

# **SouthEast Texas Regional Advisory Council SETRAC (TSA Q)**

## **EMERGENCY MEDICAL SERVICES/TRAUMA SYSTEM PLAN**



Established 2015  
Last Revised 2020

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## **Introduction to SETRAC**

The SouthEast Texas Regional Advisory Council (SETRAC) was organized under the authority of the Texas Department of State Health Services which was instructed by the 1989 Omnibus Rural Health Care Rescue Act. SETRAC is one of 22 Regional Advisory Councils (RAC) currently functioning within the State of Texas. SETRAC is a 501(C3) non-profit, tax-exempt organization, which is led by a Board of Directors (listed herein) and in accordance with SETRAC bylaws.

## **MISSION**

The mission of the SouthEast Texas Regional Advisory Council is to facilitate coordination of emergency healthcare providers to ensure the most efficient, consistent, and expeditious care of each individual who experiences an acute injury, stroke or cardiac event by developing and maintaining integrated quality processes in patient care, research, education, and prevention.

## **VISION**

The SouthEast Texas Regional Advisory Council will provide leadership within our region, state, and nation regarding the care of emergency healthcare patients and the solution to prevent mortality and morbidity.

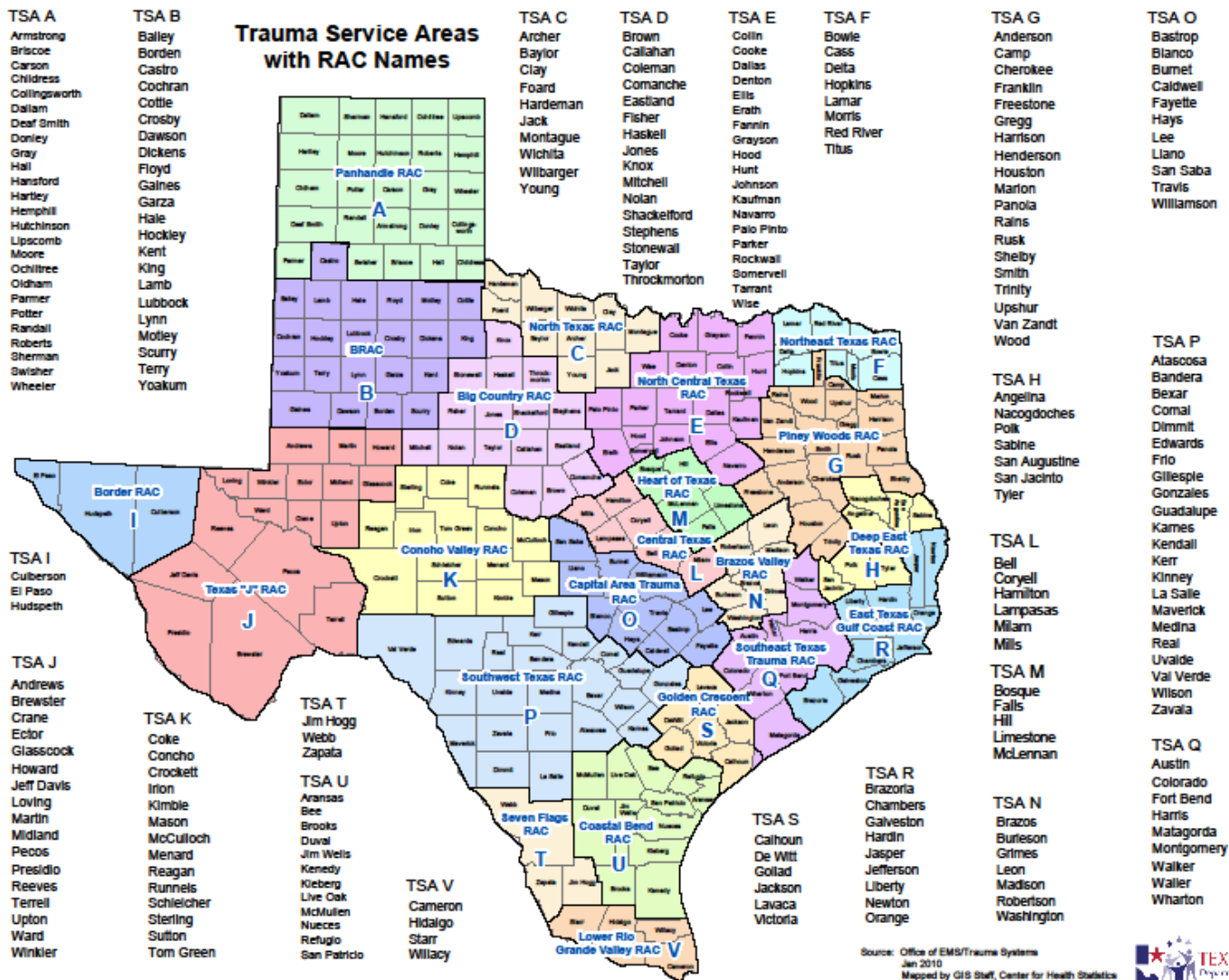
## **FOCUSES**

- Promote external communication to our constituents through public awareness programs, educational resources, and prevention programs.
- Identify and integrate our resources as a means to obtaining commitment and cooperation.
- Identify and leverage tactics to promote EMS provider participation
- Develop a legislative agenda for procurement of funds related to emergency healthcare (direct and indirect), taking into consideration medico legal aspects, regulatory agencies, pressure groups, and current legislation.
- Establish system coordination relating to access, protocols/procedures and referrals. These structures will establish continuity and uniformity of care among the providers of emergency healthcare.
- Promote internal communication as the mechanism for system coordination which will include the EMS Providers, consumers and members of the SETRAC.
- Create system efficiency for the patient and the programs through continuous quality improvement programs which identify the patient's needs, outcome data, and help develop standard uniformity.

## **Revisions and Modifications**

This document will be reviewed on a yearly basis by the Trauma and EMS committees. Ultimate approval of revisions and updates will reside with the SETRAC board of directors.

## Trauma Service Areas with RAC Names

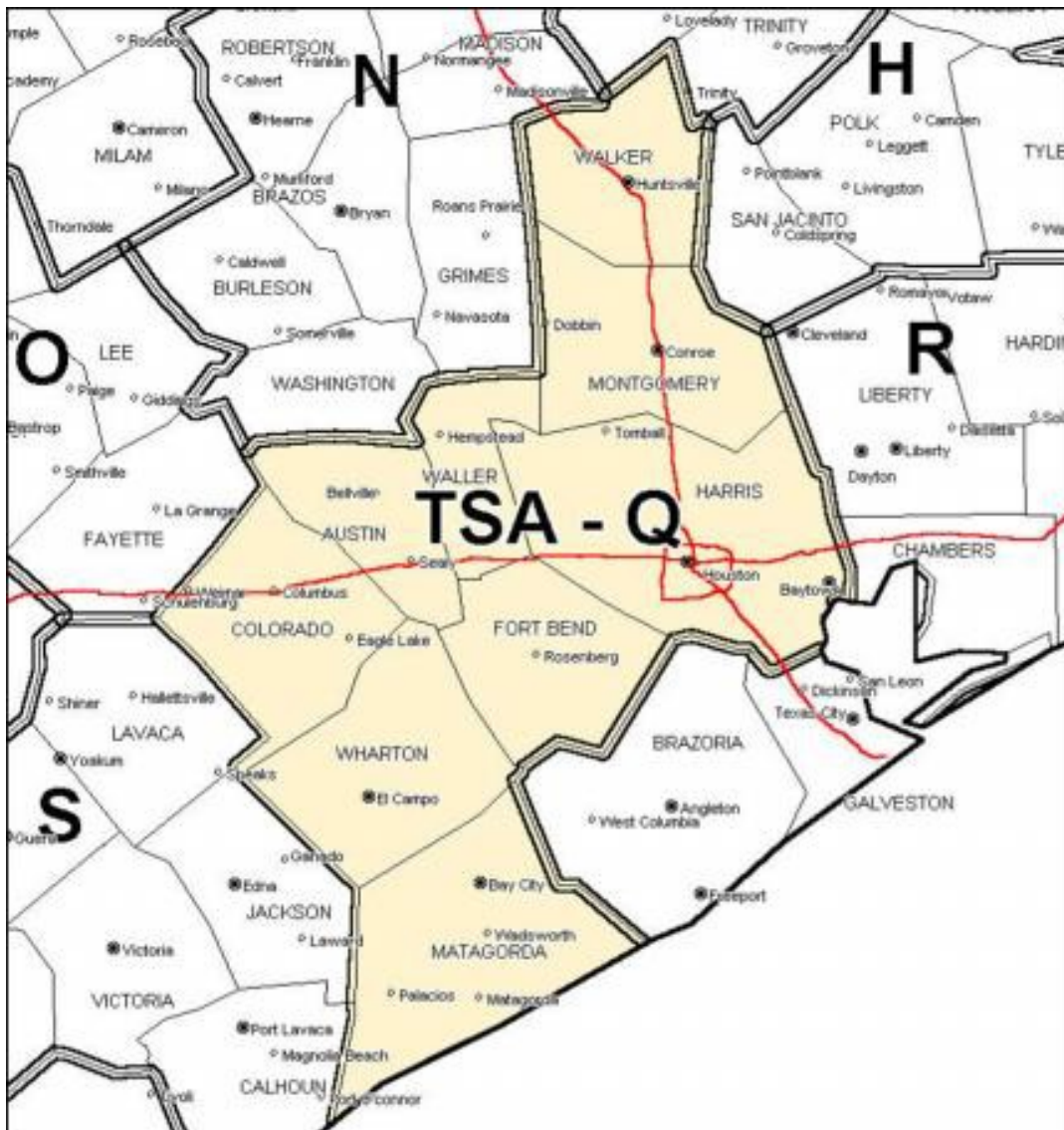


## DESCRIPTION

Trauma Service Area Q is composed of nine counties, with a total land mass of 8,896 square miles. Total population of TSA-Q exceeds 6.2 million.

The variety of services available within each county, distances between acute healthcare facilities, and designated trauma centers, coupled with traffic patterns related to population density within the SETRAC region causes emergency healthcare professionals to collaborate in order to offer the highest level of appropriate care to the acutely injured, trauma patient. Transport of critically injured patients by aeromedical transport is encouraged when appropriate.

## TSA-Q Counties



RAC Q accounts for 21.6% of the State of Texas population and has seen an increase in population of 6-7% as estimated by the US Census Bureau.\*

County	2010 Population	2013 Population (estimate)	2017 Population (estimate)	Land Area	# of Designated Trauma Centers
Austin	28,417	28,847	29,786	647	1
Colorado	20,874	20,752	21,232	960	2
Fort Bend	585,375	652,365	764,828	861	2
Harris	4,092,459	4,336,853	4,652,980	1,703	16
Matagorda	36,702	36,592	36,840	1,100	1
Montgomery	455,746	499,137	570,934	1,042	2
Walker	67,861	68,817	72,245	784	1
Waller	43,205	45,213	51,307	513	0
Wharton	41,280	41,216	41,968	1,086	2
Total	5,371,889	5,729,792	6,242,120	8,696	27

\*Population Source: U.S. Census Bureau (<http://quickfacts.census.gov/qfd/states/48000.html>) - as of 12/2018

## **Executive Board Members**

### **David Persse, MD**

#### **Chairman**

Medical Director  
Houston Fire Department  
500 Jefferson 15th Floor, Suite 1504  
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### **John Kowalik**

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#### **Vice Chairman of Hospital Services**

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### **Graig Temple**

#### **Secretary**

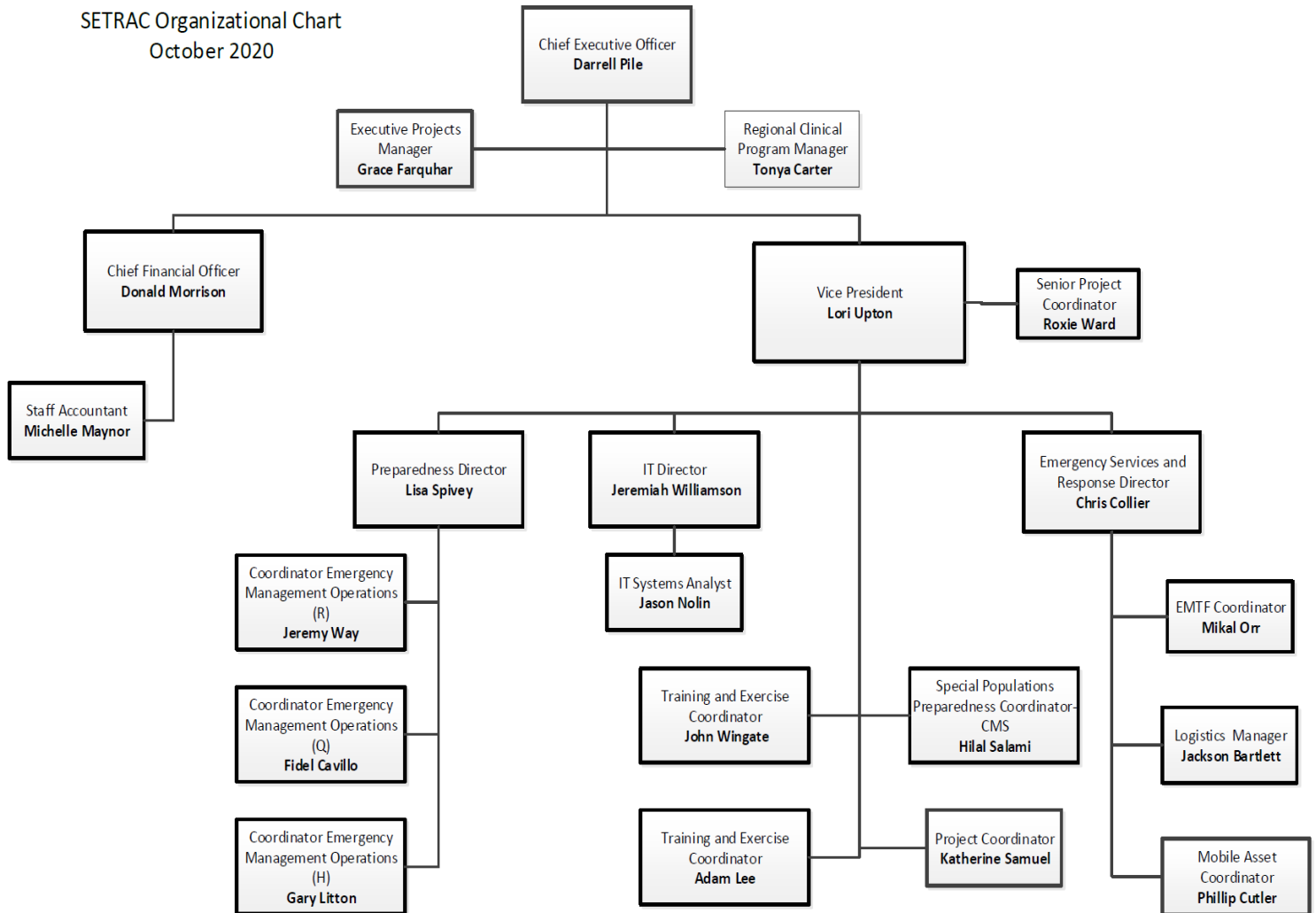
Chief of EMS  
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SETRAC Organizational Chart  
October 2020



## EMS Representatives

### **Austin County**

#### **Walter Morrow, RN CFRN EMT-P**

EMS Chief  
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### **City of Houston**

#### **David Persse, MD - Chairman**

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### **Colorado County**

#### **Amanda Daniel**

EMS Director  
Colorado County EMS  
305 Radio Ln., Suite 101  
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### **Fort Bend County**

#### **V. Graig Temple - Secretary**

EMS Chief - Fort Bend County EMS  
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### **Harris County**

#### **Lon Squyres - Treasurer**

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### **Matagorda County**

#### **Justin Cude NR-Paramedic**

Regional Vice President  
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### **Montgomery County**

#### **James Campbell**

Chief of EMS  
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### **Walker County**

#### **Kevin Bates**

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### **Wharton County**

#### **John Kowalik - Vice Chair Pre-Hospital Services**

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Wharton, TX 77488  
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## Hospital Representatives

### CHI St. Luke's Health System

#### Syed Raza, MD

Vice President of Medical Operations/Chief Medical Officer  
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### Harris Health System

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### Houston Methodist

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### Memorial Hermann

#### Tom Flanagan - Vice Chair Hospital Services

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Email: [bxkaziny@texaschildrens.org](mailto:bxkaziny@texaschildrens.org)

At Large Representative RHPC	At Large #1	At Large #2
<b>Kevin Schulz, MD, FAEMS, FACEP</b> LBJ Hospital Houston Fire Department (832) 216-8622 Email: <a href="mailto:kevin.schulz@houstontx.gov">kevin.schulz@houstontx.gov</a>	<b>Mark Sloan</b> Emergency Management Coordinator Harris County Office of Homeland Security & Emergency Management 6922 Old Katy Rd Houston, TX 77024 (713) 881-3100 Email: <a href="mailto:mark.sloan@hctx.net">mark.sloan@hctx.net</a>	<b>Position vacant</b>

To provide the most current information, links to websites are provided instead of a listing of facilities/EMS agencies.

[List of EMS/First Responder providers](#) - link takes you to the DSHS website

[List of Texas Trauma Designated Hospitals](#) – link takes you to the DSHS website

[List of Texas Hospitals](#) – link takes you to the Texas Hospital Association

A complete list of hospital capabilities can be found at:

<https://emresource.juware.com>

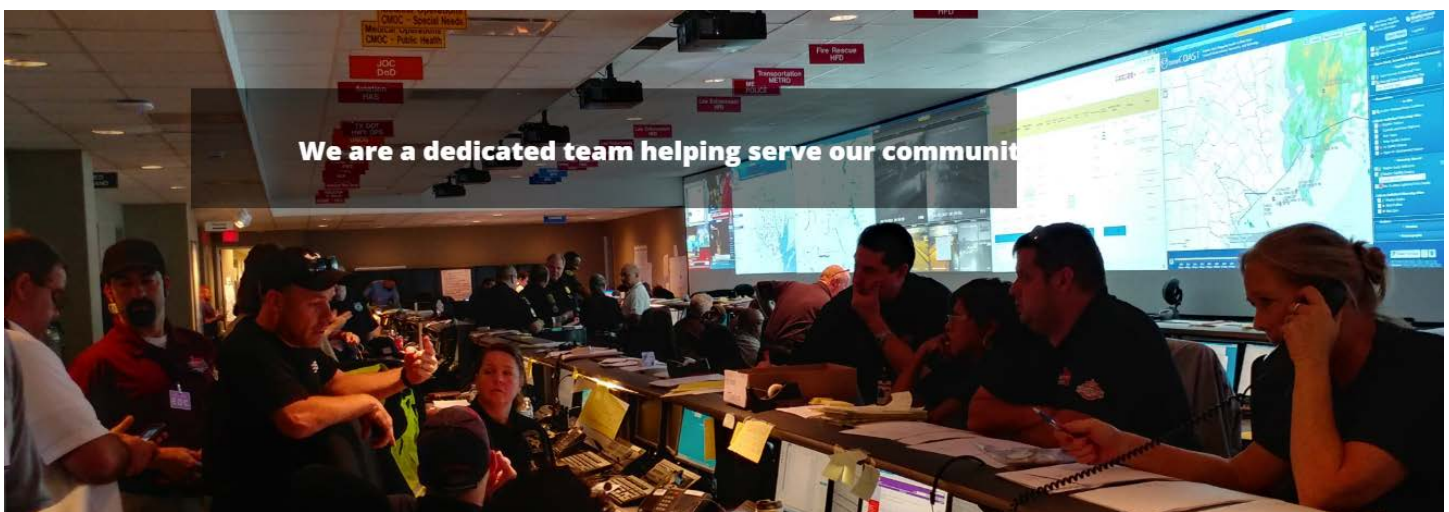
## SETRAC Bylaws can be located at:

<https://www.setrac.org/wp-content/uploads/2017/08/SETRAC-Bylaws-signed-7.17.2017.pdf>

## TSA-Q Web Sites

There are two main web sites within TSA-Q, one is the SETRAC website, and the other is EMResource.

SETRAC has set up a web site located at <http://www.SETRAC.org>. The web site contains information such as announcements, quarterly meeting schedule, committee information, training opportunities in the region, links to other websites, and general information about SETRAC. List servers have been set up for SETRAC and the various committees. These list servers automate the way meeting notices and important announcements are sent to participants. To subscribe, please visit our website at <http://list.setrac.org/mailman/listinfo>



The EMResource's web page <https://emresource.juware.com> displays the capacity and capability status of hospitals within our region. It is requested that the web site be updated by each entity at a minimum of once every 24 hours. This web site is also utilized to streamline resource management during disasters. To obtain access to the EMResource web site, contact the SETRAC office.

https://emresource.emsystem.com/EMSystem

Pandora One - Listen to Pando...

SETRAC - EMResource

File

Edit

View

Favorites

Tools

Help

P Pandora One - Listen to P...

Web Slice Gallery ▼

EMResource

SETRAC

LR

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Setup

View

Other Regions

Event

Preferences

Form

Report

Regional Info

IM

Region Default

Pediatric Hospitals										
	Memorial Hermann Children's (Level II)*	Open	High Volume	High Volume	Yes	Yes	None			
	Texas Children's (Level II)*	Open	Open	Open	Yes	No	None			
	Texas Children's Hospital - West Campus	Open	Open	Open	Non-Designated	No	None			
Trauma Level I										
	Ben Taub General*	Open	Open	Open	Yes	Yes	Comprehensive (L1)	Yes	Yes	IMU CAUTION
	Memorial Hermann*	Open	Auto-Open	High Volume	Yes	Yes	Comprehensive (L1)	Yes	Yes	Auto-changed due
Trauma Level III										
	Bayshore Medical	High Volume	Auto-Open	Auto-Open	Yes	Yes	Primary (L2)	Yes	Yes	ED HOLDING..NO L & D BEDS LONG WAIT changed ...
	Clear Lake Regional Medical Center*	High Volume	Auto-Open	Auto-Open	Yes	Yes	None	Yes	Yes	Auto-changed due to expired yellow status. I
	Conroe Regional Medical Center	Open	Open	Open	Yes	Yes	Primary (L2)	Yes	Yes	In Active Pursuit of Level II Trauma Center st
	Cypress Fairbanks Medical Center*	Open	Open	Open	Yes	Yes	Primary (L2)	Yes	Yes	
	Houston Northwest Medical Center*	Open	Open	Open	Yes	Yes	Primary (L2)	Yes	Yes	
	I.B.I. General*	High Volume	Auto	Auto	Yes	No	None	No	Yes	Auto-changed due to expired red status. I Aut

## **TSA-Q Participation Guidelines**

### **Certificates of Participation**

The Board shall provide for the issuance of certificates evidencing the current participation status of Members. To qualify for the certificate being requested, members must demonstrate all the requirements have been met, including payment of annual dues and the submission of data as required.

### **Participation for Hospitals**

For hospitals with service lines represented by committees set forth in Section 5.2, each hospital must participate in 6 meetings annually. These meetings must include:

- 3 in each service line designation requested plus
- 3 other meetings that may include Board meetings, RHPC meetings, and/or meetings of the service line committees (and related subcommittees) as set forth in Section 5.2.
- Board of Director attendance at quarterly Board meetings or any special meeting will count towards Member's participation.

### **Participation for EMS Agencies**

Attend 6 meetings annually which must include:

- At least 3 Pre-Hospital/Strategic Quality Improvement meetings plus
- 3 other meetings that may include additional Pre-Hospital/SQI meetings, Board meetings, RHPC meetings, and/or meetings of the service line committees (and related subcommittees) as set forth in Section 5.2
- Board of Director attendance at quarterly Board meetings or any special meeting will count towards Member's participation.

### **Additional Requirements for Trauma Centers**

- At least 50% of trauma committee meetings (designee accepted)
- Submit data to SETRAC (see below)
- Encouraged to participate in subgroup meetings (ie: trauma data)
- Membership Dues

### **Trauma Data**

- SETRAC has a regional trauma registry. All regional trauma designated hospitals submit trauma data to the regional registry at a minimum of every quarter in order to meet participation requirements for trauma designation. Trauma data elements follow National Trauma Data Bank (NTDB) and Department of State Health Services (DSHS) format. Data is aggregated and shared in Trauma Committee and Trauma Data Subcommittee meetings. For a complete list of reporting requirements, laws and rules and data elements, click on the links listed below:
- [DSHS EMS & Trauma Registries](#)
- [NTDB Dataset Dictionary](#)

## SETRAC List of Committees

The primary function of the SouthEast Texas Regional Advisory Council is to provide stakeholder support through [planning](#), facilitation, operations and the provision of technical assistance to the region for [Preparedness](#), [Trauma](#), [Injury Prevention](#), [Stroke](#), [Cardiac](#), Prehospital, [Pediatric](#) and [Perinatal](#) services. As a coalition, we foster collaboration to educate our communities, and to collectively deliver appropriate care with appropriately trained providers. The following committees meet at least quarterly to discuss process improvement, gaps identified through data analysis, quality initiatives and general system of care development. Committee meeting date/time/location is listed on the SETRAC homepage: [www.setrac.org](http://www.setrac.org).



### SETRAC Clinical Committees

#### SETRAC Board of Directors

##### Chairman

David Persse MD

#### Stroke Committee

##### Chair

Sean Savitz, MD

##### Vice Chairs

Laura Griffin, DNP  
Andrew Adams

#### Trauma Committee

##### Chair

Michelle McNutt, MD

##### Vice Chairs

Eric Bank  
Melanie Martin

#### Cardiac Committee

##### Chair

James McCarthy, MD

##### Vice Chairs

Todd Caliva  
Kevin Schulz, MD

#### Perinatal Committee

##### Chair

David Weisoly, DO

##### Vice Chairs

Lisa Hutchins  
Patrick Vermaas

#### Injury Prevention Committee

##### Chair

Michelle McNutt, MD

##### Vice Chairs

Robin Garza  
Kacey Sammons

#### Pediatric Committee

##### Chair

Brent Kaziny, MD

##### Vice Chairs

Emily Kidd, MD  
Sarah Beth Abbott

#### Prehospital Committee

##### Chair

John Kowalik

##### Vice Chairs

Cameron Decker, MD  
Allen Sims

**\*All clinical committees report up to the SETRAC Board of Directors**

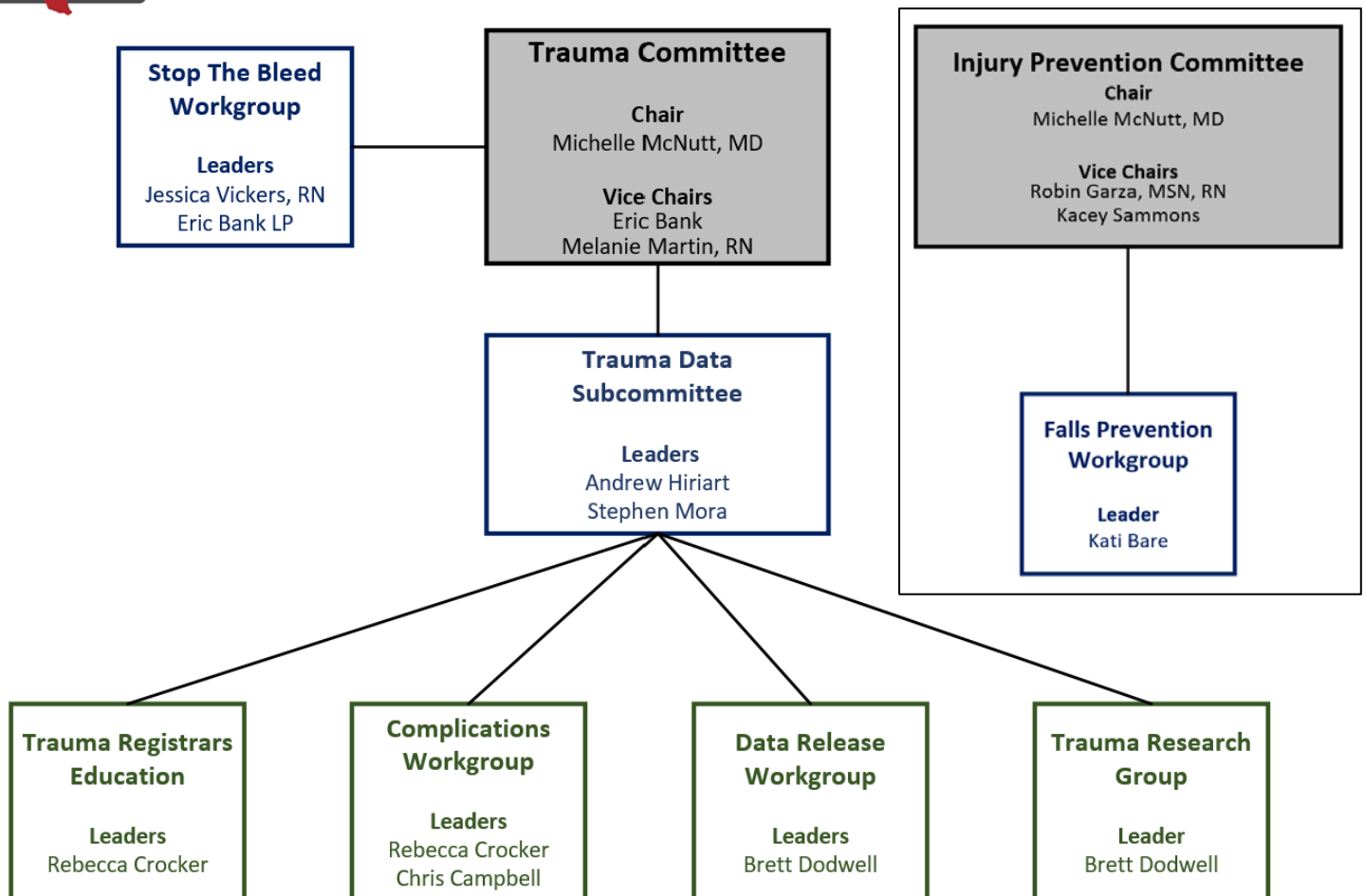
## TSA-Q Plan Components

### Injury Prevention

#### DESCRIPTION

The CDC states that violence and injury prevention require building effective partnerships to coordinate efforts across agencies, organizations, and sectors. The SouthEast Texas Regional Advisory Council (SETRAC), is the designated entity to develop and maintain the Regional Trauma/EMS Systems for TSA-Q, this provides unique opportunities to work with hospitals, EMS agencies, physicians, and other clinicians who care for these injured patients on a daily basis. We can minimize the impact of traumatic events in our 9-county region through prevention and education of our medical providers and community.

#### SETRAC Clinical Committees and Subcommittees



\*All clinical committees report up to the SETRAC Board of Directors

## **Access to the System**

### **Basic 9-1-1**

Basic 9-1-1 is a regional system providing dedicated trunk lines which allow direct routing of emergency calls. Routing is based on the telephone exchange area, not municipal boundaries. Automatic Number Identification (ANI) and Automatic Location Identification (ALI) are not provided with Basic 9-1-1. All areas of SETRAC have ANI, and the majority, with the exception of some rural counties have ALI.

### **Enhanced 9-1-1**

Enhanced 9-1-1 is a system which automatically routes emergency calls to a pre-selected answering point based upon geographical location from which the call originated.

A 9-1-1 system operates by a caller dialing the digits 9-1-1, then the call is routed to the local telephone company central office or CO; at the CO, the telephone number is attached to the voice and sent to the Public Safety Answering Point (PSAP). With Automatic Location Identification and Selective Routing, the call is sent to the CO and the computer (9-1-1 Database) assigns an address to the phone number, then routes the call to the designated PSAP.

In TSA-Q, the primary emergency communication systems for public access are Basic or Enhanced 9-1-1. The emergency communication systems were implemented providing citizen's access to emergency communications to municipalities and counties (incorporated and unincorporated areas) in the TSA-Q.

ANI is a system capability that enables an automatic display of the ten-digit number of the telephone utilized to place a 9-1-1 call. ALI is a system that enables the automatic display of the calling party's name, address and other pertinent information.

Alternate Routing (AR) is a selective routing feature which allows 9-1-1 calls to be routed to a designated alternative location if all incoming 9-1-1 lines are busy or the central system (PSAP) closes down for a period of time.

Selective Routing (SR) is a telephone system that enables 9-1-1 calls from a defined geographical area to be answered at a pre-designated PSAP.

## **Access to the System (cont.)**

### **Strengths**

#### **Strengths of the current 9-1-1 system include:**

- Numerous counties have fully enhanced 9-1-1 systems which provide ANI and ALI information to the appropriate police, fire and EMS agencies that respond to the specific location.
- PC's that are provided to the answering point to assist in locating the caller in an ANI level of service area.
- All answering points are equipped with voice recording equipment, instant playback capabilities of previous telephone and/or radio conversations. Answering points have access to language line interpretation services, the communication devices for deaf (TDD/TTY), as well as conference call capability.
- Immediate activation of 9-1-1 with phone call and/or disconnection, even though database information is not current.

### **Weakness**

#### **Weakness of the current 9-1-1 system include:**

- Potential average delay for database updates from time of telephone connection.
- Some areas are growing so fast that they may not yet be reflected on maps and global positional satellite (GPS) units.
- **(NOTE:** The above issues cannot be resolved by SETRAC. These problems can be resolved only by the map and GPS companies.)
- Within Harris County there are multiple EMS providers within close proximity of one another. At times this creates confusion related to the use of cell phones when calling 911. If the cell tower directs the call to a neighboring provider a delay results from the need to establish the identity of the proper provider, then transfer the call to their dispatcher. This can result in a one to three-minute delay.

## **Communications**

Due to the vast types of EMS and First Responder Organization agencies in TSA-Q: municipal, county, emergency service districts, non-profit, and for-profit providers, there are a variety of communications systems and dispatch methods utilized in the TSA-Q region.

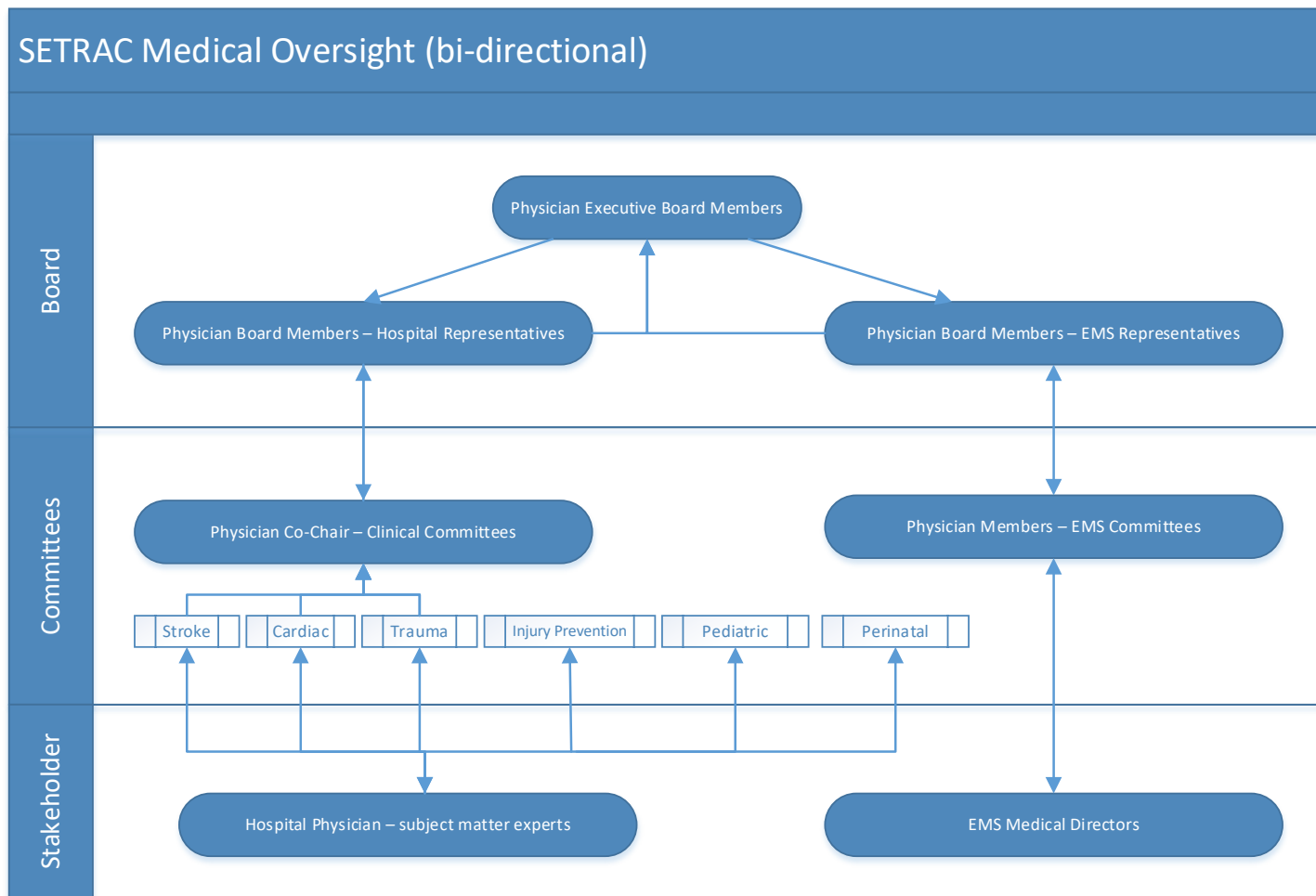
Each agency has established dispatch training requirements and dispatch methods utilizing two-way radios on VHF, UHF, or 700/800mh radio system. Most providers have cellular telephones to utilize when radios are out of range and to contact hospitals for patient reports. A link to the list of agencies was provided previously in this document.

In most cases, these agencies have control stations in place that operate on their channel(s) and that are patched with control station(s) that operate on neighboring jurisdictions radio systems. This configuration allows for interoperability with most providers / users in the event of an incident or event.



## Medical Oversight

Medical oversight is defined as the assistance given to the RAC in system planning by a physician or group of physicians designated by the RAC to provide technical assistance. Input from the medical community is critical to the success of the RAC. All SETRAC clinical committees have physician, hospital, and EMS representation that lead the committees, and as needed, workgroups can be established to address specific needs. SETRAC recognizes medical oversight on all levels of the organization and those are outlined in the infographic below:



## **Regional Trauma Treatment Guidelines**

Emergency Medical Service (EMS) professionals are most often the first healthcare providers to reach a traumatically injured patient, and based on their patient assessment and geographical location, will determine which hospital would provide the most appropriate level of care required by the patient. The triage decisions made by EMS professionals can impact the ability of the trauma patient to survive the injury, and to what quality of life they will recover to.

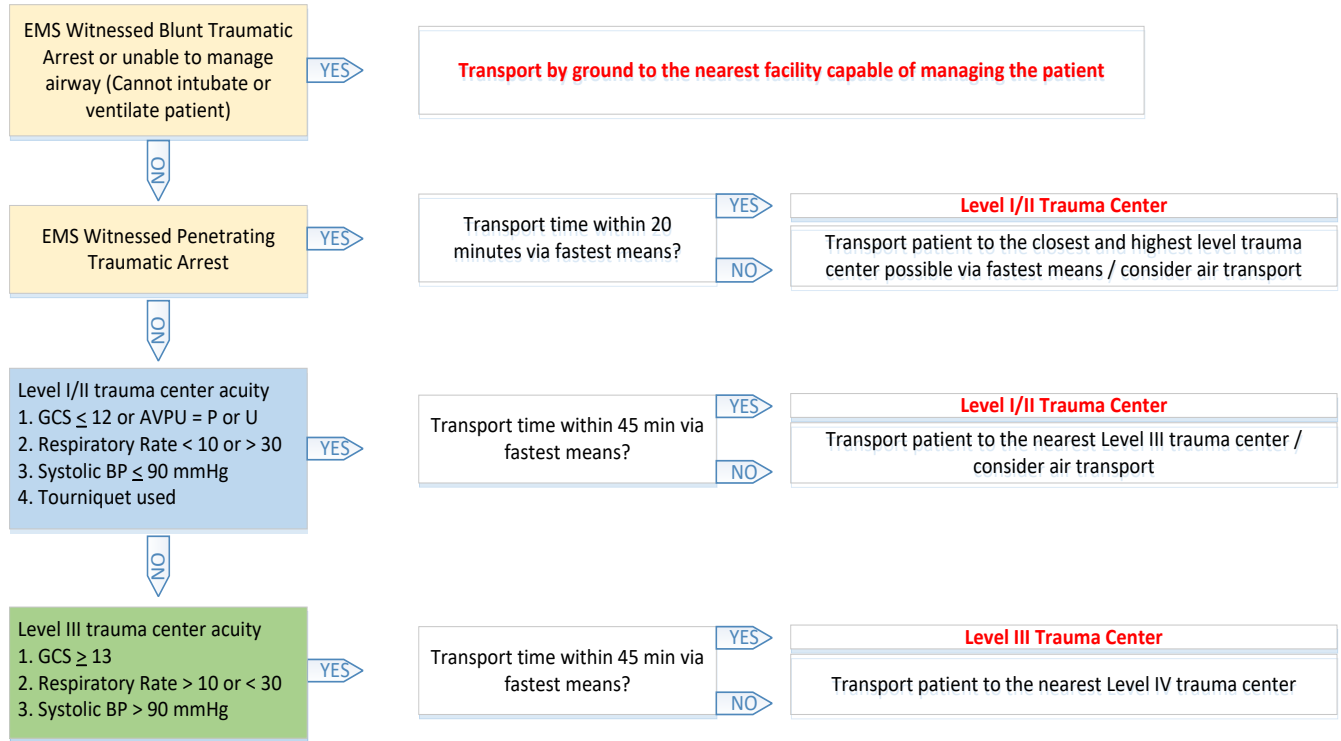
The SETRAC Trauma Committee, Pediatric Committee, and EMS Committee developed the SETRAC Pre-Hospital Adult and Pediatric Trauma Transport Guidelines. The purpose of these regional Pre-Hospital Trauma Transport Guidelines are to assist clinicians in determining the closest, most appropriate facility that can provide the highest level of trauma care for the traumatically injured patient, this provides patients the best chance at a full recovery after their traumatic event.

1. SETRAC Pre-Hospital Adult Trauma Transport Guidelines
  - a. Includes pre-hospital triage, treatment and by-pass guidelines
2. SETRAC Pre-Hospital Pediatric Transport Guidelines
  - a. Includes pre-hospital triage, treatment and by-pass guidelines
  - b. Addresses pre-hospital triage and scoring of pediatric patients



## SETRAC Pre-Hospital Adult Trauma Transport Guidelines

This is a guide to assist in appropriate trauma transport. Like all protocols, it cannot cover all situations. Good clinical assessment in conjunction with patient stability, MOI, and special patient consideration should guide you to the correct trauma facility. All times indicated are considered from EMS Contact time.



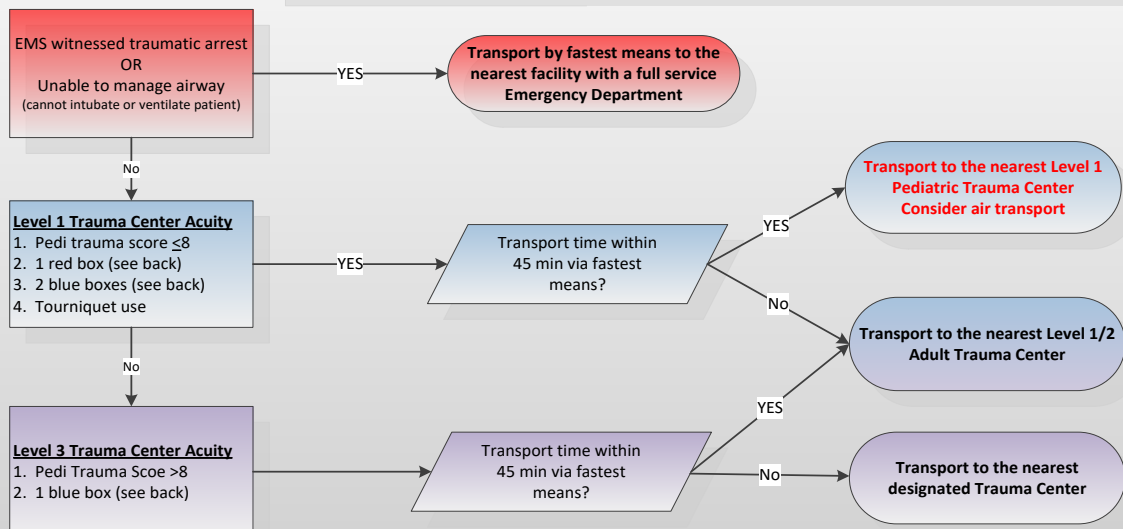
Utilize the Special Patient Consideration Factors by MOI and consider Level I transport	
<b>Special Patient Consideration Factors</b> <ol style="list-style-type: none"> <li>Age <math>&gt;</math> 55 have increased risk of death due to injury <math>&lt;</math> 18 utilize Pediatric Guidelines</li> <li>Anticoagulation and bleeding disorders</li> <li>Burns with no trauma to burn-specific center</li> <li>Time sensitive extremity injuries</li> <li>Pregnancy <math>&gt;</math> 20 weeks</li> </ol>	<b>MOI Factors with injury</b> <ol style="list-style-type: none"> <li>Falls <math>&gt;</math> 20 feet (1 story is 10 feet)</li> <li>High-risk MVI               <ul style="list-style-type: none"> <li>Ejection, partial or complete</li> <li>Death in same passenger compartment</li> <li>Extended extrication time due to vehicle damage</li> </ul> </li> <li>Auto vs. Pedestrian or bike</li> <li>Motorcycle crash <math>&gt;</math> 20 mph</li> </ol>



# SETRAC Pre-Hospital Pediatric Transport Guidelines

(A pediatric patient is defined as less than 16 years old)

This is a guide to assist in appropriate trauma transport. Like all protocols it cannot cover all situations. Good clinical assessment in conjunction with patient stability, MOI and special patient considerations should guide you to the correct trauma facility. Times are based on EMS patients contact time.



## Utilize the special patient consideration factors followed by MOI and consider Level 1 Pediatric Trauma Center

### Special Patient Consideration Factors

1. Bleeding disorders or hemophilia
2. Burns without trauma to Burn Specific Center
3. Submersion injury
4. Special needs patient with suspected injury
5. Unexplained/inconsistent injury

### MOI Factors with Injury

1. Fall  $\geq 3x$  patient height
2. High risk MVC
  - Ejection, partial or complete, including child safety seat
  - Death in same passenger compartment
  - Extended extracaitontime due to vehicle damage with injury
  - Front seat air bag deployment
3. Auto vs. pedestrian or bike
4. Motorcycle craxh > 20 mph

Last revised: 4/2015

## **Burn Guidelines**

### **1. Adults (16 y.o. and older)**

- a. **Minor Burns**- considered to be second-degree burns < 5% TBSA, which can be managed as an outpatient. However, if there is any concern about the need for inpatient care or about appropriate outpatient care the ER physician at the outside hospital where the patient was seen should call an ABA-verified burn center and speak to the on-call attending burn physician regarding follow-up versus transfer before discharging the patient home.
- b. **Moderate burns**- considered to be second-degree burns >5 % TBSA, but less than 10% TBSA, which may likely require transfer to a burn center for evaluation and possible admission. The ER physician at the outside hospital where the patient was seen should call the MHH-TMC transfer center and speak to the on-call attending burn physician regarding follow-up versus transfer. Patients should not be referred for burn follow-up without speaking to the on-call burn surgeon at MHH-TMC.
- c. **Major Burns**- considered to be second degree burns >10% TBSA, have any component of third degree burns, electrical burns, inhalation injury, or any other burn that meets ABA criteria for transfer to a burn center. The ER physician at the outside hospital where the patient was seen should call the MHH-TMC transfer center and speak to the on-call attending burn physician regarding immediate transfer to the burn center at MHH-TMC.
- d. **Any burns to face, hands, perineum,** electrical burns, inhalation injury, or any other burn that meets ABA criteria for transfer to a burn center.

### **2. Children (15 y.o. and younger)**

- a. **Minor Burns**- considered to be second-degree burns < 5% TBSA, which can possibly be managed as an outpatient. However, if there is any concern about the need for inpatient care or about appropriate outpatient care, the ER physician at the outside hospital where the patient was seen should call the MHH-TMC transfer center and speak to the Pediatric ER physician regarding follow-up versus transfer before discharging the patient home. If the patient is going to be discharged home, recommend that the patient's burn wound are debrided as best as possible since this has been requested by the Pediatric Burn Surgeons.
- b. **Moderate burns**- considered to be second-degree burns >5 % TBSA, but less than 10% TBSA, which may likely require transfer to a burn center for evaluation and possible admission. The ER physician at the outside hospital where the patient was seen should call the MHH-TMC transfer center and speak to the Pediatric ER physician regarding transfer.
- c. **Major Burns**- considered to be second-degree burns >10% TBSA, have any component of third degree burns, hand, perineum, face, electrical burns, inhalation injury, or any other burn that meets ABA criteria for transfer to a burn center. The ER physician at the outside hospital where the patient was seen should call the MHH-TMC transfer center and speak to the Pediatric ER physician regarding immediate transfer to the Pediatric ER at Children's Memorial Hermann Hospital.
- d. **Burns >30% TBSA**- All pediatric burns (<16 years old) should be directly transferred to Shriners' Children's Hospital in Galveston after calling their transfer center and discussing the case with the Pediatric ER physician. It is not necessary to contact the transfer center at MHH-TMC for these patients, since it will delay appropriate transfer and care.

### **1. Treatment**

- a. Burn patients seen at an outside hospital should have the burn wounds evaluated prior to contacting the transfer center at MHH-TMC and speaking with the Pediatric ER physician.
- b. The Pediatric ER physician will direct decisions regarding further wound care, whether the patient is being discharged home from the outside hospital or being transferred to MHH-TMC. In cases where the patient is being transferred to MHH-TMC, do not put any topical antimicrobial on the wound since this will need to be removed when the patient is evaluated by the pediatric surgery team.

- c. Do not apply saline soaked dressings or cold packs to any burn wounds because it can cause the depth of the burn to progress due to vasoconstriction of the blood vessels and/or lead to hypothermia in patients with larger burns.
- d. Not all burn patients require IV fluids. Only burn patients with burns >20% TBSA (second and/or third degree) require IV fluids; however, if there are any concerns about hypovolemia, start the patient on maintenance IV fluids.
  - a. If IV fluids need to be started, start Lactated ringers or Plasmalyte at 2 mL/kg/%TBSA with half the estimated amount being given over the first eight hours and the second half given over the ensuing 16 hours.
    - i. For children > 13 y.o., treat with adult (2mL/kg/%TBSA) resuscitation protocols.
    - ii. For children < 13 y.o. and > 30 kg, start LR at 3 mL/kg/%TBSA with half the estimated amount being given over the first eight hours and the second half given over the ensuing 16 hours.
    - iii. For infants and young children (<30 kg), start LR at 3 mL/kg/%TBSA with half the estimated amount being given over the first eight hours and the second half given over the ensuing 16 hours. In addition, they will require maintenance fluids in the form of LR (> 10kg) or D5LR (<10 kg).
  - b. Do not use the Parkland formula to determine fluid rate since it can lead to over-resuscitation.
  - c. Do **not** bolus burn patients for any reason, including hypotension, early on in resuscitation.
  - d. Place a foley in order to monitor urine output while awaiting transfer. Maintain urine output of 30-50 mL/hr for adults and children > 13 y.o. Children < 13 y.o. should have fluids titrated to maintain urine output of 1-2 mL/kg/hr.
- e. Patients who suffer burns due to chemicals should have the burn wounds decontaminated with continuous body temperature water for at least 30 minutes prior to transfer.
- f. Patients with electrical injuries should have an EKG checked to identify any arrhythmias prior to transfer.

## **Saturation Policies (formerly “Diversion”)**

The SETRAC region adopted a “No Diversion” policy in 2013. Hospitals that are experiencing high Emergency Department census or decreased inpatient bed capacity have the ability to identify these situations in EMResource.

### **Hospital Status:**

- Open: All units/floors/bed types available; normal operating conditions
- Caution: Some areas/units of hospital unable to take patients/high census alert/some ancillary services such as CT or MRI are unavailable (please make note in comments area)
- Internal Disaster: Critical infrastructure failure
- Evacuation: Facility is evacuating
- Closed: Facility has completed evacuation or no longer in service

### **ED Status:**

- Open: All services available and normal operating status of ED
- High Volume: Wait times are getting longer for non-urgent patients, ED census is nearing maximum, admission times increasing
- Saturation: Long wait times for most categories of patients, holding multiple admissions for > 6 hours

### **Trauma Status:**

- No – unable to take additional trauma patients or not a designated trauma facility
- Yes – open for trauma patients and a designated facility

### **Acknowledgements:**

- It is recognized in advance that no capacity strategy can guarantee total compliance with these guidelines and it is likely that ambulances will deliver patients to hospitals that have identified a state of saturation.
- Each facility is responsible for defining facility-specific policies and procedures for implementation of these guidelines.
- It is understood that the EMS system should not be expected to accurately screen patients transported to a facility based upon the capacity categories identified. When these questions arise, the EMS personnel should contact their on-line medical direction source, if available.

All hospitals in SETRAC have been provided with EMResource, which is an internet program that allows each hospital to update their status without the need to contact a central location. A hospital should be logged into EMResource at all times.

### **Communication of saturation status:**

- The individual with proper authority shall log in and update EMResource appropriately.
- A hospital must indicate the applicable saturation category

### **Time period for diversion status:**

- Saturation requests will be for 4 hours. After 4 hours, the system will “auto-open” the facility. A hospital may deactivate a saturation request at any time.

## **Saturation Policies (formerly “Diversion”) cont.**

Authorization for over-ride of saturation request:

- The on-line medical direction source may over-ride a facility saturation request after consideration of the following:
  - Severity of the patient
  - Distance and estimated time to an alternate appropriate facility
  - Patient Request
  - Inclement weather conditions
  - Resource availability and capability of the transporting prehospital provider
  - All potential receiving facilities within a 15-minute radius of the patient location have requested saturation consideration

Communication of Internal Disaster status:

- The individual with proper authority shall log in and update EMResource appropriately.
- A hospital must indicate the condition that requires the declaration of Internal Disaster in Comments.
- The condition that requires the declaration of Internal Disaster must be an environmental or physical plant situation, such as utility outage, unsafe situation in the hospital, etc. Must specify in comments.
- SETRAC On-Call Duty Officer will contact the facility to obtain information regarding the internal disaster and whether the facility is in need of any regional resources to bring their facility back on-line.

Time period for Internal Disaster status:

- There is no time limit, but the hospital must update its status as soon as the condition that required the declaration of Internal Disaster is no longer in existence.



## **Regional Medical Control**

The Texas Department of State Health Services under Chapter 773, Emergency Medical Services and the Texas Board of Medical Examiners under Chapter 197, Emergency Medical Service, dictate that a State of Texas Licensed Physician be designated in the role of EMS Medical Director. Each Medical Director can set and authorize EMS practice Guidelines and Protocols specific to the EMS agency or agencies that serve under their license. As a resource and a recommended standard, SETRAC and its committees can work to set recommended regional standards and best practice to each EMS agency and their designated Medical Director. SETRAC and its committees can provide resources and guidance on new and special topics, such as Infectious Disease, Preparedness and Disaster. During times of declared disasters, all agencies are subject to the policies and standards set forth by the State of Texas. These can include the Department of State Health Services, Health and Human Services and the Texas Department of Emergency Management.

## **Facility Triage Criteria**

The process of triage allows hospitals to prioritize patients based on patient complaint, history and physical assessment findings. This process is individualized according to designation level and input from medical staff, however, guidance can be found in the American College of Surgeons (ACS) – Committee on Trauma document “[Resources for Optimal Care of the Injured Patient](#)”.

Minimum criteria for full trauma team activation as required by ACS include:

1. Confirmed blood pressure < 90 mmHg at any time in adults and age-specific hypotension in children
2. GCS < 9 with mechanism attributed to trauma
3. Transfer patients from other hospitals receiving blood to maintain vital signs
4. Intubated patients transferred from the scene
5. Patients who have respiratory compromise or are in need of an emergent airway
  - a. Includes intubated patients who are transferred from another facility with ongoing respiratory compromise
  - b. does not include patients intubated at another facility who are now stable from a respiratory stand- point
6. Emergency physician’s discretion

Additional regional criteria (approved by SETRAC Trauma Committee) for full trauma team activation at Level I and Level II trauma facilities include:

1. pre-hospital blood transfusion
2. pre-hospital tourniquet use
3. pelvic ring injury requiring stabilization device (pelvic binder or sheet)
4. gunshot wound to extremities proximal to the knee or elbow.

### [SETRAC Regional Trauma Team Activation Criteria](#)

The ACS example of a tiered protocol is shown below.

**Table 3** An Example of a Tiered Trauma Team Activation Protocol

FULL Trauma Team Criteria				LIMITED Trauma Team Criteria	
Persons who sustain injury with any of the following				Persons who sustain injury with any of the following	
PRIMARY SURVEY: PHYSIOLOGIC				MECHANISM OF INJURY	
Airway	Unable to adequately ventilate Intubated or assisted ventilation	Unable to adequately ventilate Intubated or assisted ventilation		<ul style="list-style-type: none"><li>Falls: adult &gt;20 ft; child &gt;10 ft or 3× height</li><li>Fall from any height if anticoagulated older adult</li><li>High-risk auto crash with:<ul style="list-style-type: none"><li>Intrusion of vehicle &gt;12" in occupant compartment; &gt;18" in other site</li><li>Ejection (partial or complete) from automobile</li><li>Death in same passenger compartment</li></ul></li><li>Auto vs. pedestrian/cyclist thrown, run over, or with significant (&gt;20 mph) impact</li><li>Motorcycle crash &gt;20 mph</li><li>High-energy dissipation or rapid decelerating incidents, for example:<ul style="list-style-type: none"><li>Ejection from motorcycle, ATV, animal, and so on</li><li>Striking fixed object with momentum</li><li>Blast or explosion</li></ul></li><li>High-energy electrical injury</li><li>Burns &gt;10% TBSA (second or third degree) and/or inhalation injury</li><li>Suspicion of hypothermia, drowning, hanging</li><li>Suspected nonaccidental trauma</li><li>EMS provider judgment</li><li>Blunt abdominal injury with firm or distended abdomen or with seatbelt sign</li></ul>	
Breathing	Respiratory rate <10 or >29 per minute	Any sign of respiratory insufficiency (hypoxia, accessory muscle use, grunting)			
Circulation	SBP <90 mm Hg perfusion	Any sign of abnormal (capillary refill >2 secs, BP low for age)			
		Age <1 y 1–10 y >10 y	SBP (mm Hg) <60 <70 + 2× age <90		
Deficit	GCS motor score ≤5, GCS ≤13	AVPU: responsive to pain or unresponsive			
<ul style="list-style-type: none"><li>Deterioration of previously stable patient</li><li>Transfers requiring blood transfusion</li></ul>					
SECONDARY SURVEY: ANATOMIC					
<ul style="list-style-type: none"><li>Penetrating injuries to the head, neck, torso, or extremities proximal to the elbow/knee</li><li>Open or depressed skull fracture</li><li>Paralysis or suspected spinal cord injury</li><li>Flail chest</li><li>Unstable pelvic fracture</li><li>Amputation proximal to the wrist or ankle</li><li>Two or more proximal long bone fractures (humerus or femur)</li><li>Crushed, degloved, or mangled extremity</li></ul>					

To view the entire document, go to the American College of Surgeons webpage at: [www.facs.org](http://www.facs.org)

## **Inter-Hospital Transfers**

Traumatically injured patients should be transferred to a higher level of care when the medical needs of the patient require more resources than available at the initial treating facility. Research shows that it is critical to make the decision to transfer early, while continuing to stabilize and treat the patient until the transfer is completed. It is recognized that severely injured patients might not be stable prior to transfer, however, it should not be a contraindication for transfer to a higher level of care. SETRAC is also prepared to support inter-hospital transfers due to disasters that may limit facilities ability to provide services and/or the disaster results in a surge of patients. Similarly, SETRAC is prepared to support inter-hospital transfer of patients to federally designated hospitals for specific populations of patients. See also Disaster Preparedness Section.

## **Designation of Trauma Facilities**

TSA-Q follows the Texas Administrative Code 157.125 - [Requirements for Trauma Facility Designation](#) when recognizing designated Trauma Centers in the region.

## **TSA-Q Disaster Preparedness**

### **Regional Healthcare Preparedness Coalition (RHPC)**

The SouthEast Texas Regional Advisory Council is a leader in healthcare emergency preparedness and response. Contracted under the Texas Department of State Health Services, SETRAC serves as the Hospital Preparedness Program (HPP) Contractor for TSA-Q, as well as TSA-R and H. additionally, SETRAC is the Lead RAC for the Region 6 EMTF program.

Through our standing Board Committee, the Regional Healthcare Preparedness Coalition (RHPC) provides coordinated planning, education, training, essential equipment and supplies, and a regional approach to healthcare response in a disaster.

This regional response is coordinated through the Catastrophic Medical Operations Center (CMOC). The CMOC serves the 25 county HPP region and provides a coordinating entity to ensure sustainment and recovery of healthcare infrastructure, staging oversight of EMS and transport assets, as well as situational awareness logistical support, and movement / tracking of medical populations, both from the community as well as from the hospitals and long term facilities in our response region.

Technological adjuncts to facilitate our planning and response efforts include: WebEOC, EmResource, EMTrack, and Everbridge. WebEOC is an integrated web-based tool that allows for information sharing, resource requests, and cross-jurisdictional awareness. EmResource is the primary tool utilized across the State of Texas for rapid incident notification, bed reporting capability, and resource/recovery need queries. EMTrack is a regional patient tracking application that integrates across the State of Texas via an interface, with the Texas Emergency Tracking Network. Everbridge is the primary notification tool utilized by EMTF 6 to provide information and query for EMTF resources.

For further information, the complete CMOC Plan, including Annexes and Appendices may be located at [CMOC Basic Plan](#).

## **Performance Improvement (PI) Program**

### **PURPOSE**

The purpose of the performance improvement program is to provide ongoing assessment and improvement activities designed to objectively and systematically monitor and evaluate the effectiveness of the regional trauma system through data analysis.

### **GOALS**

- Evaluate high risk, high volume and problem prone areas related to trauma care. This can be done through stakeholder request, or through analysis of regional trauma data.
- Collaborate with other committees of SETRAC to provide educational offerings or quality improvement input when opportunities are identified through the PI process.

### **SCOPE**

- Determining the process for ongoing assessment of the system, including trauma care, patient outcome (adult & pediatric) and compliance with TSA guidelines.
- Provide system feedback to Trauma, EMS, and Pediatric Committees.

### **CONFIDENTIALITY**

All data will be presented in a HIPAA compliant, de-identified in the spirit of improving trauma care quality.