

Strategic Plan
for
the
Texas
Emergency
Healthcare
System

Eastridge, Brian J

Developed by the

Governor's EMS and Trauma
Advisory Council

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Burden of Disease

Acute Coronary Syndrome

(Graphical representation of the burden of disease and impact of disease entity (1 page) on citizens of Texas)

Burden of Disease

Stroke

(Graphical representation of the burden of disease and impact of disease entity (1 page) on citizens of Texas)

Burden of Disease

Injury

(Graphical representation of the burden of disease and impact of disease entity (1 page) on citizens of Texas)

Vision and Mission for the Texas Emergency Healthcare System

Vision

*A unified, comprehensive, and effective
Emergency Healthcare System for a healthy, safe Texas.*

Mission

*To promote, develop, and maintain a comprehensive data
driven
Emergency Healthcare System that will meet the needs of all patients
and
that will raise the standards for high quality community health care by
implementing innovative techniques and systems for the delivery of
emergency care for the entire population.*

What is an Emergency Healthcare System?

Emergency healthcare refers to the care rendered to patients immediately after injury, stroke, or myocardial infarction, where TIME is a critical determinant of outcome. The system coordinates resources for the effective delivery of emergency health care services in the geographic regions of the State. The purpose of the system is to ensure that critically injured or ill persons will get to the right place, in the right amount of time in order to receive optimal care. The system only works when representatives of EMS, cardiac, stroke, and trauma care entities, working through Regional Advisory Councils (RACs), develop, implement and continually evaluate and improve a coordinated regional plan of care. If any of the components of the system are ineffective, the result may be death or permanent disability for the patient.

System History

The Texas system began with HSC Chapter 773 which mandated that the Texas Department of Health Bureau of Emergency Management (TDHBEM) develop, implement and evaluate a state EMS and Trauma System, including the integration of emergency pediatric care standards. TDHBEM developed basic standards and facilitated regional EMS/Trauma System development, including designation of trauma facilities. In 1999, the Governor's EMS and Trauma Advisory Council (GETAC) was legislatively established. GETAC provides recommendations on emergency health services to the Texas Department of State Health Services and serve as subject matter experts on EMS/Trauma Systems. In 2001, the 77th Texas Legislature passed House Bill (HB) 2446 regarding emergency medical services. Section 2 of this bill mandated GETAC to "assess the need for emergency medical services in the rural areas of the state" and to "develop a strategic plan for refining the educational requirements for certification and maintaining certification as emergency

medical services personnel and developing emergency medical services and trauma care systems.” In 2002, the GETAC Council developed the first iteration of the “Strategic Plan for the Texas EMS / Trauma System”. Since the development of the initial strategic plan for trauma, experience has borne out the value of systems based practice for other time dependent pathologies such as ischemic cardiac disease and stroke. The 2015 iteration of the “Strategic Plan for the Texas Emergency Healthcare System” looks at the composite emergency healthcare system for Texas, including the needs of special populations and age extreme populations.

CLINICAL ELEMENTS

PREVENTION

Heart disease is the leading cause of death in the United States. Injury is the third leading cause of death and disability in all age groups in the United States, accounting for millions of dollars in treatment and disability costs, and more years of potential life lost (YPLL) than any other health problem. Stroke is the fourth leading cause of death. One possible mitigation strategy to combat these disease processes is prevention. The central tenet of prevention is education in order to manage the factors which lead to the undesirable outcome. The most successful prevention messages are frequent, coordinated and disseminated through a variety of outlets to the directed target audiences. Making prevention a coordinated effort, the Emergency Healthcare System can be a focal point for resources and development of prevention plans for a broad range of emergency healthcare conditions which affect Texans.

Objectives:

1. Identify opportunities to impact and prevent injuries and violence within the state of Texas.
2. Incorporate safety and injury prevention into the fabric of organizational culture and operations.
3. Facilitate collaboration among injury prevention professionals and advocates in the state.
4. Enhance the knowledge and skills of the Texas injury prevention work force
5. Elevate the awareness and need for injury and violence prevention in the state of Texas.

6. Provide access to evidence-based injury prevention strategies to increase an individual's capacity for a safe and healthy lifestyle in Texas.
7. Provide evidence-based, culturally appropriate identification and mitigation of risk factors for heart disease and stroke.

Strategies:

- a. Develop an injury and violence prevention agenda
- b. Create and disseminate an annual resource guide/fact sheet for policy makers that includes:
 - Pertinent injury data
 - Current injury and violence prevention status in Texas;
 - Benchmarking Texas against other state and national initiatives
 - Evidence-informed strategies to prevent injuries and violence.
- c. Develop a designated injury and violence prevention division within DSHS.
- d. Develop a Texas injury and violence prevention online resource that allows organizations to share their information (e.g., geographic region, staff, contact information, program areas, etc.).
- e. Align goals and unify efforts of injury and violence prevention professionals and advocates.
- f. Develop an annual report for the dissemination of injury and violence data to a broad range of stakeholders.
- g. Develop broad, interactive and timely data based social media campaigns to address specific injury issues, which can be used on a regular and opportunistic basis.
- f. Encourage health systems and care providers to risk stratify and educate at risk patients in order to mitigate risk factors for heart disease and stroke.

CLINICAL CARE

Clinical care, the direct care given a patient in an Emergency Healthcare System, has evolved significantly over the past two decades. By capitalizing upon technology and contemporary medical literature, better means have been developed to resuscitate patients with prehospital cardiac arrest, reestablish blood flow to blocked coronary and cerebral blood vessels in patients with heart attack and stroke and resuscitate patients with massive hemorrhage after injury leading to markedly improved patient outcomes. Despite these advances, without an effective emergency healthcare system, these clinical gains are limited by practice variability, lack of resources, and inefficient process. The Texas Department of State Health Services has established minimum performance standards for hospitals that offer specialized care for acute cardiac disease, stroke, and trauma. The goal of this sophisticated clinical care system is to standardize treatment based on solid medical evidence so that patients can expect high quality care no matter where they are in Texas. This goal can be accomplished by disseminating the knowledge of standard treatments and by facilitating the expeditious transfer of cardiac, stroke, and trauma patients to the most appropriate facility for their disease / injury.

Objectives:

1. Promote / advocate the elevation of the EMS and Emergency Healthcare System to be defined as an essential service
2. Develop metrics to assess the common standard of emergency healthcare services.
3. Reduce time from onset of illness / injury to definitive care.
4. Apply an evidence-based best practice approach to minimize practice variation in emergency healthcare.

Strategies:

- a. Identify high priority clinical areas for dissemination of current information, standards, and opportunities for education
- b. Develop standards for integrated emergency healthcare services to minimize the time from incident to definitive care.
- c. Define data elements necessary to evaluate emergency healthcare system effectiveness

MEDICAL CONTROL

Strong physician leadership and medical control predicated upon contemporary evidence based standards of care are essential to the success of the Texas Emergency Healthcare System. Medical control involves granting authority and accepting responsibility for patient care, and includes participation in all aspects of that care to ensure maintenance of accepted standards of medical practice. The medical director delegates authority for professional practice and procedures to non-physician providers who manage patient care outside the setting of hospitals or medical offices, including both ground and air ambulances. With the delegation of authority, it is incumbent upon the medical director physicians to be actively involved in all appropriate aspects of the Emergency Healthcare System. Currently, physicians affiliated with EMS providers serve with varying levels of involvement, from informal medical advisors to full-time medical directors and system administrators. Ideally, the medical director should be involved in system planning; development of patient care protocols; on-line medical consultation and direction; auditing of patient care documentation; evaluation of patient care; and performance improvement of EMS clinical practices. The Emergency Healthcare System should be responsible for promoting the appropriate credentialing of medical oversight physicians, providing education, and for support on issues that improve medical directors' abilities to provide care.

Objectives:

1. Recommend appropriate curriculum, education and credentialing process for physicians providing medical control.
2. Provide initial and ongoing education regarding the roles / responsibilities of EMS medical oversight in Texas.
3. Explore initiatives to address medical oversight liability issues.

4. Support and develop medical oversight of nontraditional roles.

Strategies:

- a. Advocate for appropriate immunity for volunteer medical directors and explore the possibility of innovative approaches (e.g., a physician being integrated into a local governmental program that would provide some form of liability limitation for EMS activities)
- b. Advocate for the adoption of statewide guidelines for personal protection and safety (i.e., exposure management, infection control, immunizations, etc.) of EMS and trauma care providers.

SYSTEM INTEGRATION

The concept of integration is a process in which different communities come together to cooperate and build upon shared ideology to enhance performance as there are more resources to call upon. The core component of the integration function of the emergency healthcare system in Texas are the Regional Advisory Councils (RAC) of the State Trauma Service Areas (TSA). Until the creation of TSAs and RACs in 1992, Texas EMS provided care in relative isolation from other health care and community resources. RACs have established a lead role in developing regional emergency healthcare system plans that integrate and coordinate system components. Integration occurs best when emergency healthcare organizations in an area actively participate on the RAC. The full integration of the emergency healthcare system results in faster access, better pre-hospital care and better patient outcomes.

Objectives:

1. Develop a formal process of sharing evidence based best practice and have Texas EMS, Trauma, Acute Care Foundation (TETAF) serve as clearing house of information.
2. Integrate all emergency health services within the emergency health care system to deliver quality care.
3. Achieve universal EMS and hospital participation in the Emergency Healthcare System.
4. Assure that EMS and trauma care entities/systems are considered stakeholders in policy decisions related to the disaster.
5. Increase involvement of EMS in community health activities, including surveillance and prevention programs.
6. Identify and incorporate all segments of the population (age extremes, special needs, cultural, ethnic, geographic specific, etc.).
7. Improve system integration including prevention, hospital capacity, communication and referral capabilities.

Strategies:

- a. Develop uniform performance criteria/standards for an Emergency Healthcare System
- b. Develop recommendations related to the roles of DSHS and the RACs in system development, implementation, and evaluation.
- c. Adopt essential criteria/standards for the operations/processes of the RACs
- d. Develop universal definitions regarding the acuity categorization of cardiac, stroke, and trauma patients to expedite transfer from facilities and optimize resource utilization.
- e. Implement a best practices website for emergency healthcare systems / clinical care issues
- f. Promote innovative partnerships (e.g., Texas Parks and Wildlife, Department of Public Safety, Border Patrol, industry, etc.) to provide first response activities for underserved and difficult to access areas.
- g. Educate local and regional governing bodies (e.g. commissioners' courts, judges) regarding the vital nature of an Emergency Healthcare System to all citizens / visitors of their communities (e.g., an essential service, standards of care, impact of EMS/trauma care on illness/injury morbidity and mortality)

EMERGENCY PREPAREDNESS

Disaster can strike at any time. In fact, Texas has had more federally declared disasters than any other state. The Emergency Healthcare System plays an integral role in emergency preparedness and response during times of disaster. Mass threats to the public health may derive from a variety of sources including natural and man-made. Prominent natural threats in Texas are tornado, hurricane, flood, and infectious disease outbreaks. Likewise a number of man-made disaster liabilities exist in Texas such as explosion (fertilizer, chemical, oil / gas), radiological events, and terrorism. A strong emergency preparedness plan is a required element of any Emergency Healthcare System.

Objectives:

1. Develop comprehensive disaster / mass casualty preparedness contingency plan trauma for Texas.
2. To integrate the resources that will address the needs of age extreme populations in all disaster preparedness planning.

PERFORMANCE IMPROVEMENT

Continuous introspection and critical evaluation are essential tools, vital to optimal patient care in the Emergency Healthcare System. Thorough and systematic evaluation can determine systemic liabilities, be it an administrative process or a medical procedure. Performance improvement in any component area of the system can positively affect patient outcomes. The strength of any performance improvement program is predicated upon timely and accurate data. Comprehensive evaluation programs are needed to effectively plan and implement both the statewide and regional Emergency Healthcare Systems. All systems must be responsible for evaluating the effectiveness of services provided to victims of medical or injury associated emergencies. Evaluation of the system must include resource utilization, scope of service, patient outcome and the effectiveness of operational and clinical policies, procedures, and protocols. The value of performance improvement in all areas of the Emergency Healthcare System is realized in optimized patient outcomes.

Objectives:

1. Reduce the mortality rate from acute coronary disease, stroke, and trauma in the state of Texas
2. Develop comprehensive processes to enhance performance improvement of Emergency Healthcare Systems at the local, regional, and state level.

Strategies:

- a. Develop and track Emergency Healthcare System audit filters that represent current emergency patient care standards for acute coronary syndrome, stroke and trauma.
- b. Iterative measurement, analysis, and dissemination of the incidence and outcomes of acute coronary disease, stroke, and trauma in the state of Texas.

- c. Develop a system for measuring implementation and impact of the Emergency Healthcare Strategic plan.
 - Time to definitive care
 - ED dwell time
 - Transfer time
 - Mortality
 - Length of stay
 - Discharge disposition
- d. Each RAC should develop performance improvement capabilities for components of the Emergency Healthcare System which are realistic and relevant to the regional community.
- e. Ensure broad representation of emergency healthcare stakeholders to maximize opportunities for improvement.
- f. Provide rural provider education to augment system effectiveness (i.e. Rural Trauma Team Development Course (RTTDC))

INFRASTRUCTURE

COMMUNICATION SYSTEMS

In Texas, the number 9-1-1, is available to emergency callers across the entire state. One of the most important pieces of information provided during an emergency call is the location of the person requiring help. At many 9-1-1- communication centers, call-takers are automatically provided with the caller's telephone number and location through automatic number identity (ANI) and automatic location identity (ALI). Such systems are known as enhanced 9-1-1 or E 9-1-1. Many areas of Texas still lack adequate 9-1-1 dispatching services. Within public safety answering points (PSAPs), calls for EMS are answered by personnel with varying levels of education, experience, ability to provide potentially life-saving instructions via telephone and medical direction. While emergency medical dispatchers (EMDs) have been advocated as essential personnel, a vast number of the state's EMS firms are dispatched by local law enforcement agencies with no direct connection to EMS; dispatching EMS may be a secondary function to the routine dispatching of law enforcement personnel. An effective statewide communication system, which is an essential component of an EMS / Trauma System, will ensure expeditious access to 9-1-1, including the location of the call; qualified communications operators able to assist the caller before EMS arrives; equipment that enables prioritized dispatch; and adequate real-time communication between first responders, EMS personnel and hospital staff.

Objectives:

1. Promote implementation of universal enhanced 9-1-1 services statewide to ensure that all emergency calls and requests are routed to the appropriate PSAP in order to minimize time access care.
2. Develop a baseline EMS dispatching protocol.

3. Develop and implement real-time patient data transfer
4. Promote the establishment of robust fault-tolerant communication systems statewide that provides seamless communications between public safety and health care agencies in all situations.
5. Develop and implement telemedicine capabilities to optimize patient transfer and care in rural and medically underserved areas of Texas.

Strategies:

- a. Develop joint strategies with the Commission on State Emergency Communications (9-1-1 Commission) to improve the current status of the statewide 9-1-1 system and other emergency communication issues.
- b. Develop recommendations for minimum state EMS pre-arrival standards (call-taking, interrogation, dispatching, pre-arrival instructions)

INFORMATION SYSTEMS

The purpose of collecting EMS and trauma care data is to evaluate the emergency medical care of individuals with illnesses and injuries in an effort to improve access and reduce morbidity and mortality. Data that completely describe a patient's encounter with the continuum of providers in an EMS/Trauma System currently exist in disparate databases of EMS agencies, emergency departments, hospital medical records, other public safety agencies, rehabilitation facilities and vital statistics offices; however, in most cases, meaningful links between such sites are nonexistent. Reliable data that is readily accessible to appropriate stakeholders will provide roadmaps to prudent use of resources. Information management should be a cornerstone of the EMS/ Trauma System to promote appropriate research, patient care management and performance improvement. It allows for evaluation of the state and regional systems, as well as the individual components of the systems.

Objectives:

1. Develop and maintain information systems to generate and transmit data that are valid, reliable, accurate and secure
2. Develop unified systems which are able to track an entire patient encounter, from incident through rehabilitation; identify costs of patient care; and provide linkage between various public safety services and other health care providers.
3. Improve the ability of the EMS/Trauma System to document and report injury and illness data and potential associated factors.
4. Define and disseminate the statutory requirement for information
5. Develop a unified EMS, Trauma, and Healthcare registry.
6. Require 100% Electronic Patient Care Reporting (EPCR).
7. Utilize real time 2-way patient data exchange between EMS, hospitals and other healthcare providers.

8. Each RAC should develop and maintain an independent regional data registry or mechanism to obtain region specific data for analysis and performance improvement.
9. Develop user defined standard report and compare versus national benchmarks for quality improvement

Strategies:

- a. Develop analytic data tools for stakeholder defined data queries for stroke, cardiac and trauma emergency healthcare registries, automatically integrating condition specific acuity scoring systems.
 - b. Develop systems to accommodate ICD 10 taxonomy
 - c. Develop and maintain data dictionary and operational use guidance for emergency healthcare data.
 - d. Ensure that all Emergency Healthcare System entities submit data to the state data repository
 - e. Monitor compliance with Texas data reporting standard and have compliance integrated into system designation process.
 - f. Exploit data linkage tools to optimize utility of data to healthcare providers and appropriate emergency response organizations
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SYSTEM SUPPORT

PUBLIC EDUCATION

Successful health education provides a combination of learning experiences that encourage actions leading to better health and facilitates a better understanding of how health systems function. Education can be beneficial by facilitating development of knowledge, skills and motivation that may lead to the reduction of behavioral risks; providing an understanding of how emergency health systems work that may lead to responsible use of the system, and engendering greater advocacy for the overburdened health care system. Education can also help local communities understand the needs and limitations of their own local health care systems. Public education has often been a focus of public safety entities. However, there is a profound lack of public awareness about the scope of the Emergency Healthcare System and how the system is funded. Public information and education must focus on encouraging the public's role as a key partner in and consumer of the system. Illustrating the capability of local health care entities allows citizens to understand the values and liabilities of their emergency healthcare system. Public education should ultimately lead to better utilization of system resources and improved patient outcome.

Objectives:

1. Promote public awareness of the Emergency Healthcare System, including the appropriate use of these resources.
2. Explore new techniques and technologies for providing interactive, collaborative, targeted public education.
3. Increase awareness about risk factors for heart disease and stroke.
4. Promote awareness of the early warning signs and symptoms of heart attack and stroke and know the appropriate actions to take.

Strategies:

- a. Educate state, regional, and local leaders and the public regarding Emergency Healthcare Systems.
- b. Disseminate media messages to educate the public as consumers of emergency healthcare.
- c. Promote the continued implementation of automatic external defibrillators (AEDs), including requisite education, in appropriate public places.
- d. Develop strategic partnerships with educational institutions to implement targeted programs including CPR/AED utilization and injury prevention.
- e. Conduct a public awareness campaign on heart disease and cerebrovascular disease and the signs and symptoms of heart attack and stroke

SYSTEM LEGISLATION & REGULATION

Texas has the statutory authority for regulating the Emergency Healthcare System. A number of laws and regulations are central to the provision of emergency health services. The Texas Department of State Health Services is responsible for personnel certification / licensing, training program approval, EMS provider licensing, first responder organization registration and trauma facility designation. On the other hand, Texas law provides no state statutory requirement to provide emergency healthcare services, and as a consequence there is differential access to emergency healthcare across the state.

Objectives:

1. Empower legislative advocacy
2. Establish Emergency Healthcare services as essential services such that all residents and visitors to Texas have appropriate access to basic emergency medical services in a timely fashion following injury or onset of illness.
3. Periodic review of enabling legislation/regulations that support innovation and integration of emergency healthcare services.
4. Explore initiatives to address emergency health care liability issues (i.e., insurance coverage/ rates, tort reform, etc.)

Strategies:

- a. Advocacy for legislation that will mandate emergency healthcare services as “Essential Services”.
- b. Enlist the Texas EMS and Acute Care Foundation (TETAF) as a legislative advocate for the Texas Emergency Healthcare System
- c. Maintain currency with legislation relevant to the Emergency Healthcare System and develop appropriate evidence based recommendations.

SYSTEM FUNDING

The cost of emergent health care in Texas is hundreds of millions of dollars annually. The survival of the Emergency Healthcare System in Texas and the optimal care of Texans with time dependent disease and injury is dependent upon funding. In an era of healthcare cost containment and dwindling reimbursement to EMS, hospital and providers, the current Emergency Healthcare System subsist upon funding from state and federal government subsidies and grants. As these dollars do not encumber the full financial burden of the Emergency Healthcare System in Texas and as there is no state mandate to provide these as “essential services”, the system is left to rely for sustenance upon precarious contingency revenue sources available from the state. This is a significant issue for the Emergency Healthcare System — and all Texans.

Objectives:

1. Achieve adequate and enduring funding for all components of local, regional and state emergency healthcare care services.
2. Ensure that emergency healthcare funding does not adversely affect emergency medical or trauma patient care.
3. Assure EMS personnel receive the same benefits as their police and fire counterparts.

Strategies:

- a. Advocate the passage of legislation to fund Texas Emergency Healthcare System.
- b. Advocate for the establishment of appropriate benefits for EMS that are congruent with their police and fire counterparts.

- c. Advocate the state establish Medicaid EMS reimbursement rate schedules that are congruent with the national Medicare reimbursement rate schedules
- d. Evaluate alternative system funding strategies