

# **SOUTHEAST TEXAS TRAUMA REGIONAL ADVISORY COUNCIL (SETTRAC) Regional Stroke Plan**



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SETTRAC serves the counties of Austin, Colorado, Fort Bend, Harris, Matagorda, Montgomery, Walker, Waller, and Wharton.

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## **INTRODUCTION**

Cardiovascular disease is the number one cause of death in Texas and in the United States. Nearly 2,500 Americans die of cardiovascular disease each day, an average of 1 death every 35 seconds. Cardiovascular diseases claim more lives each year than the next four leading causes of death combined, which are cancer, chronic lower respiratory diseases, accidents, and diabetes mellitus.<sup>1</sup> The major cardiovascular diseases are heart disease and stroke.

## **MISSION**

The mission of the Southeast Texas Trauma Regional Advisory Council (SETTRAC) - Stroke is to facilitate coordination of stroke providers to ensure the most efficient, consistent and expeditious care of each individual who experiences an acute stroke, by developing and maintaining integrated quality processes in patient care and education.

## **VISION**

SETTRAC will provide leadership within our region, state, and nation regarding the care of stroke patients and the solution to preventable mortality and morbidity.

## **ORGANIZATION**

One of the Southeast Texas Regional Advisory Council (SETTRAC) missions is to provide the infrastructure and leadership necessary to sustain a stroke treatment & transfer system within the designated nine county regions and to improve the level of care provided to persons living or traveling through this region. Together, through the work of its standing committees, SETTRAC member organizations (hospitals, first responder organizations, EMS providers, air medical providers, emergency management, public health, etc.) work cooperatively to ensure that quality care is provided to stroke victims by pre-hospital and hospital care professionals. The Council will provide stroke and public awareness education to the public, and stroke education to health care providers in each of the nine counties.

## **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 stroke patient care scenarios. It is not intended to supersede the physician's prerogative to order treatment.

## **GOAL**

Identify and integrate our resources as a means to obtaining commitment and cooperation.

Identify leverage tactics to promote EMS provider participation.

Establish system coordination relating to access, protocols/procedures and referrals. These structures will establish continuity and uniformity of care among the providers of stroke care.

Promote internal communication as the mechanism for system coordination which will include the EMS providers, hospitals and members of the SETTRAC Stroke Committee.

Create system efficiency for the patient and the programs through continuous quality improvement programs which will identify the patient's needs, outcome data and help develop standard uniformity.

Recognition of a facility's capability to treat stroke patients within SETTRAC standards until such time as the State designation process for Stroke Centers is complete.

## **OBJECTIVE OF STROKE FACILITY REGOCNITION**

To develop a system by which hospitals within SETTRAC may seek RAC recognition of stroke capabilities.

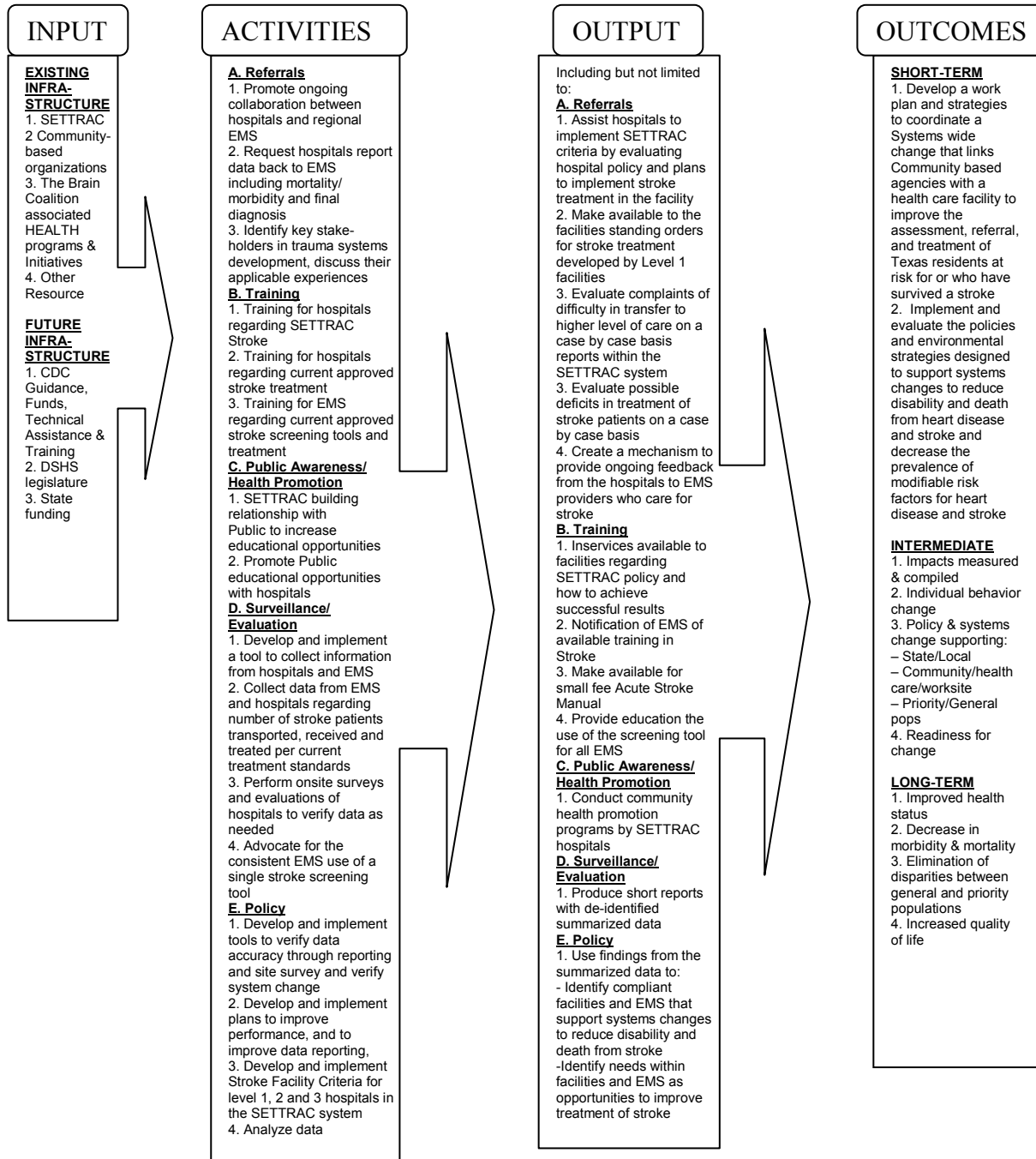
## **DISCUSSION**

- A facility interested in seeking RAC-Recognition as a Stroke Capable Facility must contact the RAC offices to set a survey date and time.
- Facilities that have been surveyed must meet all essential criterions as described on the SETTRAC Recognized Stroke Capable Facility Essential Criteria Survey Sheet. (See form on page 6).
- Recognition will be given once the RAC Stroke Committee Chair has signed the SETTRAC Recognized Stroke Capable Facility Essential Criteria Summary Sheet.
- RAC Recognized Stroke Capable Facility status is maintained for two years at which time another survey will need to be completed.

## The SETTRAC Stroke Plan: A Logic Model

The model displays the sequence of actions necessary for the implementation and evaluation of the SETTRAC Stroke Plan. It has 4 core components:

1. **INPUTS:** resources, contributions, investments that go into the plan
2. **ACTIVITIES:** strategies, actions that will be carried out
3. **OUTPUTS:** activities, services, events and products that reach people who participate or who are targeted
4. **OUTCOMES:** results or changes for individuals, groups, communities, organizations, or systems



SETTRAC Recognized Stroke Capable Facility Essential Criteria Survey Sheet

CRITERIA AS DEFINED BY STROKE CENTER AFFIDAVIT	ESSENTIAL OR DESIRED	MEETS	NEEDS IMPROVE-MENT	DOES NOT MEET	COMMENTS
<b>A. PERSONNEL</b>					
1. 24/7 PHYSICIANS	E				
2. STROKE COORDINATOR	E				
3. STROKE MEDICAL DIRECTOR	E				
<b>B. PROTOCOLS</b>					
1. NIH STROKE SCALE PROTOCOL	E				
2. DYSPHAGIA SCREENING TOOL	D				
3. TPA CHECKLIST	E				
4. THROMOLYTIC THERAPY ADMINISTRATION PROTOCOL	E				
<b>C. EQUIPMENT/LAB</b>					
1. 24/7 STAT CT	D				
2. ED ORDER SET	E				
3. 24/7 LABORATORY	E				
<b>D. TRANSFER AGREEMENTS</b>					
1. TRANSFER PLAN WITH Level 1 or 2 STROKE CENTER(S)	E				
2. EMS TRANSPORT AGREEMENT(S)	E				
<b>E. EDUCATION</b>					
1. NIH STROKE SCALE	E				
2. CORE STROKE TEAM	E				
3. NURSING PERSONNEL	E				
4. OTHER PERSONNEL	E				
<b>F. STROKE SYSTEM QI</b>					
<b>G. PUBLIC AWARENESS</b>					

SETTRAC RECOGNIZED STROKE CAPABLE FACILITY ESSENTIAL CRITERIA SUMMARY SHEET

FACILITY STROKE DIRECTOR: \_\_\_\_\_

SURVEY DATE: \_\_\_\_\_

\_\_\_\_\_ has met/not met the essential criteria requirements as defined by SETTRAC to be recognized as a Stroke Capable Facility and the Facility Stroke Director was notified on \_\_\_\_\_.

Stroke Committee Chair signature: \_\_\_\_\_

Date: \_\_\_\_\_

## CRITERIA CLARIFICATION

- 24/7 PHYSICIAN – The facility must have a physician in the ED available 24/7.
- STROKE COORDINATOR – The facility must have a designated Stroke Coordinator.
- STROKE CENTER DIRECTOR – The facility must have a designated Center Director for stroke protocols.
- NIH Stroke Scale Protocol – The facility must have a written protocol utilizing the NIH Stroke Scale.
- Dysphasia Screening Tool – The facility must utilize an accepted Dysphasia screening tools as well as a protocol outlining how patients will be screened for Dysphasia.
  - tPA Checklist – The facility must utilize the Brain Attack Coalition tPA Checklist or a similar checklist with the same information. See [http://www.stroke-site.org/guidelines/tpa\\_guidelines.html](http://www.stroke-site.org/guidelines/tpa_guidelines.html))
- Thrombolytic Therapy Administration Protocol – This criterion refers to a facility having a written protocol for administering thrombolytic.
- 24/7 Laboratory – The facility must 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, TROPNIN.
- Agreements with Primary Stroke Centers – The facility must have a transfer plan with certified Comprehensive or Primary Stroke Centers.
- Agreements with EMS Providers – The facility must have at least one written agreement with an EMS Provider allowing stroke patients to be treated as priority one/emergent.
- NIH Stroke Scale Education – The facility must have a written protocol outlining NIH Stroke Scale education for all nursing staff and physicians involved in stroke care. This training should be completed on an annual basis.
- Core Stroke Team Education – The facility must have a written protocol outlining core stroke team education. A minimum of 8 hours of CE must be completed annually by all personnel on core stroke team.
- Nursing Stroke Education – The facility must have a written protocol outlining nursing education. A minimum of 4 hours of education must be completed annually by any nursing personnel involved in stroke care.
- Other Personnel Stroke Education – The facility must have a written protocol outlining stroke education for other personnel. At a minimum “Stroke Awareness: Signs and Symptoms” education must be completed annually for other facility personnel.

## PUBLIC AWARENESS/EDUCATION

The facility must participate in regional stroke awareness campaigns and other public education activities regarding stroke. SETTRAC will be assisting Support Stroke Centers in meeting this criterion.

## **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 SETTRAC stroke facility.

**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, NIH Stroke Scale, and concurrent disease/predisposing factors.

## **SYSTEM TRIAGE**

**GOAL:** Patients with an onset of stroke symptoms < 3 hours will be taken to the closest Stroke Facility for treatment and evaluation for interventional care.

Unless immediate intervention (ABC's, cardiac arrest, etc.) is required, patients with an onset of stroke < 3 hours should be taken to a Level 1 or Level 2 SETTRAC facility. If stroke symptom onset is < 8 hours patients should be taken to a Level 1 facility. If the ground transportation adds > 15 minutes to the transport time, if ground transportation time is greater than 30 minutes or if lifesaving interventions (e.g. airway stabilization, control of hypertensive crisis, etc.) are required for safe transport, call for helicopter transport to meet you at the nearest agreed upon landing zone or take the patient to the nearest medical facility to arrange for helicopter transport.

SETTRAC Stroke Center bypass may only occur for the following reasons:

- Patient preference
- Physician preference
- Paramedic discretion

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

## **HELICOPTER ACTIVATION**

**GOAL:** 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 less than 8 hours.
2. Contact the air medical service for assistance in the decision-making process.

3. Patients meeting criteria for helicopter dispatch should be transported to the nearest Level 1 or Level 2 Stroke Center. Under same guidelines for ground transport.

## **FACILITY CRITERIA**

**GOAL:** The goal of establishing and implementing facility criteria in SETTRAC 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 treated appropriately or transferred to the nearest appropriate SETTRAC Stroke Facility. (See page 12 for example of Emergency Department Stroke Algorithm)
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.

## **INTER-HOSPITAL TRANSFERS**

**GOAL:** The goal for establishing and implementing a facility's inter-hospital transfer plan in SETTRAC is to ensure that those stroke patients requiring additional or specialized care and treatment beyond a facility's capability are identified and transferred to an appropriate facility 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 SETTRAC facility triage criteria.
2. To identify stroke treatment and specialty facilities within SETTRAC.
3. To establish treatment and stabilization criteria and time guidelines for SETTRAC patient care facilities.

## **TRANSFER DISCUSSION**

- The level of healthcare resources required for acute care patients is outlined in the pre-hospital triage criteria. When a stroke patient is identified a Code Stroke should be called, similar to the process for an unstable trauma patient.

- The time guideline for stroke patient transfers in TSA-Q is to transfer stroke patients with an onset window < 8 hours immediately to a Comprehensive or Primary Stroke Center utilizing Code Stroke alert when calling for acceptance. A stroke patient with an onset of > 8 hours should be initially transported to the closest stroke facility for initial treatment and admission or consideration of transfer for interventional treatment.
- Identification of Stroke Patients & Stroke Transfers – Stroke patients and their treatment requirements for optimal care are identified in the TSA-Q facility triage criteria and pre-hospital triage criteria. Stroke patients, with special needs, may be initially transferred to a Level 2 Stroke Center for assessment and treatment. When resources beyond its capability are needed, transfer to a Level 1 stroke designated facility should be expedited. Any initial-receiving hospital may also choose to transfer patients with special needs directly to these facilities, bypassing the Level 2 Stroke Centers when appropriate.
- Stroke Patient Transport – Stroke patients in SETTRAC 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 rotor wing) is also available in this Region.

## **SYSTEM QUALITY IMPROVEMENT**

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

**GOAL:** The goals for systems performance improvement in SETTRAC 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 SETTRAC.
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 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 developments is meeting its stated goals.

- Directions – The direction for the development of a SETTRAC Regional QI program is derived from the Texas EMS Rules: Section 157.124 Regional EMS Trauma Systems: (2.K) of the EMS Rules (effective 2/17/92) requires the development of a “performance management program that evaluates outcome from a system perspective”.
- Authority – The authority and responsibility for regional performance improvement rests with the Regional Authority Council. This will be accomplished in a comprehensive, integrated manner through the work of the Physician Audit, Stroke, and Pre-hospital committees.
- Scope & Process –The Stroke Committee with the Physician Audit Committee, the Hospital care and Management Committee serve as the oversight committee for regional stroke performance improvement. Referrals for follow-up and feedback to and from the Pre-hospital Care Committee and providers ensure system-wide, multidisciplinary performance improvement.
- The Stroke Committee will determine the type of Stroke data and manner of collection, set the agenda for the Stroke QI process within the regularly-scheduled 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 for entities involved, for follow-up and loop closure. Committee follow-up and outcome reports will be communicated on a standard format. Data collected from individual hospitals is required for purposes of QI.

## Emergency Department Stroke Algorithm

