

STRATEGIC PLAN FOR THE TEXAS EMERGENCY HEALTHCARE SYSTEM

DEVELOPED BY THE
GOVERNOR'S EMS AND TRAUMA ADVISORY COUNCIL



TEXAS
Health and Human
Services

Texas Department of State
Health Services

Governor's EMS and Trauma Advisory Council

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Executive Summary

The "Texas Emergency Healthcare Strategic Plan," is the ongoing work of the Governor's Emergency Medical Services and Trauma Advisory Council (GETAC). The current members listed above, with the input of over one-hundred GETAC committee members and other stakeholders endorse this plan as guidance for improving the provision of emergency care in Texas.

Our emergency healthcare system is complex and a detailed comprehensive plan would be unusable. This is a high-level plan and it is our intent that every section applies to, and is inclusive of, all age groups and patient populations.

We hope you find this useful, informative and actionable as a roadmap for the future of our emergency healthcare system as we endeavor further reductions in death and disability from sudden illness and injury in our Great State.

On behalf of GETAC and the citizens of Texas, we thank you for your support.



Robert D. Greenberg, MD, FACEP, Chair
Governor's EMS and Trauma Advisory Council

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Information on the Governor’s EMS and Trauma Advisory Council can be found at:
<http://www.dshs.texas.gov/emstraumasystems/governor.shtm>

Vision and Mission Statements for the Texas Emergency Healthcare System



Vision

A unified, comprehensive, and effective
Emergency Healthcare System.

Mission

To promote, develop, and advance an
accountable, patient-centered Trauma
and Emergency Healthcare System.

Introduction

What is an Emergency Healthcare System?

An emergency healthcare system refers to the care rendered after traumatic injury or illness, where *time* is the critical determinant of outcome. The purpose of the system is to ensure the critically ill or injured receive optimal treatment in a timely manner. Coordination of resources is the most efficient way to provide care. The system works best when emergency medical services (EMS), cardiac, stroke, and trauma care entities, work in conjunction with Regional Advisory Councils (RACs). Regional plans of care, prevention and preparedness should be developed, implemented, evaluated and improved on a continuous basis. If any system components are dysfunctional or missing, the entire system is less effective and the care may not be ideal.

System History

The Texas Emergency Healthcare System was formally mandated by the development of Health and Safety Code 773 in 1989. Under Chapter 773, the Texas Department of Health (TDH) was established as the lead agency tasked with developing, implementing, and evaluating emergency healthcare services and trauma care systems in Texas, including the integration of emergency pediatric care standards. The department developed basic standards and facilitated regional EMS/trauma system development, including the designation of trauma facilities.

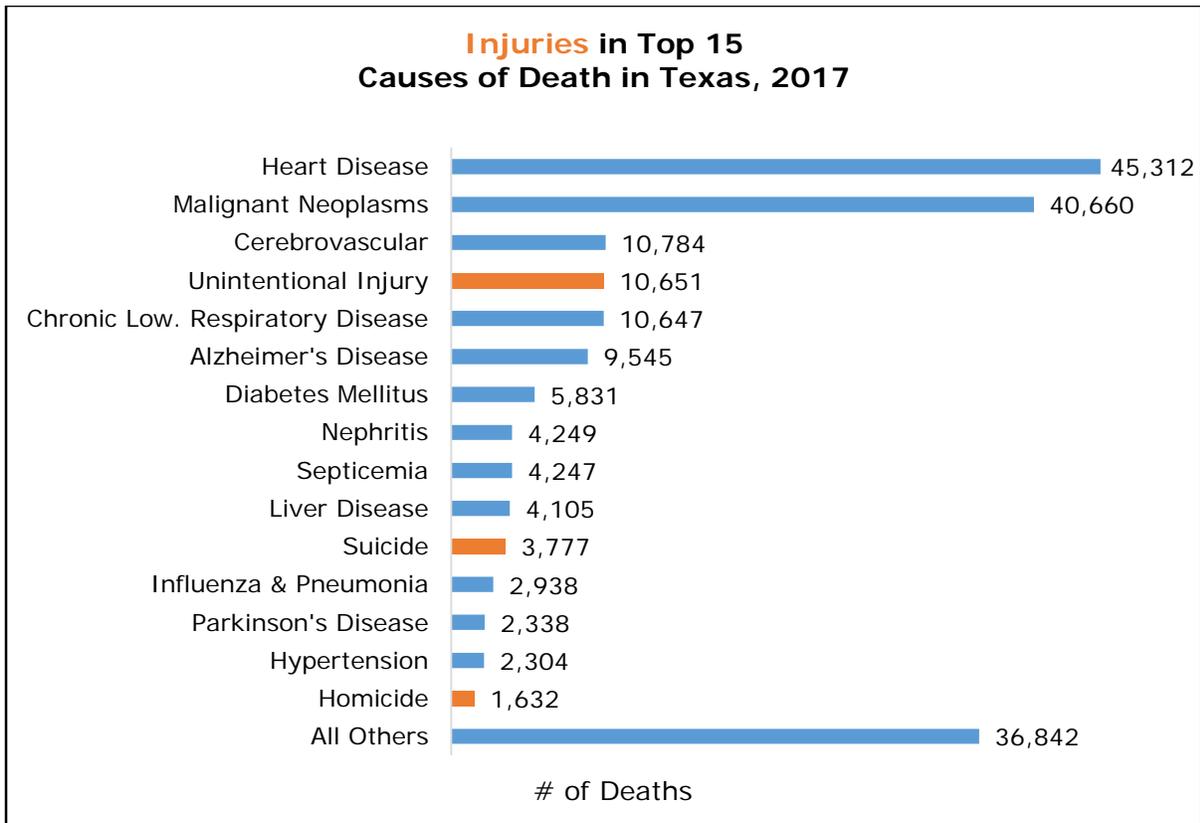
In 1999, Sunset legislation authorized a 15-member council appointed by the Governor to advise and make recommendations on the development and implementation of Texas emergency healthcare system rules. Known as the Governor's Emergency Medical Services (EMS) and Trauma Advisory Council (GETAC), it is composed of a board-certified emergency physician, an EMS medical director, a fire chief, a trauma surgeon or nurse, an EMS educator, an EMS air medical crew member, a county-level EMS provider, a pediatrician with emergency care expertise, an EMS volunteer, two members of the general public and representatives from a rural trauma facility, an urban trauma facility, a fire-based EMS service and a private EMS provider.

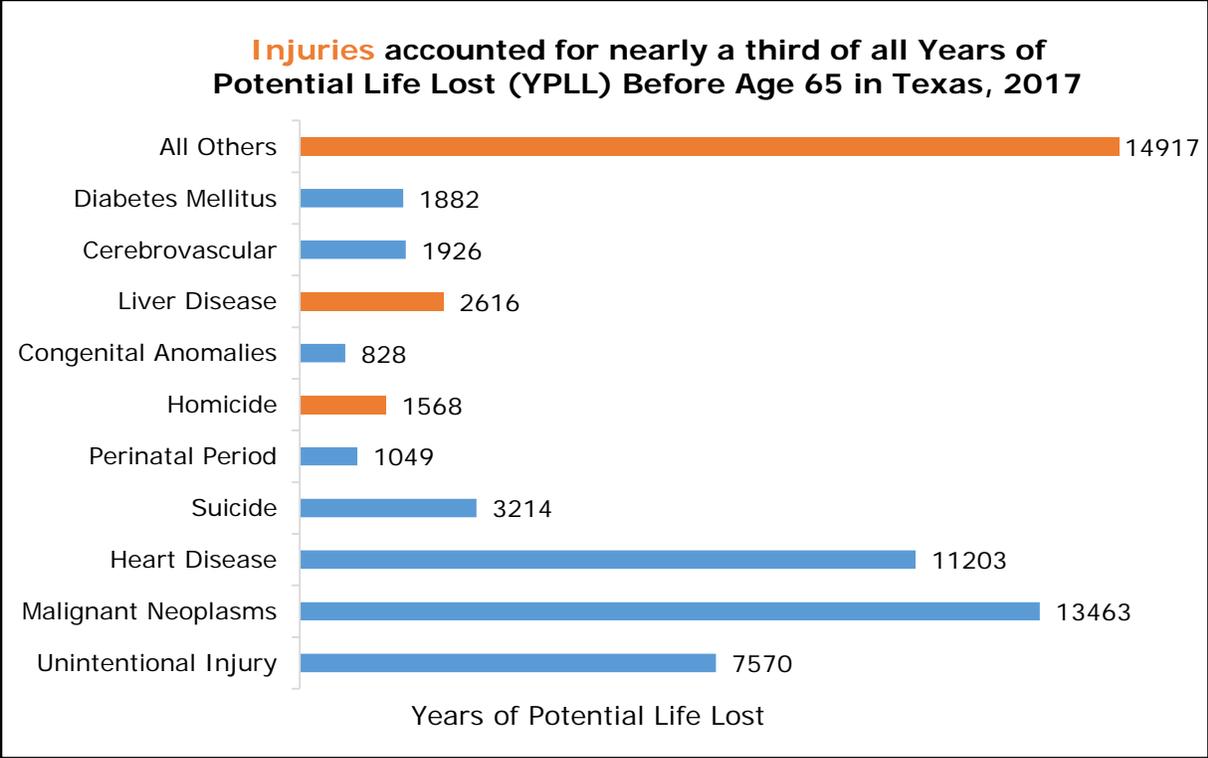
In 2001, the 77th Texas Legislature passed House Bill 2446 regarding medical services. This bill mandated GETAC to "assess the need for emergency medical services and trauma care systems." In 2002, GETAC subsequently developed the first "Strategic Plan for the Texas EMS/Trauma System." Since the development of the initial plan, experience has demonstrated the value of systems-based practice for additional time-dependent pathologies such as ischemic cardiac disease and stroke. Subsequent iterations of the "Strategic Plan for the Texas Emergency Healthcare System" are

developed with time-dependent emergency conditions in mind and reflect an integrated emergency healthcare response system.

Emergency Healthcare Overview

The Burden of Emergency Healthcare & Trauma in Texas





Citation: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2017) [cited Year Month (abbreviated) Day]. Available from URL: www.cdc.gov/injury/wisqars

Quick facts

- Heart disease has been the leading cause of death in both Texas and the US since 1950.
- Although deaths from heart disease are 4 times greater those from unintentional injuries, the Years of Potential Life Lost (YPLL) to unintentional injury are 70% greater than those due to heart disease.

According to 2017 Texas data from the Centers for Disease Control (CDC):

- Nearly 45 deaths daily from injury, 29.5 are due to unintentional injury.
- 16,485 injury-related deaths.
- Motor vehicle crash accounted for 22.8% of injury-related deaths.

Heart Disease & Stroke Statistics:

- Heart disease and stroke are the first and third leading causes of death in Texas in 2016.¹
- In 2016, approximately 1 in 17 adult Texans have heart disease (5.7%), and 3.5% have had a stroke.²
- For every 10,000 people in Texas, about 25 hospitalizations occurred for stroke in 2016.³
- EMS data and hospital discharge data demonstrate significant gaps in Texas' capacity to prevent the human and financial impact of heart disease and stroke.
- Inpatient hospitalization charges for heart disease and stroke approximated \$23.2 billion in 2016.³
- \$1.2 billion were Medicaid charges for heart disease and stroke in 2016.³

Sources:

1. CDC, National Center for Health Statistics. Stats of the State of Texas. 2016. Accessed February 19, 2019, at <https://www.cdc.gov/nchs/pressroom/states/texas/texas.htm>.
2. Texas Behavioral Risk Factor Surveillance System (BRFSS) Public Use Data File, 2017. Texas Department of State Health Services, Austin TX.
3. Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2016. Texas Department of State Health Services, Austin TX.

As of 2019, 292 designated trauma facilities serve over 29.1 million Texans and visitors

EMS/Trauma Systems Interactive Map

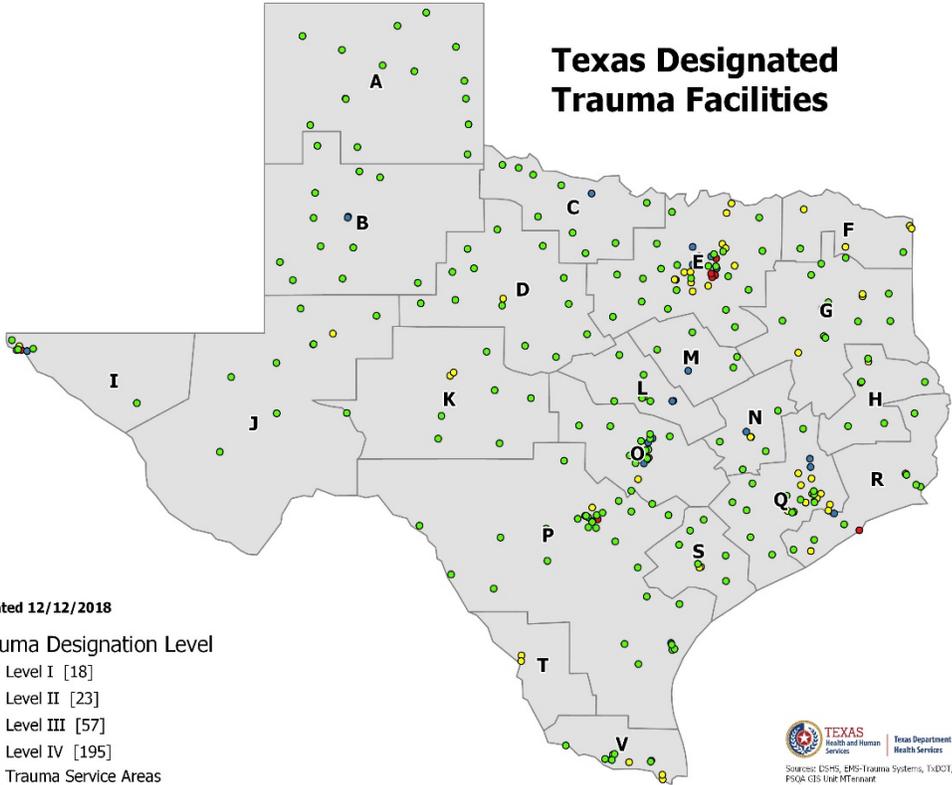
The EMS/Trauma Systems interactive map allows users to view trauma service area boundaries and other geographical related information for the following:

- EMS Ground and Air Providers
- Hospital Designation Programs
- EMS Education Programs
- DSHS EMS Regional Offices

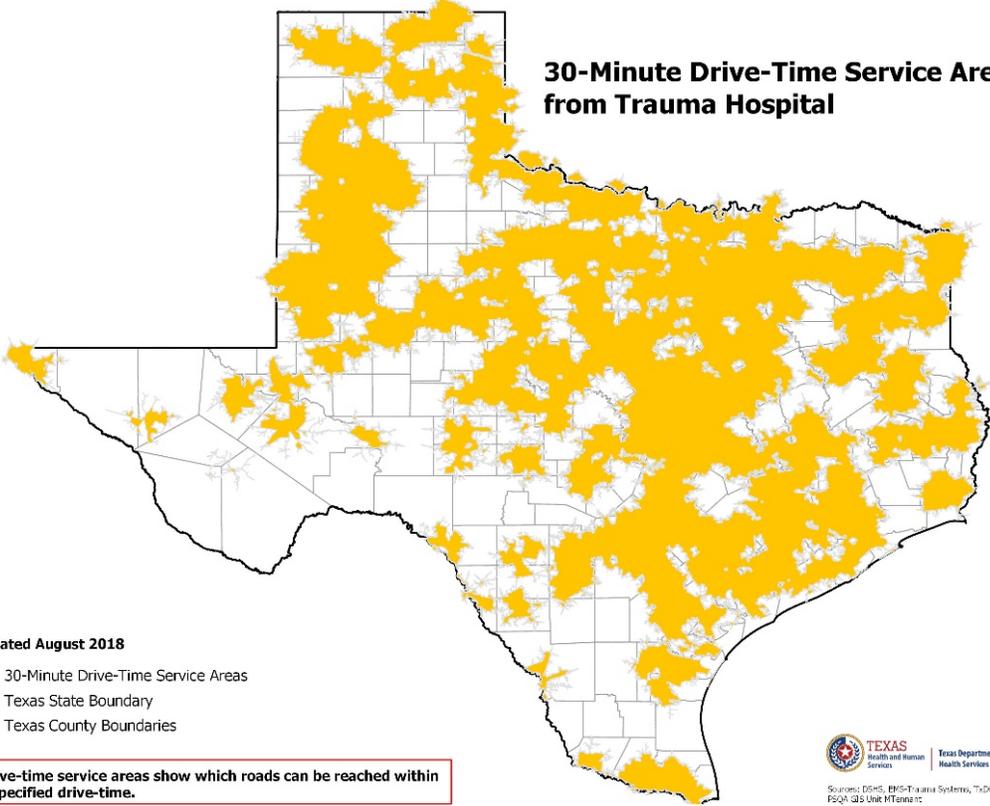
The link and user guide to the interactive map can be found at:

<https://www.dshs.texas.gov/emstraumasystems/emstraumamap.aspx>.

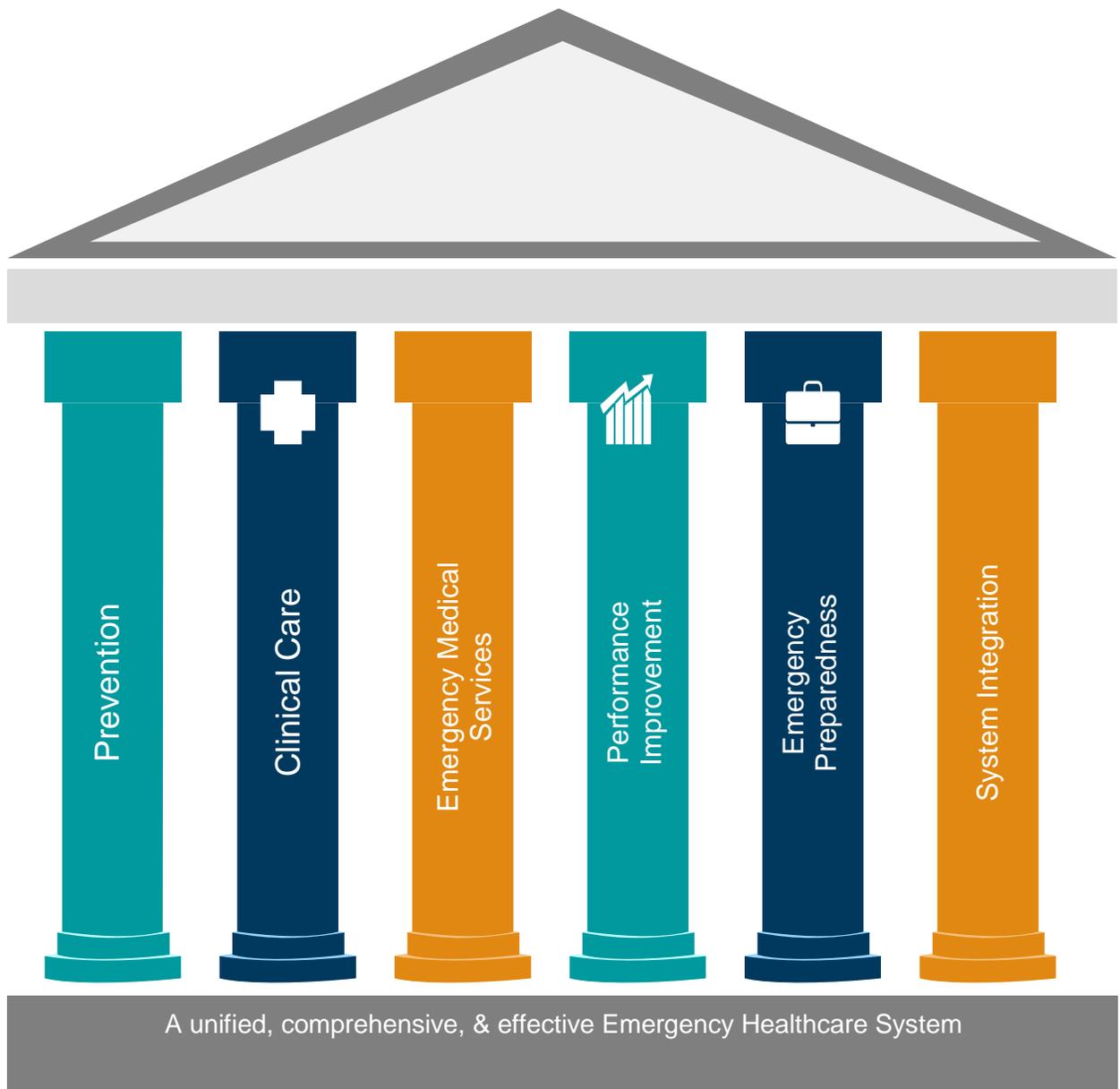
Texas Designated Trauma Facilities



30-Minute Drive-Time Service Areas from Trauma Hospital



PILLARS OF THE TEXAS EMERGENCY HEALTHCARE SYSTEM



Clinical Elements

Prevention

Heart disease is the overall leading cause of death in the United States. Injury is the leading cause of death for individuals aged 1 to 44 years and is the 3rd leading cause of death and disability for the overall population. <http://www.cdc.gov/injury/wisqars>

Traumatic injuries account for millions of dollars in treatment and disability costs, and more years of potential life lost than any other healthcare problem. This phenomenon is primarily due to the large numbers of children and young adults affected by trauma, as they represent the highest risk population. Stroke represents the 5th leading cause of death. The best possible mitigation strategy for cardiovascular disease is prevention and risk factor reduction. The central tenet of prevention is education designed to modify the factors leading to undesirable outcomes. Most successful prevention efforts and communications are focused, frequent, coordinated, and disseminated through a variety of outlets targeted to at-risk populations. By making prevention an organized effort, the Emergency Healthcare System can be a focal point for a broad range of emergency healthcare conditions affecting Texans and her visitors.

Objectives:

1. Identify data-driven opportunities to reduce the burden of injury, stroke, and cardiac disease.
2. Incorporate safety and injury prevention into the fabric of organizational culture and operations utilizing effective methodologies.
3. Improve education and training for Texas injury prevention initiatives.
4. Provide access to best evidence-based prevention strategies to increase an individual's capacity for a safe and healthy lifestyle.
5. Encourage community participation and ownership in prevention initiatives.

Strategies:

1. Develop and track an injury prevention agenda.
2. Cultivate an online injury prevention resource allowing organizations to share information.
3. Create and disseminate a resource guide/fact sheet for policy makers and other stakeholders that includes:
 - a. Pertinent injury data,
 - b. Status of current injury prevention efforts in Texas,
 - c. Benchmarking Texas alongside other state and national initiatives and,
 - d. Evidence-informed strategies to prevent injuries.
4. Align goals and unify efforts of injury prevention professionals and advocates.

5. Develop broad, interactive, and timely data-based social media campaigns addressing specific issues to be used on a regular and opportunistic basis.
6. Facilitate collaboration among prevention professionals and advocates.
7. 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 provided to a patient, has evolved significantly over the past two decades. Technology and contemporary medical literature have advanced better resuscitation and treatment methodologies, which in turn have led to markedly better patient outcomes. However, without an effective healthcare system, these clinical gains are limited by practice variability, scarce resources, and inefficient processes. The goal of the clinical care system in Texas is the provision of high quality healthcare in a uniform, organized and coordinated manner.

Objectives:

1. Adopt the national goal of achieving zero preventable deaths related to injury and time sensitive illness and minimizing trauma and disease-related disability.
2. Identify high-priority clinical areas for dissemination of current information, including best evidence and practice-enhancing clinical and operational standards.
3. Identify opportunities for professional and public education leading to improved clinical outcomes.
4. Advocate at federal, state, and local leadership for the recognition of EMS as an essential public service.
5. Implement mechanisms that ensure the inclusion of EMS as a seamless component of health care delivery (rather than merely a transport mechanism).
6. Ensure access to time appropriate care regardless of geographic location across the state.
7. Deliver the highest quality care across the continuum of the emergency healthcare system; from prevention to rehabilitation.
8. Utilize evidence-based and/or best practice metrics to evaluate the emergency healthcare system and provide public transparency of such data.
9. Use currently available data to ensure delivery of evidence-based care.
10. Ensure seamless transitions of care across the emergency healthcare system.

Strategies:

1. Disseminate current information on best practices and educational opportunities to satisfy knowledge gaps.

2. Develop standards to minimize the time from onset of illness or injury to definitive care, including care provided in the interim.
3. Define data elements necessary to evaluate emergency healthcare system effectiveness.
4. Promote prevention education and timely access to definitive care and rehabilitation services.
5. Establish a structured statewide clinical quality improvement process.

EMS Medical Direction

Strong physician leadership and medical control predicated upon contemporary evidence-based standards of care is essential to the success of any emergency healthcare system. EMS Medical direction, as defined in Texas Medical Board Rule 197, involves credentialing, destination decisions, development of patient care protocols, online medical consultation and direction, auditing of patient care, documentation, patient care evaluation, and performance improvement for EMS clinical practices. EMS medical directors provide supervision, and accept responsibility for patient care provided by EMS personnel. This includes providing evidence-based prehospital treatment protocols to ensure current standards of medical practice are followed. The medical director delegates authority for professional practice and procedures to non-physician providers managing patient care. With the delegation of this authority, it is the responsibility of the medical director to be actively involved in all clinical and administrative aspects of the emergency healthcare system and provide ongoing supervision. It is essential that the medical director be involved in system planning. An ideal emergency healthcare system should also provide support for programs designed to encourage the medical director's performance.

Objectives:

1. Provide a robust, responsive, and flexible emergency healthcare system with involved medical oversight.
2. Support use of EMS personnel in nontraditional roles.
3. Increase medical director's direct involvement in all aspects of EMS practice.
4. Encourage adoption of technology aimed at improving medical direction.

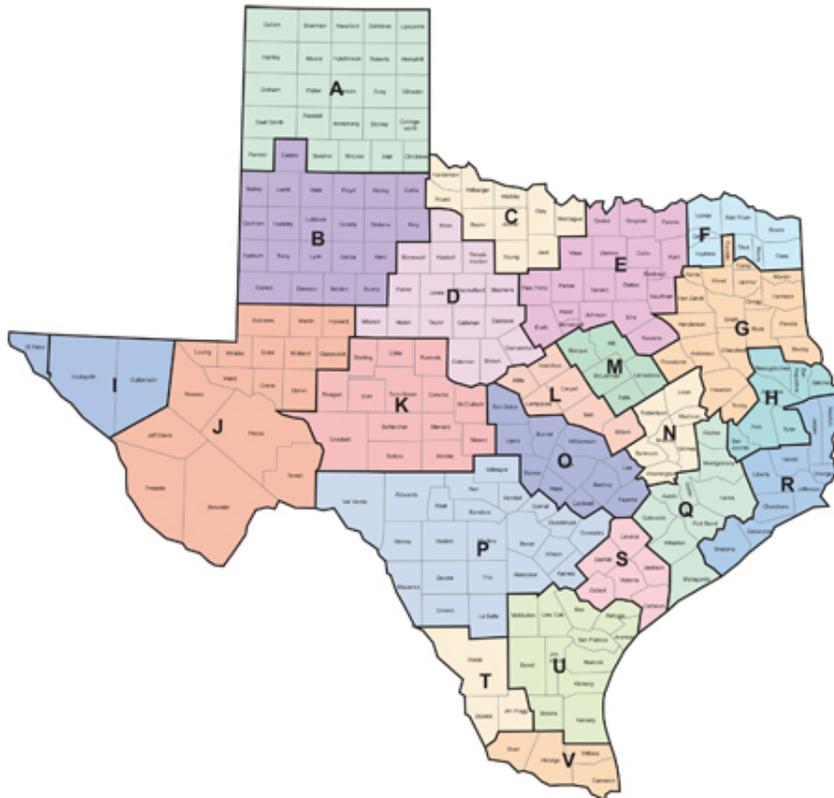
Strategies:

1. Enhance the medical director's participation in initial and continuing EMS education and medical oversight.
2. Develop mechanisms to increase local medical community understanding of EMS role and capabilities.
3. Recommend appropriate education for physicians providing EMS medical direction.

System Integration

System integration is a process in which various stakeholders cooperate and build upon shared ideologies and values to enhance performance. In the Texas Emergency Healthcare System, the recognized coordinating entities for such efforts are Regional Advisory Councils (RACs). Each of the state's 22 RACs serves a given geographic area known as a Trauma Service Area (TSA). These efforts are most productive when emergency healthcare organizations actively participate as stakeholders in their respective RACs. Timelier healthcare access, enhanced care, and improved patient outcomes are due to the combined efforts of the RAC members.

TSA map



Objectives:

1. Emergency health services are integrated within the Texas Emergency Healthcare System to deliver the highest quality care based on national standards.
2. Involve stakeholders in strategic discussions.
3. Identify and incorporate all patient populations into system design.

Strategies:

1. Develop recommendations for uniform standards of care related to system development, implementation, and evaluation.
2. Disseminate current information on best practices and educational opportunities to satisfy knowledge gaps.
3. Promote innovative partnerships providing first response and emergency services availability for underserved and difficult to access areas.
4. Educate governmental leadership and the public on the importance of the emergency healthcare system.

Emergency Preparedness

As many Texans are aware, disaster may strike at any time. Since the inception of the federal government's Disaster Declaration system in 1953, Texas has had more federally declared disasters than any other state. Strong emergency healthcare systems play an integral role in emergency preparedness and response during disasters and may continue until local services can be restored. Typically, mass threats to public health originate from a variety of man-made and natural disasters. Natural disaster such as hurricanes, flooding, tornadoes, and infectious disease outbreaks, are common to Texas. Likewise, man-made disasters in the state have included incidents of directed violence involving mass casualties, explosions, and industrial accidents. In order to mitigate the consequences from such events, a robust emergency preparedness and response plan is a vital part of any effective emergency healthcare system.

Objectives:

1. Identify and evaluate areas for improvement and provide input to the DSHS on the comprehensive disaster/mass casualty preparedness plan for Texas.
2. Integrate Texas Emergency Medical Taskforce (EMTF) into all aspects of the state response plans.
3. Continue and enhance collaboration with the Texas Department of Emergency Management (TDEM).
4. Provide input and promote integration of emergency healthcare system elements that are functional and operational in the context of local, regional, state, and tribal statewide preparedness plans.
5. Evaluate and support strategies to disseminate preparedness plan awareness and education to healthcare systems.
6. Promote and support focused, effective drills and exercises based on disaster plans at the local, regional, state, and tribal levels. Promote and support evaluation and feedback for improvement of plans and response.

Strategies:

1. Promote the effective use of preparedness resources to increase the capacities and the ability of the Texas Emergency Healthcare System to respond and support all-hazards contingencies.
2. Foster routine all-hazards exercises to test the preparedness and liabilities of the emergency healthcare system.
3. Refine and sustain the EMTF as an alternate acute care capacity for contingency mobilization for large, mass-casualty events, pandemic responses, or any other event requiring surge capacity and capability.

Performance Improvement

Continuous introspection and critical evaluation are essential tools vital to optimal patient care in rigorous emergency healthcare systems. In turn, the strength of performance improvement (PI) programs is predicated upon timely and accurate data. Comprehensive PI programs are essential for the effective planning, implementation and operation of emergency healthcare systems. All components of the system must be responsible for evaluating the effectiveness of service provision. Ultimately, improved and optimized patient care outcomes demonstrate the value of robust PI efforts in all areas of the system.

Objectives:

1. Support PI processes in the Texas Emergency Healthcare System.
2. Encourage each RAC to maintain a PI plan for their emergency healthcare system.
3. Support clinical research to improve the PI process.

Strategies:

1. Develop and utilize standardized measures to evaluate patient and system outcomes.
2. Utilize evidence-based best practices to improve patient and healthcare provider outcomes.
3. Ensure broad representation of emergency healthcare stakeholders to maximize opportunities for system improvement.

Infrastructure

Communications Systems

An effective statewide communication system is an essential component of the Emergency Healthcare System. The emergency 9-1-1 system is available to all callers in Texas. Within public safety answering points (PSAPs), personnel with varying levels of education, experience, and ability to provide potentially life-saving instructions answer calls for EMS. While emergency medical dispatchers (EMDs) have been advocated as essential personnel, a vast number of the state's EMS entities are dispatched by local agencies with no direct connection to EMS. Additionally, dispatching EMS may be a secondary function to the routine dispatching of other personnel.

The communications system should ensure expedient access to 9-1-1 and provide accurate location information to qualified call takers able to assist the caller prior to EMS arrival. Processes should also enable prioritized dispatch and adequate real-time communication between first responders, EMS personnel and hospital staff.

Goals:

1. Promote implementation of universal state-of-the-art 9-1-1 services statewide to ensure seamless access for all of Texas.
2. Ensure requests are routed to the appropriate public safety access point (PSAP) in order to minimize the time to access appropriate care.
3. Advocate for minimum standards in EMS dispatching protocols and pre-arrival instructions.
4. Develop and implement real-time patient data transfer.

Objectives:

1. 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 communication issues.
2. Address the need for communication in non-English languages.
3. Develop recommendations for minimum state EMS pre-arrival instructions.
4. Develop or utilize recognized emergency medical dispatch protocols.

Information Systems

The purpose of collecting data is to evaluate care, improve access and reduce morbidity and mortality.

A system of data collection and management to produce reports for epidemiology, performance improvement and assist with establishing best practice must exist. Current patient data will need to be accessible throughout the continuum of care and across entities' databases. Reliable, readily accessible data will provide roadmaps to more efficient and prudent use of resources. Information management should be a cornerstone of the system and promote appropriate research, clinical management enhancements, and more effective performance improvement efforts.

Objectives:

1. Develop and maintain information systems to generate and transmit data that is reliable, accurate, and secure.
2. Develop unified systems capable of tracking entire patient encounters, from incident through rehabilitation, identifying costs, and providing linkages between various public safety services and other health care providers.
3. Improve the ability of the emergency healthcare system to have access to real-time data.
4. Define and disseminate statutory requirements concerning information exchange.
5. Enhance and integrate a unified emergency healthcare registry.
6. Encourage real-time, two-way health data exchange among EMS entities, hospitals, and other healthcare providers.

Strategies:

1. Develop analytical tools for stakeholder defined data queries.
2. Develop systems to accommodate the International Classification of Diseases 10 (ICD 10) taxonomy.
3. Develop and maintain a data dictionary and operational use guide for emergency healthcare data.
4. Encourage hospitals within the Texas Emergency Healthcare System to submit data to a state registry.
5. Develop specific user defined standard reports and compare to national benchmarks for quality improvement.
6. Monitor compliance with Texas data reporting standards and ensure compliance is integrated into the system designation process.
7. Promote data analysis to healthcare providers and appropriate emergency response organizations.

System Support

Public Education

Successful health education provides a combination of learning experiences encouraging actions leading to better health and facilitates a better understanding of how health systems function. Education can be beneficial by facilitating the development of knowledge, skills, and motivation that may lead to the reduction of behavioral risks. Education may also provide an understanding of how emergency healthcare systems work and thereby lead to more responsible use and greater advocacy for overburdened systems of care. Additionally, education may also engender better community understanding regarding the needs and limitations of their own emergency healthcare systems. There is a profound lack of public awareness regarding the scope and funding of the Texas Emergency Healthcare system. Public information and education systems must focus on encouraging the public's key role as partners and consumers in the system. Illustrating the full capability of local health care entities will allow Texans to understand the values and liabilities of the Texas Emergency Healthcare system resources and will lead to the improvement of patient outcomes.

Objectives:

1. Promote public awareness of the Texas Emergency Healthcare System, including the appropriate use of system resources.
2. Explore innovations for providing interactive, collaborative, targeted public education.

Strategies:

1. Promote public education related to the Texas Emergency Healthcare System through partnerships with EMS providers, first responder agencies, public officials, law enforcement, and through a partnership with the Texas Cardiovascular Disease and Stroke Council.
2. Encourage public agencies to conduct community needs assessments related to healthcare, either on the county or city level.
3. Utilize social media and other public service messaging to disseminate information related to emergency healthcare and outcomes to include death, disability, and costs of care.
4. Promote and provide information to local agencies related to bystander education and training, so that they have the opportunity to provide significant interventions.

System Legislation and Regulation

The Texas Department of State Health Services has statutory authority to regulate many of the components of the Texas Emergency Healthcare System and is responsible for certifying, licensing, and designating facilities and personnel. Texas law provides no statutory requirement for the provision of local emergency healthcare services, and consequently there is disparate access across the state.

Objectives:

1. Establish emergency healthcare services as an essential public service
2. Educate policy makers on the Texas Emergency Healthcare System.
3. Encourage review of legislation and/or regulations supporting innovation and integration of EMS into the Texas Emergency Healthcare System.

Strategies:

1. Provide recommendations guiding regulatory and legislative decision-making as relevant to the Texas Emergency Healthcare System.

System Funding

The survival of the Texas Emergency Healthcare System and the optimal care of those with time dependent disease or injuries is critically dependent on adequate system funding. The state's Emergency Healthcare system is dependent on state and federal funding. Existing funding sources do not satisfy the full financial burden of the emergency healthcare system to include system readiness. As there is no state-level mandate to provide emergency healthcare as an "essential service", the system relies on numerous and inconsistent contingency-based funding sources. There is no single source of state-level funding dedicated to the Texas Emergency Healthcare System.

Objective:

1. Achieve adequate and enduring funding for all components of the Texas Emergency Healthcare System

Strategies:

1. Provide recommendations to guide regulatory and legislative decision-making relevant to the funding of the Texas Emergency Healthcare System.
2. Evaluate and educate the need for reliable and consistent Texas Emergency Healthcare system funding sources.
3. Identify the fiscal needs to sustain the Emergency Healthcare System.
4. Conduct a strategic gap analysis due to the lack of financial support.

Summary

The Texas Emergency Healthcare System is composed of many interdependent yet equally critical components with a common thread of providing the best care for the citizens and visitors to our State.

Texas depends on the above elements and foremost the commitment, professionalism and performance of our stakeholders as we strive to achieve our vision of

**A unified, comprehensive,
and effective Emergency
Healthcare System.**