

System Coordination and Patient Flow Prereview Questionnaire

I. Describe the source of prehospital triage protocols, and specify whether they are consistent with national guidelines.

Under 25 TAC, 157.123, each RAC is required to develop a system plan based on standard guidelines for comprehensive system development. The system plan is subject to approval by the department. As it relates to prehospital triage protocols, the EMS Trauma Systems Office is responsible for reviewing the plan to assure that: pre-hospital triage criteria, diversion policies, bypass protocols, regional medical control, and regional trauma treatment guidelines are consistent with current standards, i.e. national ACS guidelines and/or guidelines published by Centers for Disease Control and Prevention.

When CDC made their Pocket Triage Cards available, RAC Prehospital and Executive Committees around the state reviewed their own regional protocols against the CDC's The "Field Triage Decision Scheme: The National Trauma Triage Protocol" to ensure their protocols were consistent with national standards. This Decision Scheme was developed in 2006 in partnership with the American College of Surgeons-Committee on Trauma and the National Highway Traffic Safety Administration (NHTSA) and is grounded in current best practices in trauma triage. It has been endorsed by 17 organizations, along with concurrence from NHTSA, and is intended to be the foundation for the development, implementation, and evaluation of local and regional field triage protocols. RACs have recommended and utilized these CDC materials for the use of their member EMS agency personnel. See attachment (1.4) *CDC Field Triage Card*.

Each EMS provider is required to have a medical director who is responsible for the treatment and transport protocols for that provider. Individual agencies and medical directors may, and are encouraged, to exceed the minimum standards. Major/severe trauma patients will have their medical care, as documented by pre-hospital run forms and hospital charts, reviewed by the individual entity's medical director for appropriateness and quality of care. Major/severe trauma patients will have deviations from standard of care addressed through a documented trauma performance improvement process. EMS providers must demonstrate that they follow RAC protocols to be eligible for state funds. Trauma care guidelines are established by the Regional Advisory Councils (RACs) and their membership. See attachment (1.0) *NCTRAC Trauma Triage Protocol*; attachment (1.1) *NCTRAC Hospital Bypass Protocol*; attachment (1.2) *NCTRAC Facility Bypass Policy*; and attachment (1.3) *STRAC Prehospital Trauma and Bypass Algorithm*.

a. Describe how children and patients with severe TBI and SCI are triaged from the field to appropriate facilities.

RACs in collaboration with regional Emergency Physicians, Trauma Surgeons, and EMS Medical Directors agree on regional guidelines for prehospital and hospital therapeutic modalities. Each RAC has developed prehospital guidelines taking into consideration the facility resources available; these are available for review at the RAC website under

Trauma System Plan. Physician Advisory Groups meet periodically and update and advise RAC Committees. Each EMS Medical Director is responsible for developing the protocols used by the provider he/she directs, and ensuring they meet the needs of all patients regardless of age or injury. Each Medical Director assumes the responsibility for all patient care oversight as well as specific performance improvement activities to address adverse patient outcomes for his or her EMS personnel. Each Medical Director has the legal authority to adopt protocols and may exceed or supplement the RAC guidelines as they deem appropriate. See attachment (1a.1) *RAC G Triage Decision Scheme, page 60-66*; attachment (1a.2) *NCTRAC Traumatic Brain Injury Guideline* and attachment (1a.3) *NCTRAC Pediatric Protocol: Pediatric Traumatic Brain Injury*.

2. Within the system, what criteria are used to guide the decision to transfer patients to an appropriate resource facility and are these criteria uniform across all centers?

By statute, Health and Safety Code, Chapter 241.Hospitals, Section 241.027 Patient Transfers and Section 241.028 Transfer Agreements and Texas Administrative Code Rule §157.125 Requirements for Trauma Facility Designation provide uniform criteria to facilitate transfer of patients to appropriate resource facilities.

At the regional RAC level, triage, treatment and transfer to appropriate facilities are defined in the Trauma System Plan. Some RACs sponsor a central regional communication center to assist in the transfer of an acute trauma patient to a higher-level facility. The goal is to expedite trauma transfer and complete the transfer within a two-hour window from request to arrival at the receiving system. How statute and rule are addressed at the regional level can vary greatly, depending on the resources of the regional RAC.

Texas administrative code rules for EMS, 25 TAC, Section 157.11, require treatment and transport protocols for the licensing of an EMS provider.

(h) Treatment and Transport Protocols Required.

(1) The applicant shall submit written delegated standing orders for patient treatment and transport (protocols) which have been approved and signed by the provider's medical director.

(2) The protocols shall have an effective date and an expiration date which correspond to the inclusive dates of the provider's EMS license.

(3) The protocols shall address the use of non-EMS certified or licensed medical personnel who, in addition to the EMS staff, may provide patient care on behalf of the provider and/or in the provider's EMS vehicles.

(4) The protocols shall address the use of all required, additional, and/or specialized medical equipment, supplies, and pharmaceuticals carried on each EMS vehicle in the provider's fleet.

3. Specify whether there are interfacility transfer agreements to address the needs of each of the following:

Each facility has by statute, addressed their own capabilities and those of receiving facilities through hospital policies that result in medically appropriate transfers from physician to physician and from hospital to hospital: See Health and Safety Code, Chapter 241.Hospitals, Section 241.027 Patient Transfers and Section 241.028 Transfer Agreements and 25TAC §133.44 Hospital Licensing State Regulations, Transfer Policy.

a. Transfer to an appropriate resource facility

Transfer to an appropriate resource facility is governed by level of designation as well as by state and federal transfer laws. Non-designated facilities generally will not receive major and severe trauma patients though they will receive patients with minor injuries. It would be expected that, if a critical trauma patient was transported to a non-designated facility, that facility would transfer the patient to a designated facility. Many factors would impact that decision (e.g., 25TAC §133.44 Hospital Licensing State Regulations, EMTALA, patient condition, hospital capability and capacity to care for the patient, etc.)

Level I and Level II facilities have met the current American College of Surgeons (ACS) essential criteria and actively participate with their RAC. In general, these facilities provide the complete array of trauma tertiary services to critical trauma patients, though some Level IIs may not provide highly specialized services, (e.g. significant burns, re-attachments). Texas Level I and II facilities are expected to be open for the receipt of critical trauma patients, either direct transports or transfers from lower level facilities, and are expected to manage receipt of medical patients as needed to reach that goal. Diversion of critical trauma patients by these facilities should be rare.

Level III and IV facilities meet the essential criteria defined in TAC, Rule §157.125 (x)(y) which were developed based on ACS criteria. In Texas, there are two types of Level IIIs. The first are the lead facility in a trauma service area (there are no Level Is or IIs, though there may be other Level IIIs. In general, these facilities will accept and provide a large array of trauma tertiary services to most of the critical trauma patients that they receive. They may not provide highly specialized services (e.g. significant burns, pediatrics, re-attachments/plastic surgery, neuro-trauma). It is expected that they identify patients that are beyond their capability very quickly and transfer them to a higher level of trauma care in another region.

The second type of Level III is what could be termed a “community” Level III. These are located in areas where there is one or more Level I and/or Level II facilities and are generally not receiving facilities for critical trauma. However, they must be ready to do so at any time. They have varying capabilities to provide tertiary trauma services and are expected to manage critical patients within their capability if they do receive them. They also are expected to handle more minor trauma to help keep the burden off of the higher level facilities. In general, it is expected that Level IV facilities will transfer critical trauma patients to a higher level of care expeditiously.

4. Describe the system-wide policies addressing the mode of transport and the type and qualifications of transport personnel used for interfacility transfers.

The Hospital Licensing Requirements found at 25TAC§133.44(c)(7) address the mode, type of transport and qualifications for transport personnel as the duty of the transferring physician. This is applicable to all patients regardless of age, type, or severity of injury.

Physician's duties and standard of care.

(A) The policy shall provide that the transferring physician shall determine and order life support measures which are medically appropriate to stabilize the patient prior to transfer and to sustain the patient during transfer.

(B) The policy shall provide that the transferring physician shall determine and order the utilization of appropriate personnel and equipment for the transfer.

(C) The policy shall provide that in determining the use of medically appropriate life support measures, personnel, and equipment, the transferring physician shall exercise that degree of care which a reasonable and prudent physician exercising ordinary care in the same or similar locality would use for the transfer.

Texas administrative code rules for EMS require the same vehicle and staffing standards for interfacility transfers as for emergency transports. The EMS medical director or the transferring physician may specify additional personnel, i.e. a respiratory therapist or specialty nurse to accompany a patient with specialized treatment needs that EMS personnel are untrained to meet. 25 TAC, 157.11 authorizes the operation of an EMS vehicle for a specialized purpose to be staffed with a minimum of two personnel appropriately licensed and/or certified as determined by the type and application of the specialized purpose and as approved by the medical director and the department.

Specifications for vehicles and staffing are also addressed in 25 TAC, Sec. 157.11, and excerpts are shown below.

(d) Vehicles.

(1) All EMS vehicles must be adequately constructed, equipped, maintained and operated to render patient care, comfort and transportation safely and efficiently.

(2) EMS vehicles must allow the proper and safe storage and use of all required equipment, supplies and medications and must allow all required procedures to be carried out in a safe and effective manner.

(3) Unless otherwise approved by the department, EMS vehicles must meet the minimum ambulance vehicle body type, dimension and safety criteria as specified in the "Federal Specification for ambulances," KKK-A-1822, published by the U.S. General Services Administration.

(4) All vehicles shall have an environmental system capable of heating or cooling, in accordance with the manufacturer specifications, within the patient compartment at all times when in service and which allows for protection of medication, according to manufacturer specifications, from extreme temperatures if it becomes environmentally necessary. The provider shall provide evidence of an operational policy which shall list

the parenteral pharmaceuticals authorized by the medical director and which shall define the storage and/or FDA recommendations. Compliance with the policy shall be incorporated into the provider's Quality Assurance process and shall be documented on unit readiness reports.

(5) When response-ready or in-service, EMS vehicles shall have operational two-way communication capable of contacting appropriate medical resources.

(6) When response-ready or in-service, EMS vehicles shall be in compliance with all applicable federal, state and local requirements.

(7) All EMS vehicles shall have the name of the provider and a current department issued EMS provider license number prominently displayed on both sides of the vehicle in at least 2 inch lettering. The license number should have the letters TX prior to the license number. This requirement does not apply to fixed wing aircraft.

And:

Minimum Staffing Required.

(1) BLS--When response-ready or in-service, authorized EMS vehicles operating at the BLS level shall be staffed at a minimum with two emergency care attendants (ECAs).

(2) BLS with ALS capability--When response-ready or in-service below ALS two ECAs. Full ALS status becomes active when staffed by at least an emergency medical technician (EMT)-Intermediate and at least an EMT.

(3) BLS with MICU capability--When response-ready or in-service below MICU two ECAs. Full MICU status becomes active when staffed by at least a certified or licensed paramedic and at least an EMT.

(4) ALS--When response-ready or in-service, authorized EMS vehicles operating at the ALS level shall be staffed at a minimum with one EMT Basic and one EMT-Intermediate.

(5) ALS with MICU capability--When response-ready or in-service below MICU shall require one EMT-Intermediate and one EMT. Full MICU status becomes active when staffed by at least a certified or licensed paramedic and at least an EMT.

(6) MICU--When response-ready or in-service, authorized EMS vehicles operating at the MICU level shall be staffed at a minimum with one EMT Basic and one EMT-Paramedic.

(7) Specialized--When response-ready or in-service, EMS vehicles authorized to operate for a specialized purpose shall be staffed with a minimum of two personnel appropriately licensed and/or certified as determined by the type and application of the specialized purpose and as approved by the medical director and the department.

(8) For air ambulance staffing requirements refer to §157.12(f) of this title (relating to Rotor-wing Air Ambulance Operations) or §157.13(g) of this title (relating to Fixed-wing Air Ambulance Operations).

(9) As justified by patient needs, providers may utilize appropriately certified and/or licensed medical personnel in addition to those which are required by their designation levels. In addition to the care rendered by the required staff, the provider shall be accountable for care rendered by any additional personnel.

5. Specify whether there is a central communications system to coordinate interfacility transfers. Describe how this system has access to information regarding resource availability within the region.

At the regional RAC level, triage, treatment and transfer to appropriate facilities are defined in the Trauma System Plan. Some RACs sponsor a central regional communication center to assist in the transfer of an acute trauma patient to a higher-level facility. The goal is to expedite trauma transfer and complete the transfer within a two-hour window from request to arrival at the receiving system. How statute and rule are applied at the regional level and are dependent on the resources of the regional RAC.

In Texas, all hospitals and trauma systems have access to and can utilize internet-based communication tools like EMSsystems and WebEOC. EMSsystems provides the capability to monitor hospital status, ER status, bed availability, blood supplies, levels, available ventilators, available ambulances, and provide event notifications, etc. EMSsystems also provides data on End Stage Renal Disease (ESRD) facility status. EMSsystems and WebEOC have been integrated so that HAvBED reporting data in EMSsystems can be flowed into WebEOC when requested by the state. This capability provides available hospital beds by trauma Service Area. The RAC of each region reports available beds and posts this board as requested during a response.