke management within TSA-D.
2. To improve patient outcomes through direction of the stroke victim to the most appropriate facility.

Discussion

While it is recognized many of the facilities within TSA-D may elect NOT to seek Stroke Center Designation, in effort to provide the optimum in patient care and thereby improve outcomes, BCRAC has elected to utilize the criteria set forth by the State of Texas for Stroke Center Designation as the foundation in identifying individual facility capabilities.

Requirements for Texas Stroke Center Designations

(A.)The Governor's EMS and Trauma Advisory Council (GETAC) Stroke Committee of the Department of State Health Services (DSHS) Stroke Committee recommend the designation of three levels of state recognized stroke centers/facilities as follows:

Level I: Comprehensive Stroke Centers
Level 2: Primary Stroke Centers
Level 3: Support Stroke Facilities

(B) Each center applying for state Stroke Center/Facility level designation shall meet the following criteria:

1) Level 1: Comprehensive Centers ("CSCs") will meet the requirements specified in the Consensus Statement of Stroke on Comprehensive Stroke Centers. (Recommendations for comprehensive Stroke centers: a consensus statement from the Brain Attack Coalition. Stroke. 2005; 36(7):1597-616 Attached to this document for reference). These include, but are not limited by, the following specifications:
    a. A 24/7 stroke team capability as defined herein plus all of the requirements specified for a Primary Stroke Center
    b. Personnel with expertise to include vascular neurology, neurosurgery, neuroradiology, interventional neuroradiology/endovascular physicians, critical care specialists, advanced practice nurses, rehabilitation specialists with staff to include physical, occupational, speech, and swallowing therapists, and social workers.
    c. Advanced diagnostic imaging techniques such as magnetic resonance imaging (MRI), computerized tomography angiography (CTA), digital cerebral angiography and transesophageal echocardiography.
    d. Capability to perform surgical and interventional therapies such as stenting and angioplasty of intracranial vessels, carotid endarterectomy, aneurysm clipping and coiling, endovascular ablation of AVM's and intra-arterial reperfusion.
    e. Supporting infrastructure such as 24/7 operating room support, specialized critical care support, 24/7 interventional neuroradiology/endovascular support, and stroke registry
    f. Educational and research program

2) Level 2: Primary Stroke Centers ("PSCs") will meet the requirements specified in "Recommendations for the Establishment of Primary Stroke Centers, 2000 June 21; 283 (23):3125-6." They will be able to deliver stroke treatment 24/7. These include, but are not limited by, the following specifications:

a. 24 hour stroke team
b. Written care protocols
c. EMS agreements and services
d. Trained ED personnel
e. Dedicated stroke unit
f. Neurosurgical, Neurological, and Medical Support Services
g. Stroke Center Director that is a physician
h. Neuroimaging services available 24 hours a day
i. Lab services available 24 hours a day
j. Outcomes and quality improvement plan
k. Annual stroke CE requirement
l. Public education program

3) Level 3[1]: Support Stroke Facilities ("SSFs") provide timely access to stroke care but may not be able to meet all the criteria specified in the Level 1(CSCs) and Level 2 (PSCs) guidelines. They are required to:
   a. Develop a plan specifying the elements of operation they do meet.
   b. Have a Level 1 or Level 2 center that agrees to collaborate with their facility and to accept their stroke patients where they lack the capacity to provide stroke treatment.
   c. Identify in the plan the Level 1 or Level 2 center that has agreed to collaborate with and accept their stroke patients for stroke treatment therapies the SSF are not capable of providing
   d. Obtain a written agreement between the Level 1 or Level 2 Stroke Center with their facility specifying the collaboration and interactions.
   e. Develop written treatment protocols which will include at a minimum:
      1. Transport or communication criteria with the collaborating/accepting Level 1 or Level 2 center.
      2, Protocols for administering thrombolytics and other approved acute stroke treatment therapies.
   f. Obtain an EMS/RAC agreement that:
      1. clearly specifies transport protocols to the SSF, including a protocol for identifying and specifying any times or circumstances in which the center cannot provide stroke treatment; and,
      2. specifies alternate transport agreements that comply with GETAC EMS Transport protocols.
   g. Document ED personnel training in stroke.
   h. Designate a stroke director (this may be an ED physician or non-Neurologist physician)
   i. Employ the NIHSS for the evaluation of acute stroke patients administered by personnel holding current certification
   j. Clearly designate and specify the availability of neurosurgical and interventional neuroradiology/endovascular services.

Document access and transport plan for any unavailable neurosurgical services within 90 minutes of identified need with collaborating Level 1 or 2 Stroke Center.

[1] The designation of a Level 3 Center is defined to allow timely access to acute stroke care that would not otherwise be available such as in rural situations where transportation and access are limited and is intended to recognize those models that deliver standard of care in a quality approach utilizing methods commonly known as "drip and ship" and telemedicine approaches.

(C) Centers or hospitals requesting Level 1, Level 2, or Level 3 state-approved Stroke Center/Facility designation will submit a signed affidavit by the CEO of the organization to the DSHS detailing compliance with the requirements designated in this Rule.

1.) Centers or hospitals seeking Level 1 CSC or Level 2 PSC state-approved Stroke Center designation who submit a copy of that level of certification by state-recognized organizations such as JCAHO shall be assumed to meet the requirements pursuant to this Rule.

2.) Each center or hospital shall submit annual proof of continued compliance by submission of a signed affidavit by the CEO of the organization.

(D) DSHS will publish a list on its website of hospitals or centers meeting state approved criteria and their Stroke Center/Facility designation. This list will also be made available to the state RAC's for EMS transportation plans.

1.) Centers holding JCAHO (Joint Commission Disease Specific Certification) or other state-recognized certification will be specified with an additional qualifier and will be listed prior to listing centers holding similar level designation without formal certification.

(e) If a hospital or center fails to meet the criteria for a state Stroke Center/Facility level designation for more than 6 weeks or if a hospital or center no longer chooses to maintain state Stroke Center/Facility level designation, the hospital shall immediately notify, by certified mail return receipt requesting, the DSHS, local EMS, and governing RAC.

(f) If a hospital is in good standing and on the approved state Stroke Center list, the hospital may advertise to the public its state-approved status and state level designation. A Texas Level 1 (CSC) may use the words, "Texas-approved Level 1 Stroke Center" or "Texas-approved Comprehensive Stroke Center". A Level 2 center may use the words, "Texas-approved Level 2 Stroke Center" or "Texas-approved Primary Stroke Center". A Level 3 Stroke Facility approved by the state may use the words "Texas-approved Level 3 Support Stroke Facility" or "Texas-approved Support Stroke Facility". If the hospital or center is removed from state-approved level Stroke Center/Facility designation, no further public advertising is allowed and existing advertising must, where feasible, be removed from public distribution within 60 days from the date of removal. To the extent that removal of advertisement is infeasible, for example advertisement previously distributed in magazines, newspapers or on the internet, any automatic renewal of such advertisement shall be cancelled upon removal, and no further advertisement in said media shall be pursued.

CRITERIA CLARIFICATION

PERSONNEL

24/7 Physician – A physician in the ED available 24/7. If the physician is not on-site, he/she must be on-call for arrival within 30 minutes.

Stroke Coordinator – A designated Stroke Coordinator is desired for all facilities. In the event the facility elects to not have a designated Stroke Coordinator, each facility is responsible for assigning one individual to gather and submit required data on stroke patients seen or treated at their facility to the CV-RAC on a quarterly basis. The Stroke Coordinator or assigned representative must attend CV-RAC Stroke Committee meetings according to CV-RAC attendance requirements. Other duties for this individual will be entity defined.

Stroke Medical Director – The facility must have a designated Medical Director for stroke protocols.

PROTOCOLS

NIH Stroke Scale Protocol – It is recommended facilities have a written protocol utilizing the NIH Stroke Scale.

tPA Checklist – The facility should utilize the regional tPA Checklist or a similar checklist with the same information.

Thrombolytic Therapy Administration Protocol – This criterion refers to a facility having a written protocol for administering thrombolytics if the facility will be administering thrombolytics.

EQUIPMENT/LAB

24/7 STAT CT – This criterion is desired. This criterion refers to the ability to have a CT completed and read within 45 minutes of arrival to ED.

24/7 Laboratory – This criterion is desired and refers to the facilities ability to have laboratory available 24/7 on-site or on-call within 30 minutes. These labs include but are not limited to PT, PTT, INR, CBC, and CMP.

TRANSFER AGREEMENTS

Agreements with Level I or Level II Stroke Centers - The facility should have written transfer agreements with certified Stroke Centers or facilities in active pursuit of Level I or Level II designation.

Agreements with EMS Providers – The facility should have at least one written agreement with an EMS Provider allowing stroke patients to be treated as priority one/emergent.

EDUCATION

NIH Stroke Scale Education – It is recommended facilities have written protocols outlining NIH Stroke Scale education for all nursing staff and physicians involved in stroke care. This training should be completed on an annual basis.

Other Stroke Education -It is recommended facilities have written protocols outlining stroke education for personnel. At a minimum “Stroke Awareness: Signs and Symptoms” education must be completed annually for facility personnel.

STROKE SYSTEM QI

The facility must have a system to QI stroke cases. Additionally, the facility must participate in CV-RAC Regional Stroke QI.

PUBLIC AWARENESS/EDUCATION

The facility must participate in regional stroke awareness campaigns and other public education activities regarding stroke. CV-RAC will be assisting facilities in meeting this criterion.

Regional Pre-Hospital Medical Oversight & Control

Goal

The goal for Regional Medical Control in TSA-D is multifaceted.

1. To ensure strong physician leadership and supervision for pre-hospital care providers in both on-line and off-line functions.
2. To secure medical involvement in regional planning and educational program development.
3. Provide for the development and implementation of regional protocols and system plan components, as well as in systems evaluation.

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Objectives

1. To evaluate regional stroke care from a systems perspective, under the direction of representatives of BCRAC medical staff throughout the region.
2. To ensure appropriate medical oversight of all pre-hospital care providers through a Quality Improvement (QI) process and other administrative processes.
3. To identify and educate regional medical control resources, standardize treatment protocols, and analyze accessibility of medical control resources.
4. To identify and educate BCRAC EMS providers and sources of on-line and off-line medical control.

Discussion

The BCRAC region includes both rural and urban hospital and emergency care providers with varying levels of medical capability. There is no single EMS medical director for EMS providers.

Physician Involvement in Regional Plan Development - The BCRAC Stroke Committee includes a minimum of one physician representative and meets on a quarterly basis to conduct its usual business and to review and approve regional planning components, policies, and protocols related to stroke medical care. Any interested BCRAC physician is invited to attend committee meetings.

Medical Direction of Pre-hospital Care Providers - In accordance with DSHS guidelines, all BCRAC pre-hospital care providers function under medical control. Regional EMS providers in RAC-D operate under protocols specific to their service and as approved by the individual providers Medical Directors. Periodic reviews and updates are completed.

Regional Quality Improvement - The BCRAC Performance Improvement Committee meets quarterly to conduct its usual business and to carry out regional quality improvement activities. Stroke Coordinators or assigned personnel will gather data specific to the care of the stroke patient and report the data on a quarterly basis. This data will be correlated and reported to the Performance Improvement Committee as a part of the quarterly BCRAC PI process to review patient care and evaluate outcomes from a systems perspective. (Please see System QI section for more details). QI indicators include a review of all deaths, transfers out of region, and pediatric filters. (See form)

Pre-hospital Triage

Goal

Patients will be identified, rapidly and accurately assessed, and based on identification of their actual or suspected onset of symptoms, will be transported to the nearest appropriate TSA-D stroke facility based on:

National Stroke Association's goals for *Stroke Rapid Response*™ are to:

1. Increase and maintain prehospital providers' knowledge of stroke
2. Increase recognition of stroke signs and symptoms on scene
3. Increase the occurrence of EMS calls identifying symptoms as "Stroke Alert"
4. To facilitate delivery of stroke patients to the nearest appropriate hospitals including recognized stroke centers
5. Reduce enroute time and time to treatment

Purpose

In order to ensure the prompt availability of medical resources needed for optimal patient care, each patient will be assessed for the presence of abnormal vital signs, Cincinnati Stroke Scale, and concurrent disease/predisposing factors.

System Triage

- Patients should be assessed with utilizing a stroke screening tool and for possible large vessel occlusive (LVO) using a stroke severity tool.

- Patients with an onset of stroke symptoms < 4½ hours should be taken to the closest Recognized Stroke Facility for treatment and evaluation for interventional care.

- Unless immediate stabilization (ABC's, cardiac arrest, etc.) is required, patients in TSA-D with an onset of stroke symptoms > 4½ hours or < 24 hours shall be taken to a Primary Stroke Center within TSA-D. If ground transport time to Primary Stroke Center is greater than 30 minutes or if lifesaving interventions (e. g. airway stabilization, chest tube insertion, etc.) are required for safe transport, contact medical control and/or take the patient to the nearest medical facility and **call for the helicopter transport to meet you at the closest agreed upon landing zone**.

  Primary Stroke Center bypass may only occur for the following reasons:
  1) Patient preference
  2) Physician Preference
  3) Paramedic Discretion

Patients with an onset of stroke symptoms > 24hours should be taken to the closest acute care or Support Stroke facility for treatment.

Helicopter Activation

Goal

TSA-D regional air transport resources will be appropriately utilized in order to reduce delays in providing optimal stroke care.

Decision Criteria

1. Helicopter activation/scene response should be considered when it can reduce transportation time for patients with onset of symptoms between 3 and 8 hours. Should there be any question whether or not to activate TSA-D regional air transport resources, on-line medical control should be consulted for the final decision.

2. Patients meeting criteria for helicopter dispatch should be transported to the nearest Primary Stroke Center.

Facility Diversion

Goal

TSA-D stroke facilities will communicate "facility diversion" status promptly and clearly to regional EMS and other facilities through EMSystem in order to ensure that stroke patients are transported to the nearest appropriate stroke facility.

System Objectives

1. To ensure that stroke patients will be transported to the nearest appropriate stroke facility.

2. To develop system protocols for regional facility and stroke diversion status (see EMSystem guidelines and protocols):
    - Situations which would require the facility to go on diversion
    - Notification/activation of facility diversion status
    - Procedure for termination of diversion status

3. Regional stroke care problems associated with facility diversion will be assessed through the BCRAC Committee QI process.

All facilities and pre-hospital providers will use EMSystem to notify and track of diversion statuses.

Facility Bypass

Goal

Suspected stroke patients will be safely and rapidly transported to the nearest appropriate stroke facility within TSA D.

Decision Criteria

Regional transport protocols ensure that patients who meet the triage criteria for activation of the TSA-D Regional Stroke Plan will be transported directly to the nearest appropriate stroke facility rather than to the nearest hospital except under the following circumstances:

1. If unable to establish and/or maintain an adequate airway, the patient should be taken to the nearest acute care facility for stabilization.

2. A Support Stroke Facility may be appropriate if the expected onset of symptoms is less than 4½ hours and there is a qualified physician available at the facility's Emergency Department capable of delivering definitive care.

3. Medical Control may wish to order bypass in any of the above situations as appropriate, such as when a facility is unable to meet hospital resource criteria or when there are patients in need of specialty care.

4. If expected transport time to the nearest appropriate Stroke Facility is excessive (> 30 minutes), medical control or the EMS crew on scene should consider activating air transportation resources.

Note: Should there be any question regarding whether or not to bypass a facility, the receiving facility should be consulted.

Facility Triage Criteria

Goal

The goal of establishing and implementing facility triage criteria in TSA-D is to ensure that all regional hospitals use standard definitions to classify stroke patients in order to ensure uniform patient reporting and facilitate inter-hospital transfer decisions.

Objectives

1. To ensure that each stroke patient is identified, rapidly and accurately assessed, and based on identification and classification of their actual or suspected onset of symptoms, transferred to the nearest appropriate TSA-D stroke facility.
2. To ensure the prompt availability of medical resources needed for optimal patient care at the receiving stroke facility.
3. To develop and implement a system of standardized stroke patient classification definitions.

Discussion

- Patients with an onset of stroke symptoms < 4½ hours should be taken to the closest Recognized Stroke Facility for treatment and evaluation for interventional care.

- Unless immediate stabilization (ABC's, cardiac arrest, etc.) is required, patients in TSA-D with an onset of stroke symptoms is greater than 4½ hours and less than 8 hours should be taken to a Primary Stroke Center within TSA-D.

- Patients with an onset of stroke symptoms > 8 hours should be taken to the closest acute care facility for treatment.

Inter-Hospital Transfers

Goal

The goal for establishing and implementing inter-hospital transfer criteria in TSA-D is to ensure that those stroke patients requiring additional or specialized care and treatment beyond a facility's capability are identified and transferred to a Primary or Comprehensive Stroke Center as soon as possible.

Objectives

1. To ensure that all regional hospitals make transfer decisions based on standard definitions which classify stroke patients according to TSA-D facility triage criteria.
2. To identify stroke treatment and specialty facilities within and adjacent to TSA-D.
3. To establish treatment and stabilization criteria and time guidelines for TSA-D patient care facilities.

Discussion

The level of stroke care resources required for stroke patients is outlined in the TSA-D facility triage criteria and pre-hospital triage criteria. When a suspected stroke patient is identified activation of a Code Stroke shall be initiated. A transferring facility shall state that the patient is a "Code Stroke" when calling EMS and the accepting Primary Stroke Center.

Level A Stroke – stroke symptom onset of less than 3 hours

Level B Stroke – stroke symptom onset of greater than 3 hours and less than 24 hours

Level C Stroke – stroke symptom onset of greater than 24 hours

The time guideline for suspected stroke patient transfers in TSA-D is as follows:

- **Level B stroke patients are recommended to be <u>immediately</u> transported to a Primary Stroke Center within TSA D**
- **Level A Stroke patients may be initially transported to the closest stroke facility for initial treatment and consideration of interventional treatment.**
- **Level C Stroke patients should be transported to the closest acute care facility**

These criterions (see attached Regional Stroke Form) are monitored through the regional QI program.

<u>Identification of Stroke Patients & Stroke Transfers</u> - Stroke patients and their treatment requirements for optimal care are identified in the TSA-D facility triage criteria and pre-hospital triage criteria. Written transfer agreements are available between all TSA-D hospital facilities, and hospital facilities in adjacent regions. Stroke patients with special needs may be initially transferred to a Primary Stroke Center for assessment and treatment. When resources beyond its capability are needed, transfer to another stroke designated facility outside TSA D should be expedited. The TSA-D initial-receiving

hospitals may also choose to transfer patients with special needs directly to these facilities, bypassing the Primary Stroke Centers when appropriate.

- **Stroke Centers within TSA-D**

Level 2 (Primary) Stroke Centers
Hendrick Medical Center North - Abilene Hendrick Medical Center South – Abilene
Regional Stroke Support Facilities
Hendrick Medical Center Brownwood – Brownwood Coleman County Medical Center - Coleman Comanche County Medical Center -Comanche Eastland Memorial Hospital – Eastland Fisher County Hospital – Rotan Knox County Hospital – Knox City Mitchell County Hospital – Colorado City Rolling Plains Memorial Hospital – Sweetwater Stephens Memorial Hospital – Breckenridge Throckmorton County Hospital - Throckmorton
Emergent Access Facilities
Anson General Hospital – Anson Haskell Memorial Hospital – Haskell Stonewall Memorial Hospital - Aspermont
No Hospital
Callahan County Shackelford County

Below are lists of possible facilities that may be utilized outside TSA D. These facilities are identified as within 250 miles of TSA-D Lead Facility in Abilene.

- **Current Joint Commission Primary Centers: 2**
- **Hendrick Medical Center North**
- **Hendrick Medical Center South**

UT Southwestern Medical Center
5323 Harry Hines Blvd
Dallas, Tx 75390
214-648-3111

Baylor University Medical Center
3500 Gaston Avenue
Dallas, **TX** 75246
214-820-0111

Harris Methodist Fort Worth Hospital
1301 Pennsylvania Avenue
Fort Worth, **TX** 76104
817-250-2000

Medical Center of Arlington
3301 Matlock Road
Arlington, **TX** 76015
817-472-4850

North Austin Medical Center
12221 MoPac Expressway North
Austin, **TX** 78758
512-901-1000

Seton Medical Center Austin
Austin, **TX** 78705
512-324-7554

St. David's Hospital
919 East 32nd Street
Austin, **TX** 78705
512-544-7111

Providence Health Services of Waco
6901 Medical Parkway
Waco, **TX** 76712
254-202-2000

Tarrant County Hospital District
1500 South Main Street
Fort Worth, **TX** 76104
817-927-3890

University Medical Center at Brackenridge
601 East 15th Street
Austin, **TX** 78701
512-324-7554

United Regional Health Care System
1600 11th Street
Wichita Falls, **TX** 76301
940-764-3062

- **Other Stroke Centers outside TSA-D**

  Texas Neurosciences Institute @ Methodist Hospital
  4410 Medical Drive
  San Antonio, TX 78229
  210-575-6500

  Covenant NeuroScience Institute
  3610 22nd Street
  Suite 301
  Lubbock, Texas 79410
  806.725.0999

Stroke Patient Transport - Stroke patients in TSA-D are transported according to patient need, availability of air transport resources, and environmental conditions. Ground transport via BLS, ALS, or MICU ground ambulance is available throughout the Region. Air Medical transport (fixed and roto wing) is also available in this Region.

System Quality Improvement

Goal

The goals for system quality improvement in TSA-D are to establish a method for monitoring and evaluating system performance over time and to assess the impact of stroke system development.

Objectives

1. To identify regional stroke data filters which reflect the process and outcome of stroke care in TSA-D.
2. To provide a multidisciplinary forum for stroke care providers to evaluate stroke patient outcomes from a system perspective and to assure the optimal delivery of stroke care.
3. To facilitate the sharing of information, knowledge, and scientific data.
4. To provide a process for medical oversight of regional stroke and EMS operations.

Discussion

In order to assess the impact of regional stroke development, system performance must be monitored and evaluated from an outcomes perspective. A plan for the evaluation of operations is needed to determine if system development is meeting its stated goals.

Authority - The authority and responsibility for regional quality improvement rests with the Regional Advisory Council. This will be accomplished in a comprehensive, integrated manner through the work of the Medical Oversight, Stroke, and Pre-hospital committees.

Scope & Process - The Stroke Committee will determine the type of data and manner of collection, set the agenda for the QI process within the regularly-scheduled quarterly meetings of the committee, and identify the events and indicators to be evaluated and monitored. Indicator identification will be based on high risk, high volume, and problem prone parameters. Indicators will be objective, measurable markers that reflect stroke resources, procedural/patient care techniques, and or systems/process outcomes.

Occurrences will be evaluated from a system, outcomes prospective and sentinel events will be evaluated on a case-by-case basis. Activities and educational offerings will be presented to address knowledge deficits and case presentations or other appropriate mediums will be designed to address systems and behavioral problems. All actions will focus on the opportunity to improve patient care and systems operation. The results from committee activities will be summarized and communicated to the RAC membership. Problems identified that require further action will be shared with the persons and entities involved, for follow-up and loop closure. Committee follow-up and outcome reports will be communicated on a standard format (please see attached).

All QI activities and committee proceedings are strictly confidential. Individuals involved in performance management activities will not be asked to review cases in which they are professionally involved but will be given the opportunity to participate in the review process.

Data Collection - QI data will be collected by the Stroke Coordinators. Quarterly reports are submitted for each BCRAC hospital facility. Sentinel events will be used to focus attention on specific situations/occurrences of major significance to patient care outcomes.

Confidentiality - All information and materials provided and/or presented during QI meetings are strictly confidential.

BCRAC facility data related to the following QI indicators are reviewed during the quarterly Stroke Committee meetings. See attached QI form. The QI From is reviewed and updated annually.

Reporting Quarters.

BCRAC regional QI data-reporting quarters are as follows:

First Quarter:	Jan-Feb-Mar	Reporting at:	April meeting
Second Quarter:	April-May-June	Reporting at:	July meeting
Third Quarter:	July-August-Sep	Reporting at:	October meeting
Fourth quarter:	Oct-Nov-Dec	Reporting at:	January meeting

Stroke Performance Improvement Form
~ Hospital ~

Date:_____

Name of Entity:_____

Person Completing Report:_____

Reporting Period	Due Date
___(Jan → Mar)	April 15
___ (Apr → Jun)	July 15
___ (Jul → Sep)	Oct 15
___ (Oct → Dec)	Jan 15

Performance Improvement Criteria / Indicators			
1	Total number of stroke patients treated at your facility		
2	Total number of stroke patients transferred to hospitals **WITHIN** RAC-D this quarter		
3	Total number of stroke patients transferred to hospitals **OUTSIDE** RAC-D this quarter		
4	Total number of non-traumatic hemorrhages		
5	Number of Transient Ischemic Attacks (TIA) with symptom onset < 8 hours prior to ED arrival		
6	Number of non-traumatic hemorrhages with symptom onset < 8 hours prior to ED arrival		
7	Number of ischemic stroke (infarcts) with symptom onset < 8 hours prior to ED arrival		
	7a	How many infarcts had symptom onset < 3 hours prior to ED arrival?	
	7b	How many infarcts received tPA within 4½ hours of symptom onset?	
	7c	How many symptomatic hemorrhages occurred with tPA use?	
	7d	How many infarcts with symptom onset < 4½ hours prior to ED arrival met EXCLUSION CRITERIA FOR tPA?	
8	How many infarcts or hemorrhages were transferred to a comprehensive or primary stroke center?		
	8a	Of the number in 8, how many received tPA before transfer?	
9	Intrafacility time > 90 minutes prior to transfer to higher level of care		
10	Total number of deaths due to stroke		

Specific Occurrence Report

Age:	Gender:	Chart Identification #:

Type of Stroke:

☐ Transient Ischemic Attack (TIA) ☐ Hemorrhagic ☐ Ischemic

Occurrence:

☐ Transfer outside RAC-K ☐ Transfer declined by patient / family ☐ tPA declined by patient / family
☐ Transfer denied ☐ Transfer > 90 post arrival to ED ☐ Symptomatic hemorrhage with tPA
☐ Death due to stroke

Patient Outcome:

Provider Discussion:

Contributing Factors: □ Inadequate system guidelines/ protocols □ Patient left AMA □ Documented DNR
□ Hospital diversion □ Other:_____

Please do not fill in this section – For RAC-K PI Committee Review

___ No negative outcome ___ Minor Negative outcome ___ Significant system performance error ___ Major deviation from desired system performance ___ Unable to determine	Standard of Care Met? Yes / No ___ RAC-D guidelines followed ___ Minor deviation from RAC-D guidelines ___ Significant deviation form RAC-D guidelines ___ Major deviation from RAC-D guidelines ___ Unable to determine

Action Plan

___ No action needed
___ Review with hospital or EMS provider
___ Track and Trend
___ Education
___ RAC-K guideline review
___ Hospital / EMS action plan requested
___ Refer to Texas DSHS
___ Assign to workgroup
___ Request closed Executive Committee review
___ Other: _____

Performance Improvement Form
~ EMS ~

Date:_____

Name of Entity:_____

Person
Completing Report:_____

Reporting Period	Due Date
___ (Jan → Mar)	April 15
___ (Apr → Jun)	July 15
___ (Jul → Sep)	Oct 15
___ (Oct → Dec)	Jan 15

Performance Improvement Criteria / Indicators		
1	Total number of stroke patients transported this quarter (including transfers)	
2	Total number of stroke patients transferred to hospitals **WITHIN** RAC-D this quarter	
3	Total number of stroke patients transferred to hospitals **OUTSIDE** RAC-D this quarter	
4	Total number of patients refusing transport to higher level of stroke center	
5	Total "bypass" occurrences this quarter	
6	Total number of deaths identified as probably due to stroke	
7	Total number of times transport time is > 30 minutes from scene departure to ED arrival	
8	Number of times Air Medical Services requested but unable to respond this quarter.	

Specific Occurrence Report		
Age:	Gender:	Chart Identification #:
Type of Stroke: ☐ Transient Ischemic Attack (TIA) ☐ Hemorrhagic ☐ Ischemic		
Occurrence: ☐ Transport time > 30 minutes from scene departure to ED arrival ☐ Transfer outside RAC-D ☐ Transport to higher level declined by patient / family ☐ Death due to stroke		
Patient Outcome:		
Provider Discussion:		
Contributing Factors: □ Inadequate system guidelines/ protocols □ Documented DNR □ Hospital diversion □ Other:_____		

Please do not fill in this section – For RAC-D PI Committee Review	
___ No negative outcome ___ Minor negative outcome ___ Significant system performance error ___ Major deviation from desired system performance ___ Unable to determine	Standard of Care Met? Yes / No ___ RAC-D guidelines followed ___ Minor deviation from RAC-D guidelines ___ Significant deviation form RAC-D guidelines ___ Major deviation from RAC-D guidelines ___ Unable to determine
Action Plan ___ No action needed ___ Review with hospital or EMS provider ___ Track and Trend ___ Education ___ RAC-K guideline review	____Hospital / EMS action plan requested ____ Refer to Texas DSHS ____ Assign to workgroup ____ Request closed Executive Committee review ____ Other: _____

BIG COUNTRY REGIONAL ADVISORY COUNCIL

tPA (Alteplase) PROTOCOL – FOR ACUTE ISCHEMIC STROKE

DATE	TIME	Eligibility Criteria

Inclusion Criteria for consideration of IV tPA (Alteplase) Treatment

YES	NO	
☐	☐	Age 18 or older
☐	☐	Clinical diagnosis of Ischemic Stroke causing a measurable neurologic deficit
☐	☐	Time of symptom onset well established to be less than 4.5 hours (270 minutes)

Date/Time of onset/last known well: _____ Current time: _____ Total Minutes: _____

If the answer to any of the above questions is "No" tPA (Alteplase) should NOT be administered.
If all answers above are "Yes" proceed with checklist.

Exclusion Criteria for administration of tPA (Alteplase)

YES	NO	
☐	☐	Significant head trauma or prior stroke in the previous 3 months
☐	☐	Symptoms suggest sub-arachnoid hemorrhage
☐	☐	Arterial puncture at non-compressible site in the previous 7 days
☐	☐	History of previous intracranial hemorrhage
☐	☐	Intracranial neoplasm, AVM, or aneurysm
☐	☐	Recent intracranial or intraspinal surgery
☐	☐	Elevated blood pressure (systolic greater than 185 mmHg or diastolic greater than 110 mmHg)
☐	☐	Active internal bleeding
☐	☐	Acute bleeding diathesis, including but not limited to
		Platelet count less than 100,000/mm2
		Heparin received within 48 hours resulting in abnormally elevated aPPT above the upper limit of normal
		Current use of anticoagulant with INR* greater than 1.7 or PT greater than 15 s
		Current use of direct thrombin inhibitors or direct factor Xa inhibitors with elevated sensitive laboratory tests (e.g. aPPT, INR*, platelet count, TT, or appropriate factor Xa activity assays)
☐	☐	Blood glucose concentration less than 50 mg/dL (2.7 mmol/L)
☐	☐	CT demonstrates multilobar infarction (hypodensity greater than 1/3 cerebral hemisphere)

If any of the above questions is marked "Yes" DO NOT administer tPA (Alteplase).
*International Normalized Ratio

Warnings

YES	NO		YES	NO	
☐	☐	**Stroke severity – too severe (i.e.: NIHSS* >25)**	☐	☐	Rapid improvement or stroke severity too mild
☐	☐	**Taking oral anticoagulants (e.g. Coumadin)**	☐	☐	Life expectancy <1 yr or comorbid illness
☐	☐	**Advanced Age (age >80 yr)**	☐	☐	Seizure at onset (deficits are postictal)
☐	☐	**Hx of Stroke AND Diabetes**	☐	☐	Left heart thrombus
☐	☐	**Ischemic injury >1/3 MCA" territory**	☐	☐	Pregnancy
☐	☐	Glucose <50 or >400 mg/dL	☐	☐	Patient or family refused
☐	☐	Care team unable to determine eligibility			
☐	☐	Increased risk of bleeding due to Acute pericarditis, Bacterial Endocarditis, Hemostatic defects including those secondary to severe renal or hepatic disease, hemorrhagic retinopathy, septic thrombophlebitis/ AV cannula			

NOT ELIGIBLE FOR tPA (Alteplase) FOR PATIENTS IN THE 3-4.5 HOUR WINDOW
*National Institute of Health Stroke Scale
*Middle Cerebral Artery

For suspected Large Vessel Occlusion (LVO) AND if the time of symptom onset is less than 12 hours, contact Neuro interventionalist or consider transfer to higher level of care for intra-arterial intervention.

ALLERGIES:

HEIGHT: WEIGHT:

PHYSICIAN'S SIGNATURE	DATE	TIME

STROKE FACILITY GUIDELINES BASED ON STROKE LEVEL

Stroke Level A – Symptom onset < 4½ hours

IF UNABLE TO COMPLETE ANY ITEM BELOW, IMMEDIATE TRANSFER TO A PRIMARY STROKE CENTER IS RECOMMENDED

- ❑ STAT non-contrast CT Head
- ❑ Time to CT: _____ (Door to CT < 25 min)
- ❑ Time CT resulted: _____ (Door to results < 45 min)
- ❑ STAT ACCU-check: _____
- ❑ STAT EKG & continuous cardiac monitoring. Vital signs every 15 minutes w/ neuro checks.
- ❑ O_2 _____ Lpm, via nasal cannula
- ❑ Ensure 2 IV lines
- ❑ STAT lab: CBC, CMP, PT/PTT (Door to results < 45 min)
- ❑ NIHSS Score: _____
- ❑ Review Inclusion Criteria
- ❑ Review Exclusion Criteria
- ❑ Initiate tPA Administration set
- ❑ Review CUT-OFF TIME, consider administration of Intra-Arterial tPA or MERCI
- ❑ Prepare for IMMEDIATE transfer to Primary Stroke Center

Stroke Level B – Symptom onset 3-8 hours

IMMEDIATE TRANSFER TO PRIMARY STROKE CENTER IS RECOMMENDED

- ❑ NIHSS Score: _____
- ❑ STAT ACCU-check: _____
- ❑ Ensure 2 IV lines (however, do not delay transfer
- ❑ Prepare for IMMEDIATE transfer to Primary Stroke Center

Stroke Level C – Symptom onset > 8 hours

- ❑ STAT non-contrast CT Head
- ❑ Time to CT: _____ (Door to CT < 60 min)
- ❑ Time CT resulted: _____ (Door to results < 120 min)
- ❑ STAT ACCU-check: _____
- ❑ STAT EKG & continuous cardiac monitoring. Vital signs every 15 minutes w/ neuro checks.
- ❑ O_2 _____ Lpm, via nasal cannula
- ❑ Ensure 2 IV lines
- ❑ STAT lab: CBC, CMP, PT/PTT (Door to results < 45 min)
- ❑ NIHSS Score: _____
- ❑ Admission/Transfer

BCRAC PREHOSPITAL TRANSPORT GUIDELINES FOR STROKE

SUSPECTED STROKE

Assessment Guidelines:

- Cincinnati Stroke Scale
  - Facial Droop
  - Arm Drift
  - Abnormal Speech
- Complete Vital Signs
- Stroke severity scale to assess for possible LVO
- Blood Glucose
- 12-Lead ECG
- Thrombolytic Checklist
- Time "last seen normal"
- Onset S/S

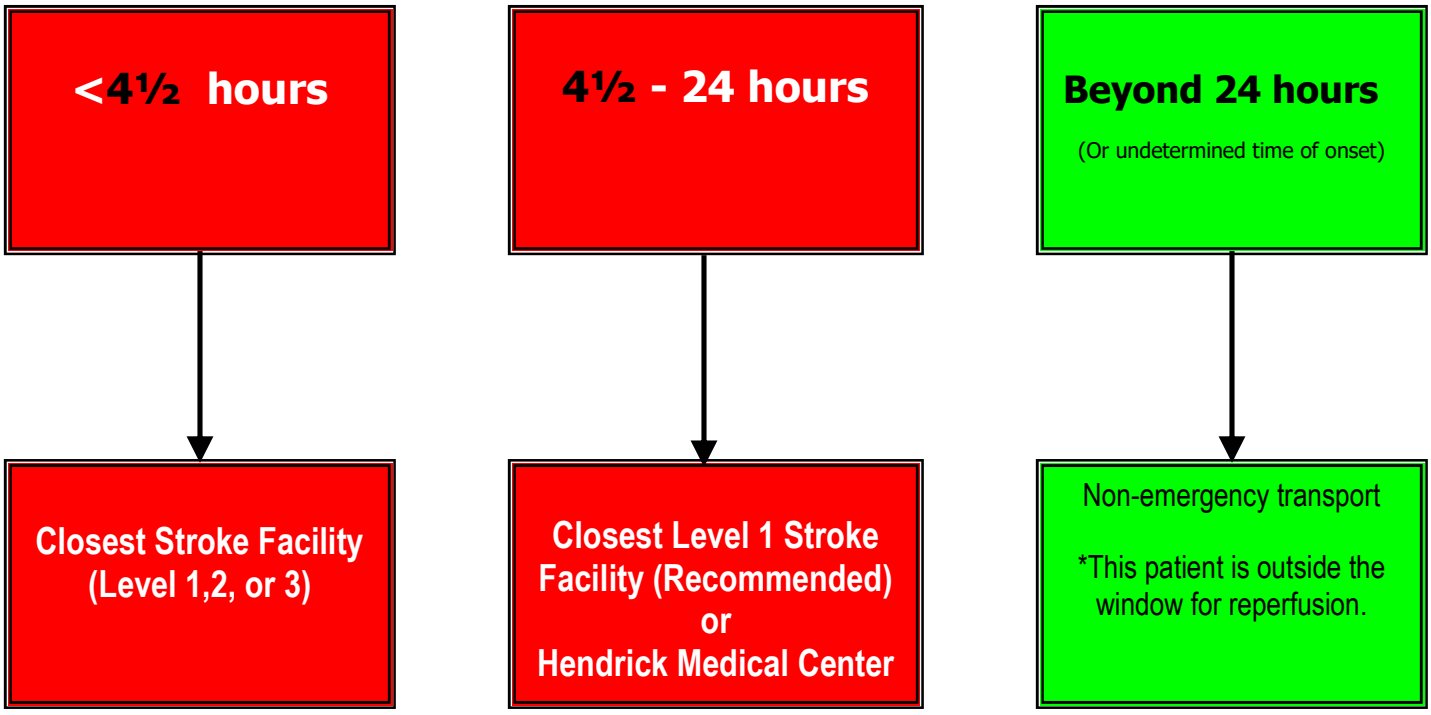
*Consider other etiologies such as hypoglycemia and seizure.

Minimum Treatment Guidelines:

- Prn to keep stats >92%
- Oxygen 2-4 L/min
- IV NS TKO (as per skill level)
- Consider antihypertensive agent for blood pressures above 220/110
- Rapid transport to appropriate facility as indicated.
- Divert to the closest hospital for airway or patient instability.
- Consider Air Medical transport for patient deterioration and decrease in transport time.

Transport decision should be based on time of onset as appropriate.

Consider Air Medical Transport to decrease transport time.



Sample Stroke Record Review Form

Name:_____ **Medical Record #:**_____

Admit Date:_____ **Discharge Date:**_____

Pre-Hospital	Yes	No	N/A
Hospital Transfer? Yes / No Transferring Hospital:_____ Transport Agency:_____			
Absence of ambulance report on medical record for patient transported by pre-hospital EMS personnel.			
Absence of Cincinnati Prehospital Stroke Scale with documented findings as normal or abnormal in all 3 elements			
Absence of documentation of established time "last seen normal"			
Absence of documentation of established time of onset of stroke like signs / symptoms			
Absence of documentation of blood glucose			
Emergency Department	**Yes**	**No**	**N/A**
ED physician not present within 10 minutes of patient presentation with stroke like signs / symptoms			
Absence of NIHSS			
Incomplete diagnostic workup			
Time from patient arrival to "Back from CT" > 25 minutes			
Time of "CT results notified to ED physician" > 45 minutes			
Absence of tPA eligibility checklist			
ED length of stay > 180 minutes			
Thrombolytic Therapy	**Yes**	**No**	**N/A**
IV thrombolytic started > 60 minutes from patient arrival			
IV thrombolytic started > 4½ hours from "last time normal"			
Incomplete vital signs (V/S with NIHSS q15 x 2-hours followed by q30 x 6-hours) in patient receiving thrombolytic			
Absence of consent form when tPA given			
Absence of documented reason no tPA given			
Admissions	**Yes**	**No**	**N/A**
Admitted to non-stroke unit			
Absence of Neurological Consultation			
Absence of DVT screen			
Complications / Hemorrhage from tPA administration			
Stroke death			

Transfers	Yes	No	N/A
Hospital Transfer? Yes / No Receiving Hospital:_____			
Delay in transfer > 30 mimutes after acceptance for patient being transported by ground EMS			
Delay in transfer > 60 minutes after acceptance for patient being transported by Air EMS			
Patient transferred to non-designated facility without justified documentation			

Notes:_____

❑ Refer to Peer Review ❑ Refer to Deparment Manager ❑ Refer to Stroke Medical Director ❑ Refer to BCRAC Stroke / PI committee	**Outcome:**

_____ _____

Record Reviewed By (signature) Date

_____ _____

Stroke Medical Director Review (signature) Date

Loop Closure Date:_____

BCRAC Hospital Questionnaire for Stroke Readiness and Compliance

Facility: _____

Main Number: _____ FAX: _____

Address: _____

Total Bed Capacity: _____ Average Daily Census: _____

Stroke Medical Director: _____

ED Director: _____

Administrator: _____

Stroke Coordinator: _____

Stroke Designation: ☐ In active pursuit ☐ Not designated @ this time
☐ Do not plan to "designate"

Facility Level Capability: (Level of support based on designation criteria even if not designated or planning to designate)

- ☐ Level 1 – Comprehensive Stroke Center
- ☐ Level 2 – Primary Stroke Center
- ☐ Level 3 – Support Stroke Facility

	Yes	No	Comments
Do you have a physician in the ED available 24/7 or on call for arrival within 30 minutes if not on site?			
Do you have a Hospital Based EMS service?			
Do you have 24 hour CT Scan Capability?			
Can you get a brain CT within 20 min of pt's arrival to the ED?			
Can you get a CT interpretation within 45 min of pt's arrival to ED?			
Does your hospital have interventional radiology?			
Does your hospital participate in tele-neurology?			
Do you have neurosurgery available 24/7?			
Can your lab have these results completed within 30 minutes:			
CBC			
Complete Metabolic Profile			
PT/PTT/INR			
Do you have documented personnel training in stroke?			
	Yes	**No**	**Comments**

Do you have a written protocol outlining stroke education?			
Do you have annual training in "Stroke Awareness: Signs and Symptoms" for personnel?			
Do you have personnel currently certified in administration of NIHSS for the evaluation of the acute stroke patient:			How many?_____
Do you have written Stroke Care Protocols?			
Does your facility administer tPA or thrombolytics?			
Do you have written protocols for administering thrombolytics?			
Do you utilize the tPA checklist prior to administering tPA?			
Do you have written protocols to include transport or communication criteria with collaborating / accepting Level 1 or 2 center?			
Do you have written transfer agreements with an EMS provider allowing stroke patients to be treated as priority one / emergent?			
Do you have written transfer agreements with certified Stroke Centers or facilities in active pursuit of Level 1 or 2 designation?			
Do you have a system to QI stroke cases?			
Do you provide any public awareness activities regarding stroke?			

American Stroke Association®
A division of the American Heart Association.
Together to End Stroke®

Stroke Rural Transport Recommendations

LVO Stroke Suspected?

NO

Transport to closest stroke center.
Primary Stroke Center (PSC) or Acute Stroke Ready Hospital (ASRH)

YES

CSC or TSC within 60 minutes max transport time?

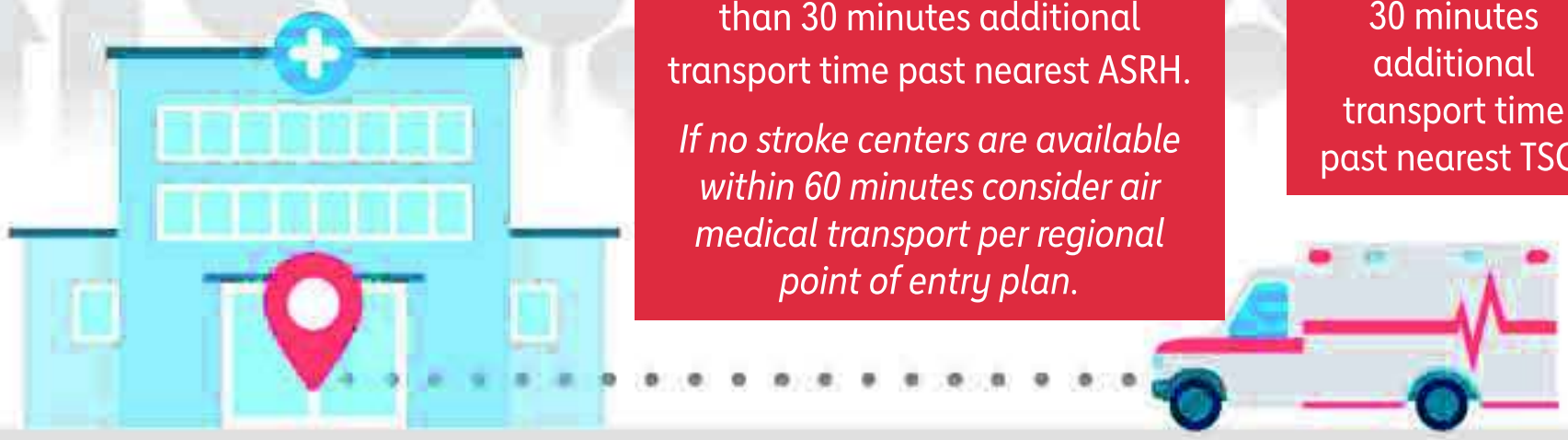
NO

Transport to nearest Primary Stroke Center (PSC) unless more than 30 minutes additional transport time past nearest ASRH.

If no stroke centers are available within 60 minutes consider air medical transport per regional point of entry plan.

YES

Transport to CSC unless more than 30 minutes additional transport time past nearest TSC.



— Stroke Rural Transport Recommendations —

Endorsed by the AAN, AHA/ASA, ASNR, NAEMSP, NASEMSO, NCS, SNIS, and SVIN.

ADDITIONAL RECOMMENDATIONS:

- When no Comprehensive Stroke Center (CSC) or Thrombectomy-capable Stroke Center (TSC) is available within 60 minutes ground transport time, Stroke System of Care (SSOC) should include air medical transport options, define maximum allowable transport times, and consider implementing advanced brain imaging options at rural community hospitals to identify eligible candidates for endovascular therapy (EVT).
- EMS destination plans should prioritize rural hospitals that have formal collaboration agreements with regional CSCs (or TSCs) for access to expert stroke consultation, often via telestroke.
- EMS destination plans should prioritize rural hospitals that identify and support internal hospital stroke resources, including a dedicated stroke coordinator, and that seek to become certified as an Acute Stroke Ready Hospital (ASRH) to track their performance on evidence-based stroke care.
- Stakeholders should work with regional resources to establish rapid interfacility transport mechanisms for patients requiring EVT or a higher level of acute care. In rural areas, interfacility transfer will likely require local EMS for transport so the impact on service should be considered.

Stroke.org/stroketransportplans