LOUISIANA

STATEWIDE TRAUMA SYSTEM PLAN

LOUISIANA EMERGENCY RESPONSE NETWORK

January 2024

ABOUT THIS PLAN

The Louisiana Emergency Response Network (LERN) is an agency of state government created by the Louisiana Legislature in 2004 and charged with the responsibility of developing and maintaining a statewide system of care coordination for patients suddenly stricken by serious traumatic injury or time-sensitive illness (such as heart attack and stroke). It is a system also designated to serve as a vital healthcare resource in the face of large-scale emergencies and natural disasters. Getting to the right place at the right time to receive the right care is a matter of life or death for these patients.

LERN's statewide system of trauma care coordination is being developed and continuously refined in accordance with nationally recognized trauma system principles and guidance created by the American College of Surgeons Committee on Trauma (ACS-COT). LERN's charge is to build and maintain a comprehensive system that addresses the daily demands of traumatic injury in Louisiana – a system that is also ever ready to serve as a vital healthcare component of Louisiana's all disasters response infrastructure.

> The mission of the Committee on Trauma is to develop and implement programs that support injury prevention and ensure optimal patient outcomes across the continuum of care. These programs incorporate advocacy, education, trauma center and trauma system resources, best practice creation, outcome assessment, and continuous quality improvement.
>
> *Resources for Optimal Care of the Injured Patient, 2022 Standards*
> **Committee on Trauma**
> **American College of Surgeons**

This *Statewide Trauma System Plan* was created as a master guide for understanding LERN's organizational infrastructure and operational components. This guide is organized into nine major sections:

1. Authority and Leadership
2. Trauma System Development
3. Pre-hospital Trauma Care
4. Definitive Care Facilities
5. Statewide Trauma Registry
6. Performance Improvement
7. Injury Research and Prevention
8. All Disasters and Mass Casualty Interface
9. Financial

This plan document describes in detail LERN's current organization and operations. The plan also provides summary descriptions of LERN's work-in-progress and planned next steps in the development of a comprehensive statewide trauma system for Louisiana.

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SECTION ONE: AUTHORITY AND LEADERSHIP

This section defines the basic elements of the Louisiana Emergency Response Network's (LERN) authority and leadership – including enabling legislation, vision and mission, governing board, regional commissions, and staff.

Enabling Legislation

The Louisiana Legislature enacted legislation in 2004 (LA RS 40:2841-2846) to create a "comprehensive, coordinated statewide system for the access to regional trauma and time-sensitive illness emergency care throughout the state." This legislation created LERN – prescribing the development of a volunteer state board to plan, govern, and implement the statewide system. The original LERN legislation also prescribed the development of nine regional commissions populated with volunteers that live and work within the region they represent.

Legislation created LERN – prescribing the development of a volunteer state board to plan, govern, and implement the statewide system.

The LERN legislation was amended in 2006 to add four additional seats to the LERN Board and adjust the Board's quorum rules. The LERN legislation was amended a second time in 2007 to establish liability limitations for provider participation in LERN and designate LERN as a separate budget unit within the Louisiana Department of Health (LDH). The LERN legislation was again amended in 2010 to:

- Update requirements for Louisiana hospitals to achieve the status of a Level I, Level II, or Level III trauma center – based upon national guidelines, including *Resources for Optimal Care of the Injured Patient* by the American College of Surgeons Committee on Trauma;
- Establish a statewide trauma registry;
- Create the Louisiana Emergency Response Network Fund;
- Provide for a public records exception to support LERN's performance management and improvement efforts;
- Expand the size of the LERN governing board; and
- Initiate a process for development of LERN infrastructure to address time-sensitive illness.

In 2019, the legislation was amended to add a burn representative on the LERN Board. The LERN legislation was amended in 2022 to update the nominating entities for the LERN Board and to formally name stroke and STEMI as part of LERN's focus areas. A copy of the current LERN state law is provided in **Appendix A**.

Vision and Mission

LERN's vision and mission statements reflect the intent of the enabling legislation and the Board's commitment to building comprehensive statewide care coordination systems that meet nationally recognized standards and requirements.

Our Vision

To build and maintain Louisiana's care coordination systems for trauma and time-sensitive illness (stroke & heart attack) and facilitate readiness of healthcare providers during all disaster response.

Our Mission

To defend the public health, safety, and welfare by protecting the people of the state of Louisiana from unnecessary deaths and morbidity due to trauma and time-sensitive illness.

Governing Board

LERN is governed by a 29-member board that represents a diverse set of stakeholders. LERN's legislation specifies a stakeholder organization to nominate qualified candidates for each LERN board seat. Nominees are submitted to the Governor for consideration and appointment to serve a three-year term. The following stakeholder organizations nominate qualified board candidates.

- American College of Surgeons Committee on Trauma
- American Stroke Association
- Burn Center verified by American Burn Association
- Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP)
- Louisiana American College of Emergency Physicians
- Louisiana Chapter of National Association of EMS Physicians (NAEMSP)
- Louisiana Association of Nationally Registered Emergency Medical Technicians
- Louisiana Chapter of the American College of Cardiology
- Louisiana Department of Health (LDH)
- Louisiana Medical Association
- Louisiana State Board of Nursing
- Louisiana State Medical Society
- Louisiana Hospital Association: hospitals > 100 beds
- Louisiana Hospital Association: Hospitals providing rehabilitation services
- Louisiana Hospital Association Service District Hospital Constituency Group

- Louisiana House of Representatives
- Louisiana Rural Ambulance Alliance
- Louisiana Senate
- Louisiana State Coroners Association
- Louisiana State University Health Science Center – New Orleans
- Louisiana State University Health Science Center – Shreveport
- National Emergency Number Association (911)
- Optometry Association of Louisiana
- Rural Hospital Coalition
- Tulane University Health Sciences Center

A current list of LERN board members is provided on the LERN website.

Regional Commissions

LERN is organized into nine geographic regions, and LERN efforts in each region are guided by a Regional Commission – an advisory board of key trauma and time-sensitive illness stakeholders, including (but not limited to) the following organizations.

- American College of Cardiology
- American College of Emergency Physicians
- American College of Surgeons
- American Stroke Association
- LDH-OPH Regional Medical Director
- Emergency Medical Response
- GOHSEP
- Hospital < 60 Beds
- Hospitals > 100 Beds
- Health & Human Services Designated Regional Coordinator (HHSDRC)
- Local Ambulance Services
- Louisiana State Medical Society
- National Emergency Number Association (911)
- Registered Nurse Practicing in Emergency or Critical Care
- Rural Ambulance Representative
- Service District Hospital

Additionally, some commissions have representatives from the following topical categories: pediatric physician, military hospital, burn center, law enforcement and trauma center.

A current listing of Regional Commission members for all nine regions can be found on the LERN website.

The nine LERN geographic regions correspond with the nine administrative regions of the LDH.

Region 1

Jefferson Parish
Orleans Parish
Plaquemines Parish
St. Bernard Parish

Region 2

Ascension Parish
East Baton Rouge Parish
East Feliciana Parish
Iberville Parish
Point Coupee Parish
West Baton Rouge Parish
West Feliciana Parish

Region 3

Assumption Parish
Lafourche Parish
St. Charles Parish
St. James Parish
St. John the Baptist Parish
St. Mary Parish
Terrebonne Parish

Region 4

Acadia Parish
Evangeline Parish
Iberia Parish
Lafayette Parish
St. Landry Parish
St. Martin Parish
Vermillion Parish

Region 5

Allen Parish
Beauregard Parish
Calcasieu Parish
Cameron Parish
Jefferson Davis Parish

Region 6

Avoyelles Parish
Catahoula Parish
Concordia Parish
Grant Parish
LaSalle Parish
Rapides Parish
Vernon Parish
Winn Parish

Region 7

Bossier Parish
Caddo Parish
Claiborne Parish
DeSoto Parish
Natchitoches Parish
Red River Parish
Sabine Parish
Webster Parish

Region 8

Caldwell Parish
East Carroll Parish
Franklin Parish
Jackson Parish
Lincoln Parish
Madison Parish
Morehouse Parish
Ouachita Parish
Richland Parish
Tensas Parish
Union Parish
West Carroll Parish

Region 9

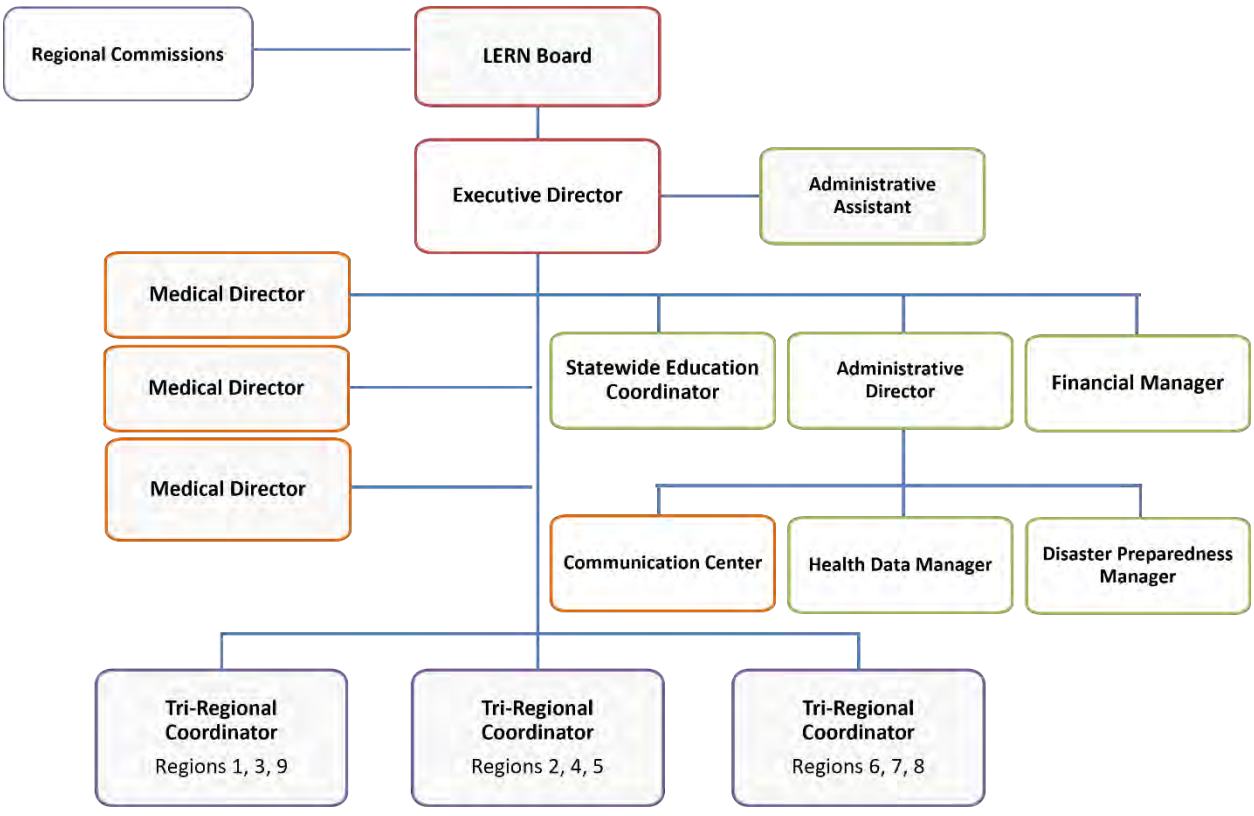
Bienville Parish
Livingston Parish
St. Helena Parish
St. Tammany Parish
Tangipahoa Parish
Washington Parish

Medical Directors

LERN has three medical directors serving as subject matter experts for the three statewide systems of care coordination developed and maintained through LERN's legislative mandate, including trauma, stroke, and STEMI. The medical directors, working collaboratively with LERN's board and executive director, provide valuable professional expertise that guides and facilitates LERN's management and continuous refinement of trauma, stroke, and STEMI systems of care. The medical directors are crucial leaders of LERN's ongoing efforts to expand and strengthen statewide provider networks for trauma, stroke, and STEMI. A current list of LERN medical directors is provided on the LERN website.

Staff

LERN utilizes a small staff of experienced healthcare professionals to administer state-level operations, manage LERN's Communications Center (including case review) and data registry, offer educational services and outreach, promote expansion of care networks, and support LERN's nine Regional Commissions.



A current list of LERN staff members is provided on the LERN website.

SECTION TWO: TRAUMA SYSTEM DEVELOPMENT

Louisiana's statewide trauma system is being developed and continuously refined in accord with the nationally recognized trauma system model developed through the work of the federal Health Resources and Services Administration (HRSA) and the American College of Surgeons Committee on Trauma (ACS COT).

> Trauma is defined as a bodily wound or shock produced by sudden physical injury, such as that from violence or an accident, including vehicle crashes, severe falls, gunshots or knives, blunt force, blasts, and burns. Trauma is uniquely defined by the severity and location of the injury.
>
> The Toll of Trauma
> Coalition for National Trauma Research

The Need for Organized Trauma Care Systems

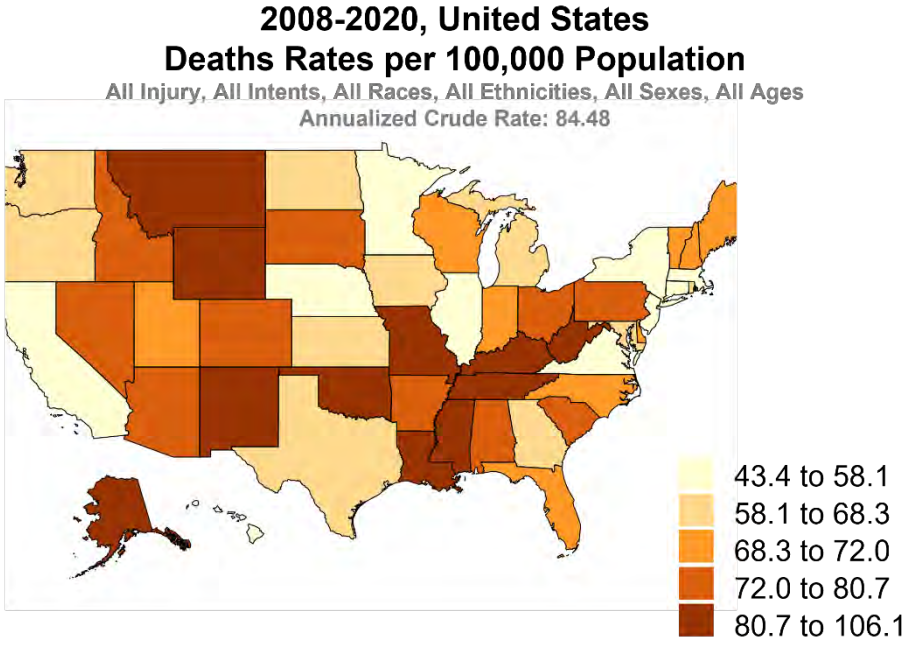
The argument for developing and maintaining organized trauma care systems is perhaps best made through a presentation of trauma statistics.

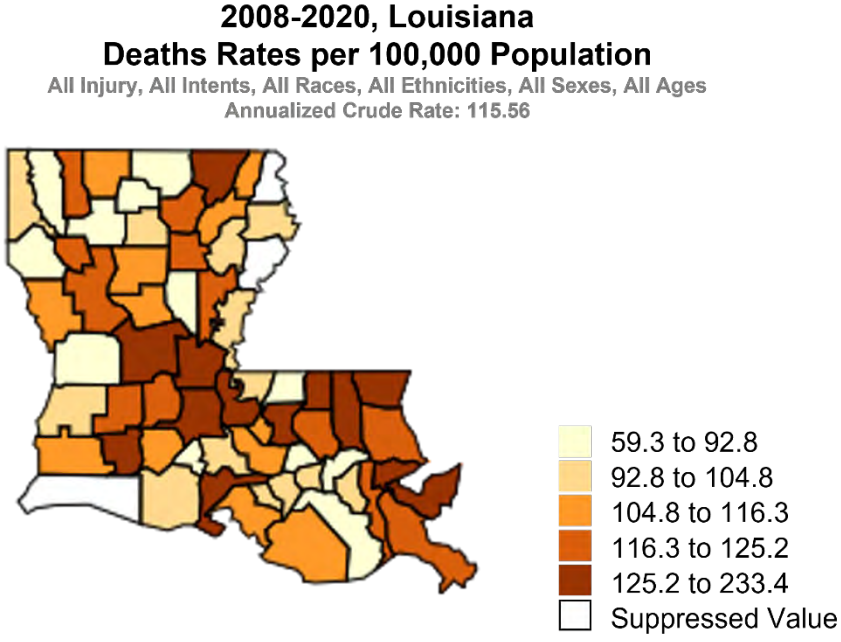
> All U.S. states face substantial avoidable costs from injury deaths. The five areas with the **highest per capita total fatal injury costs** were West Virginia, New Mexico, Alaska, District of Columbia (DC), and **Louisiana**.
>
> *State-Level Economic Costs of Fatal Injuries — United States, 2019*
> *Morbidity and Mortality Weekly Report, CDC*

> Unintentional injury is the **leading cause of death for children, adolescents, teenagers, and adults** in the US from age 1 through 44. Unintentional injury is also the third leading cause of death for the whole US population.
>
> *10 Leading Causes of Death by Age Group, United States – 2018*
> *National Center for Health Statistics, CDC*

> In 2020, approximately **23 million people** were treated in emergency departments for nonfatal **injuries**.
>
> *National Center for Injury Prevention and Control, CDC*

Louisiana has one of the highest trauma death rates in the nation.





Centers for Disease Control and Prevention, Fatal Injury Data Tool
Data Sources: NCHS Vital Statistics System for Numbers of Deaths,
US Census Bureau for Population Estimates, 2008 – 2020

The highest age-adjusted rates of trauma (125.2 to 233.4 per 100,000) within the state of Louisiana are found in the following parishes.

- St. Helena Parish (233.4)
- Washington Parish (181.2)
- St. Bernard Parish (165.9)
- Orleans Parish (158.6)
- Morehouse Parish (149.2)
- Avoyelles Parish (141.1)
- Jefferson Davis (139.8)
- East Baton Rouge (138.1)
- Tangipahoa (137.3)
- Pointe Coupee Parish (136.6)
- St. Landry Parish (131.9)
- Rapides (130.7)
- Iberia (125.2)

History of Trauma System Development in the US

The beginnings of modern trauma systems in the US can be traced to federal legislation, specifically the Highway Safety Act of 1966 and the Emergency Medical Services Systems Act of 1973. These acts represent initial efforts to apply the emergency medical and trauma care lessons learned by physicians serving in the US military during the Vietnam and Korean Wars. Those initial federal acts led to education and training programs for emergency medical technicians (EMTs) and initial model development of regional trauma and emergency medical services.

The early efforts were a huge step forward, but the model of trauma care developed was limited, emphasizing hospital-based acute care. A second major step forward in trauma care policy was the development of the *Model Trauma Care Systems Plan* in 1992 by HRSA in collaboration with provider stakeholder groups. The new model that was created called for an *inclusive* trauma care system. This new *inclusive* trauma system model included not only trauma centers, but all healthcare facilities according to availability of trauma resources.

In 2002, HRSA conducted the *National Assessment of State Trauma System Development, Emergency Medical Services Resources, and Disaster Readiness for Mass Casualty Events*. This study demonstrated much progress but also revealed that few states could boast of trauma systems that included all the components of HRSA's *inclusive* trauma system model. Not surprisingly, this assessment also demonstrated that states with the most comprehensively developed trauma systems were better prepared to medically handle disasters of all types.

In 2006, HRSA updated its trauma system model with the publication of *Model Trauma Systems Planning and Evaluation*. This update to the model utilizes a public health framework that views traumatic injury as a *disease* that can be prevented or managed in a way that reduces severity and improves ultimate outcome.

The nationally recognized resource for development of trauma centers and statewide trauma systems is *Resources for Optimal Care of the Injured Patient* by the American College of Surgeons Committee on Trauma (ACS COT). The 2014 edition of this guidebook utilizes the HRSA model and provides detailed descriptions of the organization, staffing, facilities, and equipment needed to provide state-of-the-art treatment for the injured patient at every phase of trauma system participation. It also includes a *Criteria Quick Reference Guide* that identifies the criteria necessary to meet the requirements included in each chapter of the guidebook.

The much-anticipated update to the guidebook, *Resources for the Optimal Care of the Injured Patient 2022 Standards*, was released in March of 2022 and will be effective for verification/reverification visits starting September 2023 and consultation visits starting February 2023. A copy of this reference guide is provided on the LERN website.

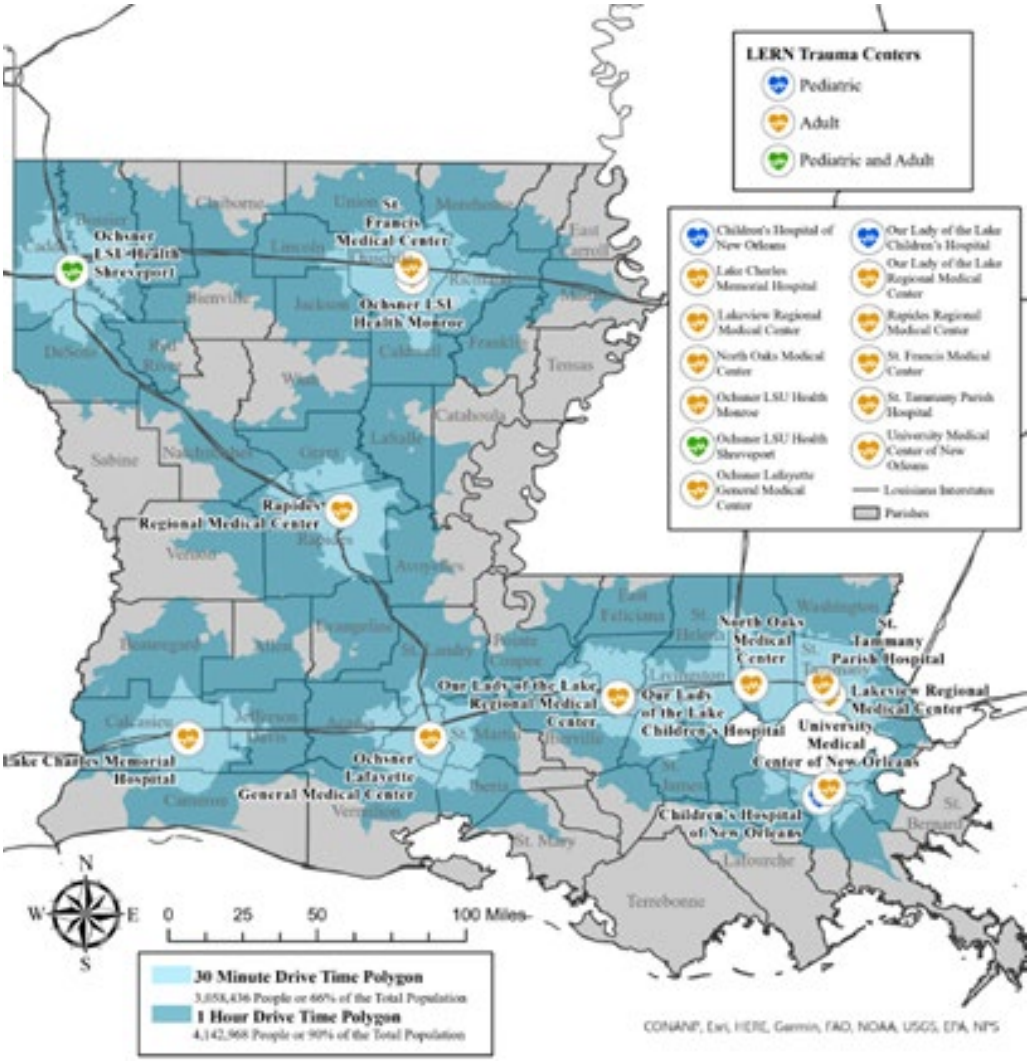
Trauma System Model

LERN is using the trauma system material developed by HRSA and ACS to help guide the building of an *inclusive* statewide trauma system in Louisiana. The *inclusive* trauma system model recognizes the full continuum of injury severity and utilizes all acute care facilities to get the injured patient to the **Right Place** at the **Right Time** to receive the **Right Care**.

The LERN Board's vision for trauma includes the establishment of at least one ACS-verified, state-designated trauma center in each region of the state. Represented below is the current 2024 Louisiana trauma system of care for existing state-designated trauma centers. There is currently one region of the state, Region 3 (Houma/Thibodaux), that does not have a state-designated trauma center.

> Optimal outcomes require care and coordination across the entire continuum from point of injury through rehabilitation.
>
> *American College of Surgeons Committee on Trauma (website, 2022)*

Louisiana Trauma System of Care, 2024



Updated: October 2023

LERN's Strategic Priorities

LERN's governing board has established a list of strategic priorities to guide organizational planning and decision-making across all four major components of LERN activity – trauma, stroke, STEMI, and all disasters response. The Board reviews the strategic priorities annually and updates the list as necessary to accurately reflect the priority goals and tasks of the organization. LERN's current (2022) trauma system strategic priorities include the following items.

LERN 2022-2024 STRATEGIC PRIORITIES

1. Continue the buildout and strengthening of LERN's statewide care coordination systems – including Trauma, Stroke, STEMI (heart attack), Burn, and MCI/Disaster Response.

Trauma System 2024 Goals
Review and update exiting interfacility transfer guidelines, recognizing maturation of trauma system.
< 15% median first call denial rate for transfers facilitated by the LCC within the trauma center network.
Develop a clinical practice management guideline for implementation in the trauma system.
Support dissemination of RTTDC courses to rural areas of the state. LERN Regional Coordinators and Education Coordinator will complete process to become course coordinators.
Support dissemination of TNCC, ENPC, ATCN, and TCAR/PCAR courses throughout the state.
Develop workgroup consisting of surgeons practicing hand surgery in Louisiana to identify most efficient manner to manage hand injuries.
Develop action plan based on ACS recommendations from the Trauma System Consultation.

Stroke System 2024 Goals
Reduce door in and door out (DIDO) to less than 90 minutes.
Develop pediatric stroke sub-committee to address pediatric stroke care. Performance Indicator: • Develop initial and secondary destination protocol for stroke. • Develop protocol for how to address suspected pediatric stroke.
Implement Pre-hospital Stroke Destination Protocol.
Teach Basic Stroke Education class statewide. Host a minimum of 3 classes in each region.
Support the Stroke Recognition and Response class in all 9 regions.
Review, update and distribute stroke reference cards and stroke toolkit.
Develop Stroke Bypass Hospital Workgroup to address: • Challenges • System integration

STEMI System 2024 Goals
Continue public education on heart attack signs and symptoms and the importance of calling 911. • Teach signs and symptoms of heart attack, hands only CPR, and AED training at the end of every Stop the Bleed Class.
Provide 12 Lead EKG course in all 9 regions.
Establish regional goals based on STEMI Data.
Increase communication between LERN STEMI Medical Director and regional STEMI partners.
STEMI Webinar: Reperfusion Strategy for STEMI Referral Centers
Burn System 2024 Goals
Align Pre-Hospital and ED Burn Guideline with new ABA resuscitation guidelines. Distribute updated posters and cards to EMS and hospital partners statewide.
Continue to plan and execute, at a minimum, two mass notification/resource update drills with ABA, statewide burn centers, and other facilities within the Southern Regional Burn Consortium.
MCI/Disaster Response System 2024 Goals
LERN Communication Center participation in at least one MCI drill, functional, or full-scale exercise in each of the 9 LDH Regions.
Provide updated MCI training to partners in all regions related to how the LCC functions and collaborates with EMS during an incident.
Develop EMS TOC Emergency Operations Plan.
2. Elevate EMS engagement and participation in LERN's strategic development and operational activities.
2024 Goals
Provide EMS education and opportunity for continuing education hours for EMS providers in all 9 regions.
Continue support EMS agencies statewide with transition of ePCR to NEMSIS 3.5.

SECTION THREE: PRE-HOSPITAL TRAUMA CARE

Pre-hospital providers, protocols, and communication systems are critical to the effective delivery of pre-hospital care and transport services for trauma patients.

EMS Providers

In Louisiana, 83.9% of EMS providers participate in LERN's trauma care provider network – utilizing LERN's pre-hospital protocols and collaborating with LERN's Communications Center (LCC) to efficiently deliver trauma patients to the most appropriate hospital-based resources that can best address their specific injuries. This amount of participation provides coverage to 85% of the state's population.

EMS participation in LERN's trauma care network is voluntary – the terms of EMS provider participation are captured in a written agreement. Through the participation agreement, EMS providers agree to utilize LERN entry criteria and destination protocols, coordinate with the LCC, provide relevant data, and participate in LERN's efforts to manage and improve the quality of the statewide trauma system.

A sample copy of LERN's EMS Provider Agreement is provided in **Appendix B**.

Visit the LERN website for region-specific lists of LERN's participating EMS providers.

Protocols

LERN has adopted the tagline – ***Right Place. Right Time. Right Care.***

The tagline brings to mind two basic trauma facts – first, not all injuries are equal in severity, and second, not all hospitals have equal resources available to care for trauma patients. The tagline also alludes to one of the most basic trauma system goals – to evaluate and expeditiously deliver each trauma patient to a hospital facility capable of providing the level of care needed.

The successful management of trauma patients requires the accurate identification of specific injuries or mechanisms likely to cause severe injury. Protocols are used to identify patients with injuries and mechanisms that warrant pre-hospital (EMS) coordination with the LCC to consistently deliver those patients to the *Right Place* at the *Right Time* to receive the *Right Care*.

The LERN Board has approved a protocol labeled the *LERN Destination Protocol: Trauma* to support the pre-hospital evaluation and expeditious delivery of trauma patients. This protocol is based on the CDC Field Triage Scheme developed by the Committee on Trauma, American College of Surgeons with input from an expert panel representing EMS, emergency medicine, trauma surgery, and public health. A copy of the *LERN Destination Protocol: Trauma* is provided in **Appendix C**.

The LERN Board has also approved a protocol labeled the *LERN Destination Protocol: Burn* and guidelines for pre-hospital and emergency room burn care to support the pre-hospital and hospital evaluation and expeditious delivery of burn patients. This protocol was developed in consultation with the medical directors for burn centers and is based on national guidelines. A copy of the *LERN Destination Protocol: Burn* is provided in **Appendix D**. A copy of the *LERN Pre-Hospital Burn Care Guideline* is provided in **Appendix E**, and a copy of the *LERN Emergency Department Burn Care Guideline* is provided in **Appendix F**.

The LERN Board has approved a protocol labeled the *LERN Hospital Interregional Transfer Guidelines and LERN Hospital Interregional Transfer Protocol*. The protocol aims to facilitate timely transfers to definitive care hospitals. A copy of the *LERN Hospital Interregional Transfer Guidelines and LERN Hospital Interregional Transfer Protocol* are provided in **Appendix G**.

LERN Communications Center

The LERN Communications Center (LCC) is a key element of Louisiana's statewide trauma system. LERN's participating hospitals provide the LCC with real-time capacity and capability updates – producing all the information the LCC needs to maintain an accurate inventory of what hospital resources are available, and where, 24/7/365.

When a pre-hospital provider (EMS) or a hospital determines a patient meets trauma or burn criteria, as indicated in the *LERN Destination Protocol: Trauma* or the *LERN Destination Protocol: Burn*, the LCC is engaged to match the patient to the appropriate level of care/hospital resources available. The LCC is staffed 24/7/365 by nationally registered paramedics with in-depth knowledge of the LERN network design, function, and protocols.

The LCC is equipped with an emergency resources information system that provides LERN with a continuous real-time functional status display of all LERN network hospitals. Each participating hospital has a real-time functional status display of their regional network hospitals resources. This system provides an information grid listing of:

- Individual hospitals;

- Each hospital's resource capability as it relates to General Surgery, Orthopedic Surgery, Neurosurgery, Pediatric Trauma, OB Trauma, Burn resources, MRI, CT, etc.; and
- The hospital's primary trauma resource components – indicating, in real time, the availability or non-availability of these individual components (i.e., the availability of surgery and surgical subspecialties).

The LCC also facilitates emergency department to emergency department (ED to ED) transfers through this information system.

> It is important to note that the LCC **DOES NOT FUNCTION** as EMS Medical Control, and it **IS NOT** a 911 Public Service Access Point (PSAP). **The LCC only handles patients who meet the Standard LERN Entry Trauma Criteria.**

The LCC communications infrastructure is designed to interface with the State's current communication technology systems – to support LERN's day-to-day network operations and the statewide interoperability mission in times of natural disasters and manmade emergencies.

Call volume handled by the LCC has steadily grown since the first call in 2008. More information on LCC call volume can be found on the LERN website.

SECTION FOUR: DEFINITIVE CARE FACILITIES

The network of definitive care facilities that participate in LERN's trauma care system represents approximately 98% of all hospitals in Louisiana that possess an emergency department.

Trauma Centers

Louisiana law (LA RS 40:2171-2173) states that the "trauma center" label shall be reserved exclusively for hospitals with state-issued trauma center designation. The Health Standards Section of LDH is charged with the responsibility of designating a hospital as a Level I, Level II, or Level III trauma center. A copy of LA RS 40:2171-2173 is provided in **Appendix H**.

To receive LDH designation as a Level I, Level II, or Level III trauma center, Louisiana hospitals must successfully complete the trauma center verification process of the ACS COT. Level I is the highest level of trauma center – requiring the greatest commitment of hospital resources.

Hospitals that want to seriously explore the trauma center verification process should reference the *Resources for Optimal Care of the Injured Patient* by the ACS COT, which is available on

LERN's website. To learn more about the ACS COT trauma center verification process, visit the ACS Trauma Program Verification Process website.

Trauma centers in Louisiana are required to contribute data to the statewide trauma registry, participate in LERN's Regional Commissions, and participate in LERN regional and state level performance improvement and injury prevention activities.

Louisiana's designated trauma centers include:

- Region 1: Norman E. McSwain, Jr. MD Spirit of Charity Trauma Center – University Medical Center – New Orleans (Level I), Children's Hospital New Orleans (Level II Pediatric)
- Region 2: Our Lady of the Lake Regional Medical Center – Baton Rouge (Level I), Our Lady of the Lake Children's Hospital (Level II Pediatric)
- Region 4: Ochsner Lafayette General Medical Center – Lafayette (Level II)
- Region 5: Lake Charles Memorial Hospital – Lake Charles (Level III)
- Region 6: Rapides Regional Medical Center – Alexandria (Level II)
- Region 7: Ochsner LSU Health Shreveport – Shreveport (Level I Adult, Level II Pediatric)
- Region 8: Ochsner LSU Health Monroe (Level III); St. Francis Medical Center (Level III)
- Region 9: North Oaks Medical Center – Hammond (Level II), Lakeview Regional Medical Center – Covington (Level II) and St. Tammany Parish Health System (Level III)

State Trauma Center Designation Process

RS 40: 2173 provides for the rules, regulations, and standards for licensure as a trauma center. The Department of Health, specifically the Health Standards department, designates a healthcare facility as a trauma center upon verification from the American College of Surgeons that the facility has met its criteria for a Level I, II, or III Trauma Center. These are the three levels of trauma centers currently recognized in the Louisiana State Trauma System. The "trauma center" label shall be reserved exclusively for hospitals with state-issued trauma center certification.

The Health Standards Section of LDH issues standard forms for applications. Instructions and forms issued by Health Standards are designed to assist providers in submitting the required information to add a trauma center. These forms are:

- HSS-HO-34 Application & Checklist for Hospital Trauma Center Designation
- HSS-PR-02 Plan Review Attestation
- HSS-HO-09 Attestation

Designated Trauma Centers must be re-verified by the ACS COT every three years. Upon re-verification by the ACS COT, trauma centers must request a renewal of the state designation from the Health Standards Section at LDH. The required Health Standards forms are included in the Hospital Trauma Center Licensing Renewal Packet:

- HSS-HO-034b Application & Checklist for Hospital Trauma Center Renewals
- HSS-HO-09 Attestation

These forms are provided in **Appendix I**, and can be downloaded directly from the LDH Health Standards Section website. Questions related to these forms, or the application process should be directed to Health Standards at (225) 342-6194.

Trauma Programs

A goal of the LERN Board is to establish a statewide trauma system that includes at least one verified trauma center in each of the nine LDH regions of the state. The LERN Board recognized the opportunity to reduce the morbidity and mortality of trauma patients in Louisiana in areas without an existing Level I or Level II trauma center by adopting a Trauma Program Recognition process. There is a process for adult trauma programs and for pediatric programs.

The Trauma Program process recognizes achievement of specific benchmarks by hospitals that are actively pursuing Level II or Level III Trauma Center verification through the ACS. Trauma Program criteria are drawn from the *Resource for the Optimal Care of Injured Patients* published by the ACS.

Trauma Program recognition is distinct and different from the Trauma Center certification/designation by the state. To be certified as a trauma center in Louisiana, a hospital must fully satisfy the requirements of R.S. 40:2172 and 2173.

Qualification for LERN Trauma Program recognition requires the hospital be in a LERN region that does not have an existing Level I or Level II ACS verified trauma center or a recognized Level II or Level III trauma program. If there is a LERN-recognized Level I or Level II trauma program already in the region, the hospital must complete the most current version of the ACS needs-based assessment of trauma systems tool (ACS NBATS). If the number of trauma centers allocated by the tool is less than or equal to the number of existing trauma programs and trauma centers in the region, the hospital is not eligible for trauma program recognition.

LERN's Procedure for Trauma Program Recognition

A. A hospital must complete the LERN-approved form, "Application for Recognition of Trauma Program."

B. The hospital CEO must complete and sign the LERN-approved trauma program checklist/attestation for the applicable trauma program level and indicate if pursuing adult or pediatric program.

    1) By this attestation, the hospital CEO ensures 24/7/365 availability of the resources listed.

    2) The attestation must be validated by a site visit by LERN staff.

    3) Upon CEO attestation and/or site visit, if it is determined by the LERN executive committee in conjunction with the LERN Trauma Medical Director, that the required benchmarks are not in place the hospital will not be eligible for trauma program verification.

C. After satisfying the requirements of A and B above, the hospital will be recognized as a trauma program and such recognition will be added to the LERN resource management screen for the purpose of routing trauma patients.

D. To maintain trauma program recognition, the hospital must schedule an ACS verification or consultation site visit for the desired trauma level within 12 months of LERN acceptance of the trauma program checklist/attestation.

    1) If an ACS verification or consultation site visit is not scheduled within 12 months of the signed checklist/attestation, the "trauma program" indicator on the LERN resource management screen will be removed.

E. After a consultation visit for the desired trauma level, the hospital has one year to achieve verification by the ACS or the trauma program indicator will be removed on the LERN resource management screen.

    1) If the hospital fails the ACS verification visit and a focused review visit, the hospital will lose trauma program status. The trauma program indicator will be removed from the LERN resource management screen.

F. After loss of trauma program status for failing the ACS verification visit and focused review visit, trauma program status may be regained provided the following conditions are met:

1) A LERN designee and either the LERN trauma medical director or a trauma surgeon must review the deficiencies and findings of the ACS at a site visit;
2) The hospital must develop a remediation plan and apply to the LERN board for approval of trauma program status;

3) The LERN board will review the LERN team assessment of deficiencies and the hospital's remediation plan;

4) The LERN board must vote to approve the trauma program status request.

The documents referenced in this section can be found in the following appendices.

Appendix J: Attestation Requirements Level II Trauma Program
Appendix K: Attestation Requirements Level III Trauma Program
Appendix L: Attestation Requirements for Pediatric Trauma Program Level I and II
Appendix M: Trauma Program Recognition Application
Appendix N: ACS Needs Based Assessment of Trauma Systems (NBATS) Tool
Appendix O: Rule: LAC 48:I, Chapter 197, §19701-§19707

Participating Hospitals

Most hospitals that participate in the LERN provider network are not designated as trauma centers. Hospital participation in LERN is voluntary – the terms of hospital participation are captured in a written agreement.

> In most trauma systems, designated trauma centers of different levels coexist with other acute care facilities, which should also be formal members of the trauma system; these facilities assist in caring for patients whose injuries are less acute, provide data for research programs, and participate in PI.
>
> *Resources for Optimal Care of the Injured Patient, 2022 Standards*
> American College of Surgeons Committee on Trauma

Through the participation agreement, hospitals define the level of trauma care resources typically available at their facility and agree to routinely notify LERN of changes in the availability of their trauma care resources using the Resource Management System. The agreement also requires hospitals to utilize LERN protocols, coordinate with the LERN Communications Center, provide relevant data, and participate in LERN's efforts to manage and improve the quality of the trauma system.

A sample copy of the LERN hospital agreement form (including LERN trauma, STEMI, stroke, and interregional transfer protocols) is provided in **Appendix P**.

The region-specific list of LERN's participating hospitals is found on the LERN website.

Rehabilitation

Fully developed trauma center programs and trauma systems include resources and processes to support rehabilitation of the trauma patient.

Louisiana's state-designated trauma centers are required to offer rehabilitation services consistent with ACS-COT trauma center verification requirements as outlined in the *Resources for Optimal Care of the Injured Patient*, including, but not limited to:

- In Level I and II trauma centers, rehabilitation services must be available within the hospital's physical facilities or as a freestanding rehabilitation hospital, in which case the hospital must have transfer agreements.

- In Level I and II trauma centers, these services [physical therapy, social services, occupational therapy, speech therapy, nutrition support, and respiratory therapy] must be available during the acute phase of care, including intensive care.

> Early multidisciplinary assessment of patients to determine their rehabilitation needs and provide the relevant services during the acute phase of care is critical to ensuring optimal functional recovery.
>
> *Resources for Optimal Care of the Injured Patient, 2022 Standards*
> American College of Surgeons
> Committee on Trauma

SECTION FIVE: STATEWIDE TRAUMA REGISTRY

A statewide trauma registry is a data collection system that includes a file of uniform data elements that describes the injury event, demographics, pre-hospital information, care, outcomes, and costs of treatment for injured patients. The purpose of such a registry is to mine the data for what it can tell us – registry data can be coded, compiled, analyzed, and reported. A trauma registry is an important management tool that is used for performance management and improvement, research, and injury prevention.

Individual trauma centers that are verified by the ACS COT must develop and maintain their own trauma registries and submit their data to the National Trauma Data Bank (NTDB). In Louisiana, hospitals must successfully complete the ACS COT verification process as a condition of state designation as a trauma center.

Louisiana's statewide trauma registry was authorized by the Louisiana Legislature in 2010. The Louisiana legislation charges the LERN Board to "establish and maintain a statewide trauma registry to collect and analyze data on the incidence, severity, and causes of trauma, including traumatic brain injury. The registry shall be used to improve the availability and delivery of pre-hospital or out-of-hospital care and hospital trauma care services."

This legislative act also includes a requirement that all state-designated trauma centers contribute their relevant trauma data to the statewide trauma registry (when adequate funding is provided to cover the relevant trauma center administrative costs).

Technology

LERN has acquired the information technology needed to establish and maintain a statewide trauma registry. The technology vendor is Image Trend and the registry technologies utilized by LERN include EMS State Bridge and Patient Registry.

Data Dictionary

LERN has developed data dictionaries that include lists of specific data elements and outline reporting requirements for the hospital patient registry and the EMS patient registry.

The data dictionaries include:

- LERN State Trauma Registry Data Dictionary

- EMS: Facility-Based EMS Users (For Image Trend Users – Explains how to enter data into the web-based statewide EMS registry)

- EMS: Non-Image Trend Users (For other vendors – technical requirements to upload to the Louisiana State Trauma Registry)

LERN's trauma registry data dictionaries are available on the LERN website.

Trauma Registry Participation

Current hospital participation in the statewide trauma registry is limited to Louisiana's state-designated trauma centers, the trauma programs, and Children's Hospital New Orleans. EMS participation includes 45 providers across the state. A complete list of participating entities as of October 2022 is included as **Appendix Q**.

> High-quality data are critical to inform quality improvement and measure the performance of trauma programs.
>
> *Resources for Optimal care of the injured Patient, 2022 Standards*
> American College of Surgeons Committee on Trauma

Louisiana's goal, which is the ideal stated by the ACS, is for all acute care facilities that treat injured patients to contribute to the state trauma registry. Receiving injury data from all facilities treating trauma patients would inform public health decision making based on comprehensive injury data regarding incidence, care, cost, and outcome of injuries. Once stratified, population-based injury prevention programs could be targeted to specific regions.

Trauma Registry Submission Schedule

Calendar Year Quarter		Submission Deadline
January - March Admissions		June 1
April - June Admission		September 1
July - September Admission		December 1
October - December Admission		March 1

Trauma Registry Reports

LERN compiles annual state trauma registry reports that include standard dataset information established by the National Trauma Database (NTDB). These reports are used to compare Louisiana to national metrics published in the annual NTDB Report. Cause of injury reports help guide injury prevention efforts. Without a comprehensive registry it is difficult to make broad assumptions based on the data. LERN began publishing annual state trauma registry reports

began in 2012 and current reports include:

- Patient Age Distribution
- Cause of Injury
- Cause of Injury by Survivability
- Received Pre-Hospital/Transfer
- Trauma Type by Gender
- Facility Traumatic Deaths by Trauma Type
- Blood Alcohol Testing
- Drug Screening
- Injury Severity Score (ISS) by Age
- ISS Range
- Fatalities by ISS
- Hospital Length of Stay
- Intensive Care Unit (ICU) Length of Stay
- Emergency Department/Acute Care Dispositions
- Hospital Discharge Disposition
- Top Dispositions (Hospital and Emergency Department)
- Hospital Admissions by Trauma Type
- Paid/Not Paid Annual Comparison

LERN's annual trauma registry reports are available on the Trauma Registry page of the LERN website.

SECTION SIX: PERFORMANCE IMPROVEMENT

Today, performance improvement efforts in hospitals (and other healthcare providers) include formal organizational structures and activities focused on a continuous process of recognition, assessment, and correction. A basic tenet of performance improvement is that the opportunities for improving the efficaciousness, safety, and cost-effectiveness of care are ongoing.

> Trauma care typically involves many providers across several disciplines and departments. The PIPs (performance improvement and patient safety) program is most effective when it brings the providers together to review and implement opportunities for improvement.
>
> *Resources for Optimal care of the injured Patient, 2022 Standards*
> American College of Surgeons
> Committee on Trauma

In Louisiana, hospitals must successfully complete the ACS COT verification process as a condition of state designation as a trauma center. Individual trauma centers that are verified by the ACS COT must include a structured trauma program effort to demonstrate a continuous process for improving care for injured patients. The ACS COT does not dictate methodology for this performance improvement requirement, but its guidance is consistent with the Institute of Medicine's six quality aims for patient care: safe, effective, patient centered, timely, efficient, and equitable.

Statewide trauma systems also commonly pursue trauma care performance improvement at the regional (within a state) and statewide levels – utilizing the resources of the statewide trauma registry and the expertise of their regional trauma commissions. LERN is actively promoting and building hospital participation in Louisiana's statewide trauma registry to reach a critical mass of participation necessary to facilitate trauma care performance improvement efforts at the regional and statewide levels. The ACS COT requires verified trauma centers to use a risk-adjusted benchmarking program as part of the performance improvement requirement and encourages all trauma centers (of all levels) to participate in regional and statewide performance improvement and patient safety (PIPS) programs.

The Louisiana Trauma System also participates in the TQIP Collaborative – a group of Trauma Quality Improvement Program (TQIP) hospitals in either a specified geographic area or a hospital system working together with the shared goal of trauma system quality improvement. Through this process, Louisiana trauma centers and the trauma system can benchmark risk adjusted outcomes against all nationally participating TQIP centers.

LERN's current performance improvement efforts include the work of the TQIP Collaborative and evaluating the operations of the LERN Communications Center. The evaluation process is two-fold: 1) provider-related issues pertaining to the LCC operations staff and 2) system-related issues between the communications center and LERN stakeholders. Sample audit filters include the following.

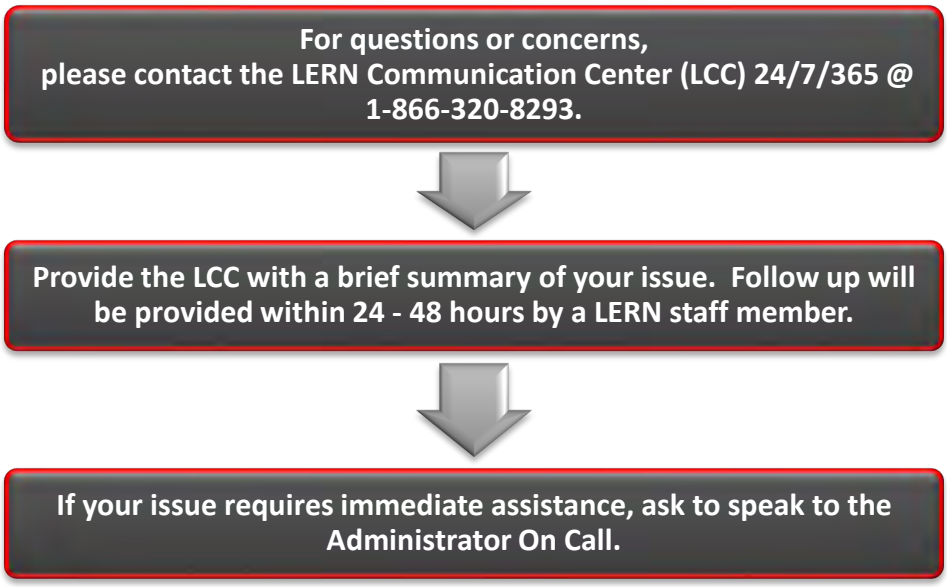
LCC Provider Audit Filters

- Length of call
- Timely answer
- Professional language
- Introduced self
- Triaged correctly
- Routed correctly
- Script followed
- Standard operating procedure (SOP) followed

LCC Operations and System Audit Filters

- LCC Not Called by EMS
- LCC Called by EMS after Transport
- LCC Delay in Routing
- Hospital Refused Patient
- ESF-8 LERN Screen Inaccurate
- LCC Route Inappropriate
- Inquiry/No Issue
- LERN Negative
- Patient Request Overrode Protocol
- EMS Refused LERN Direction
- Hospital Delay Accepting Transfer
- Hospital Delay Sending Transfer
- Inaccurate/Incomplete EMS Report
- MCI
- Over triage
- Under triage
- Transfer Delay
- System PI/Concern
- Report Variance

In addition to directing patients and resource management tracking, the LERN Communications Center (LCC) serves as a single point of entry to report all questions, concerns, and issues. This allows stakeholders the opportunity to report issues concurrently, 24/7/365. When a query is reported to the LCC, a case review is initiated and directed to the LERN operations staff for investigation and loop closure. The following schematic illustrates this process.



SECTION SEVEN: INJURY RESEARCH AND PREVENTION

Given that the ongoing development of Louisiana's trauma system is aligned with the ACS guidelines and trauma center verification program, injury prevention efforts in the state are led and mostly funded by the designated trauma centers.

LERN collaborates with the state-designated trauma centers in injury prevention efforts and fosters replication of programs via the state Trauma Program Managers Group. LERN anticipates the day when hospital participation in the statewide trauma registry will reach a critical mass to support the design and implementation of regional and statewide injury research and prevention initiatives.

SECTION EIGHT:
ALL DISASTER AND MASS CASUALTY INTERFACE

Louisiana's Department of Health, Center for Community Preparedness coordinates the State's response to public health threats of all types, including natural disasters (hurricanes, floods, and pandemics) and man-made emergencies (industrial spills and explosions, other large-scale accidents, and terrorist attacks).

LERN's Communications Center (LCC) supports the Center for Community Preparedness by serving as the "first call" helpdesk for the state's ESF-8 Portal, and 24/7/365 information coordinator for unfolding disaster/mass casualty events. In this role, LERN provides timely information that helps Louisiana's hospitals, other healthcare providers, and relevant

stakeholder agencies prepare for and manage response to the emergency events they face.

Regional Coordinators

Louisiana's All Disasters Response effort utilizes regional coordinators including:

- Designated Regional Hospitals;
- Hospital Designated Regional Coordinators; and
- EMS Designated Regional Coordinators.

Designated Regional Hospitals (DRH) are larger acute care facilitates with emergency room capabilities and many subspecialty services. They serve voluntarily and have agreed to provide additional capacity and resources in the initial emergency response of a mass casualty or event.

Designated Regional Coordinators (DRC) leadership for each region is provided through Hospital designated regional coordinators and EMS designated regional coordinators. Primary responsibilities for the DRCs include:

- To serve as the liaison with other health-related entities and on behalf of the industry they represent and to provide liaison with non-health related entities such as the Parish Office of Homeland Security and Emergency Preparedness.
- To support the patient transfer process during a declared state of emergency.
- To facilitate the identification of a medical evacuation queue during a declared state of emergency.
- To facilitate the development and implementation of regional and inter-organization/facility emergency preparedness plans for designated regions in the State of Louisiana.
- To lead the region's process for planning, training, exercises, development of, testing of, continuous improvement of, and management of regional hospital response to emergency situations.
- To be the leader for the region during a statewide emergency in which ESF-8 is tasked to respond.

LERN works collaboratively with the Designated Regional Hospitals and Coordinators – critical resources on the ground and across the state that are key to coordinating all disasters response.

Lists of current Designated Regional Hospitals and Coordinators are available on the Disaster Response Regional Coordinators page of the LERN website.

Mass Casualty Incident (MCI) Levels

A mass casualty incident (often shortened to MCI and sometimes called a multiple-casualty incident or multiple-casualty situation) is any incident in which emergency medical services resources, such as personnel and equipment, are overwhelmed by the number and severity of casualties. Depending on the geographic area and hospitals surrounding even small numbers of patients can tax the local emergency system. To streamline processes with ensuring appropriate routing of patients involved, LERN will follow the following guidelines for MCI patient distribution:

MCI Level 1 – Incident will require local resources and responding agencies. Incident may require additional resources within the region.

- Size: 5 to 10 patients
- Hospitals: Notification to local hospitals in area near location of incident
- Triage: Patients identified as **RED**, **YELLOW**, **GREEN** following START Triage guidelines and primary injury/service needed ***(LERN may be able to direct patients to specific area emergency departments with appropriate resources in small scale event)***
- Communications: primary – phone; secondary – radio. LERN Communications Center will assign a LERN Regional Tactical channel for transport operations when necessary.

MCI Level 2 – Incident will require local resources and responding agencies. Incident may require additional resources within the region.

- Size: 10 to 20 patients
- Hospitals: Notification to local hospitals in area near location of incident and/or adjacent city or parishes
- Triage: Patients identified as **RED**, **YELLOW**, **GREEN** following START Triage guidelines and primary injury/service needed ***(LERN may be able to direct patients to specific area emergency departments with appropriate resources in small scale event)***
- Communications: primary – phone; secondary – radio. LERN Communications Center will assign a LERN Regional Tactical channel for transport operations when necessary.

MCI Level 3 – Incident will require multiple regional resources and responding agencies. Incident may require additional resources in adjacent regions.

- Size: 20 to 100 patients
- Hospitals: Initial notification to all regional hospitals and/or adjacent regions
- Triage: Patients identified as **RED**, **YELLOW**, **GREEN** following START Triage guidelines
- Communications: Phone and radio communications. Incident command, operational officers, and area hospitals should monitor HRSA __ during incident. LERN Communications Center will assign a LERN Regional Tactical channel for transport operations when necessary.

MCI Level 4 – Incident will require multiple regional resources and responding agencies. Incident may require additional resources in adjacent and/or multiple regions.

- Size: 100 to 1,000 patients or casualties
- Hospitals: Initial notification to all hospitals statewide
- Triage: Patients identified as **RED**, **YELLOW**, **GREEN** following START Triage guidelines
- Communications: Phone and radio communications. Incident command, operational officers, and area hospitals should monitor HRSA __ during incident. LERN Communications Center will assign a LERN Regional Tactical channel for transport operations when necessary.

MCI Level 5 – Incident will require statewide resources.

- Size: Greater than 1,000 patients
- Hospitals: Initial notification to all hospitals statewide
- Triage: Patients identified as **RED**, **YELLOW**, **GREEN** following START Triage guidelines
- Communications: Phone and radio communications. Incident command, operational officers, and area hospitals should monitor HRSA __ during incident. LERN Communications Center will assign a LERN Regional Tactical channel for transport operations when necessary.

A copy of the current MCI procedure (process flowchart) for EMS is available on the LERN Disaster Response Mass Casualty Incident Levels page of the LERN website.

Response Planning and Preparation

LERN participates in a wide variety of local, regional, and statewide All Disaster Response preparatory activities ranging from active shooter drills to emergency drills to system testing and planning. These practice efforts build streamlined response capabilities that can operate under difficult circumstances and in the worst of times.

LERN has been tasked with the management and operations of the EMS Tactical Operations Center (EMS TOC) during disasters. The EMS TOC is responsible for the following Emergency Support Functions Health and Medical (ESF 8), Ambulance Surge Plan which is designed to support the following operations:

- Support the hospital evacuation process, referred to as the medical Institution Evacuation Plan (MIEP) with Emergency Medical Services (EMS) surge assets.
- Support the nursing home evacuation process with EMS surge assets, secondary to nursing home contracts and plans.
- Augment community 9-1-1 services with EMS surge assets.
- Support Medical Bus Triage Operations with EMS personnel and assets.
- Support staff augmentation and EMS assets at state operated Medical Special Needs Shelters (MSNS), Critical Transportation Need Shelters (CTNS), Federal Medical Stations (FMS), and other designation locations.
- Support repatriation of designated evacuees with transportation assets.

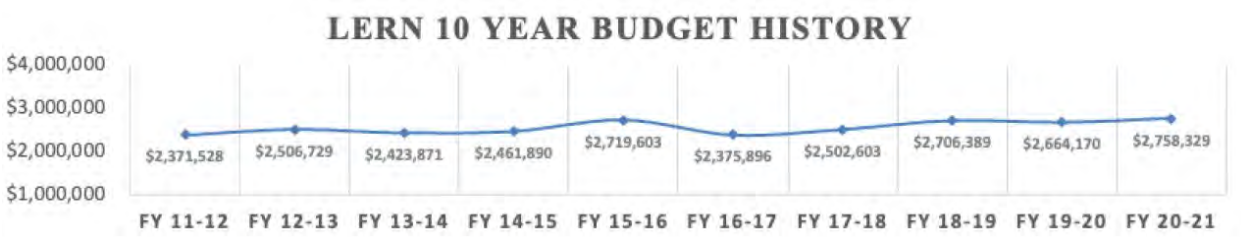
SECTION NINE: FINANCIAL

State funding for LERN's Communications Center, state-level administration, educational services, and regional trauma networks support began in 2006. During the initial years of operational funding, LERN existed as a program inside the Louisiana Department of Health (LDH).

LERN became a separate budget unit under LDH effective Fiscal Year (FY) 08-09. Since that time, LERN has consistently demonstrated the ability to successfully manage an independent budget, partner with LDH, maximize the state's investment, and maintain steady growth and development.

LERN Funding: Sources and History

Funding for LERN comes from two sources – the state general fund (SGF) and federal LINCCA (Low-Income and Needy Care Collaboration Agreement) funds. LERN's total annual budget has been stable between $2.4 and $2.8 mission since 2010 while LERN's scope and responsibility and activities have substantially increased throughout the same period.



Current funding supports operations across LERN's four distinct areas of focus – trauma, stroke, STEMI (the deadliest form of a heart attack) and all disasters response.

Louisiana Emergency Response Network Fund

LERN's research of statewide trauma systems in other states indicates that many states have established one or more funding mechanisms to provide direct financial incentives for hospitals to establish and maintain a designated trauma center status.

In some states, a special statewide trauma system fund has been established to receive and distribute dedicated state funding to designated trauma centers. Consistent with this trend, the Louisiana Legislature established the Louisiana Emergency Response Fund in the 2010 Regular Session. This legislation states "the source of monies deposited into the fund may be any monies appropriated annually by the legislature, including federal funds, any public or private

donations, gifts, or grants from individuals, corporations, nonprofit organizations, or other business entities which may be made to the fund, and any other monies which may be provided by law." The legislation also requires that any monies in the fund shall be used as directed by the LERN Board for grants, projects, and services which address the goals and objectives of the LERN Board.

LERN is continuously exploring opportunities to secure monies for this new trauma fund and is collaborating with LDH to explore potential opportunities to pursue dedicated funding.