

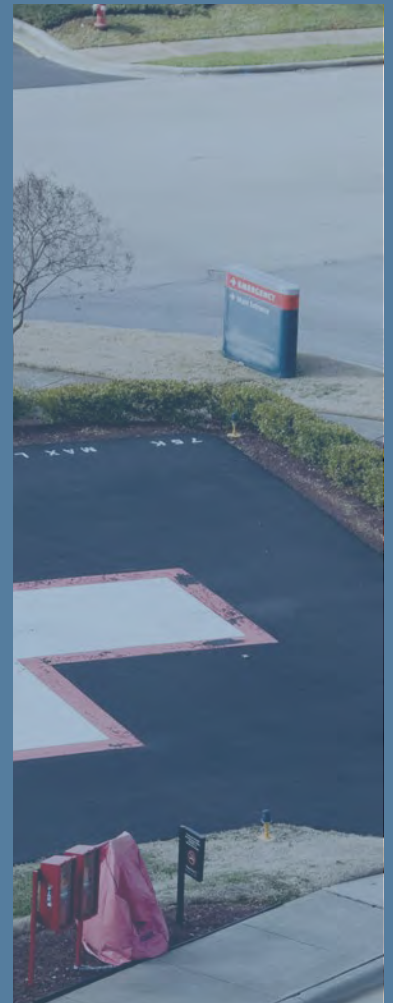


LOUISIANA EMERGENCY RESPONSE NETWORK

Right Place. Right Time. Right Care.

ANNUAL REPORT

FY 2015 - 2016





WHAT IS LERN?

The Louisiana Emergency Response Network (LERN) is an agency of state government created by the Louisiana Legislature in 2004 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 or stroke). It is a system also designated to serve as a vital healthcare resource in the face of larger scale emergencies and natural disasters.

For the patients LERN serves – victims of trauma, heart attack, and stroke, and individuals caught in 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. LERN's mission is to build and continuously improve systems that help make sure Louisiana citizens have timely access to the care they need.

Stay informed with up-to-date information on the LERN organization, statistics from the LERN Communications Center, and an archive of past LERN Annual Reports and LERN e-newsletters at the LERN website: lern.la.gov.

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LETTER FROM THE EXECUTIVE DIRECTOR

I

When I arrived at LERN's new state headquarters (14141 Airline Highway, Baton Rouge) six years ago, to begin my tenure as Executive Director, the first thing that struck me was the sheer size of the volunteer army assembled to govern and guide LERN's statutory mission – 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 or stroke).

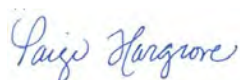
LERN is governed by a 28-member board of directors, an expert body of healthcare and public policy leaders who collectively represent the full array of relevant Louisiana healthcare stakeholders. Each of our board members volunteers several weeks of their time per year to determine LERN's strategic priorities, set policy, debate important issues, raise significant questions, approve plans, and monitor our progress. Additionally, they are always available to offer their assistance and guidance when I or other members of the LERN staff need their expertise.

The LERN Board's vast amount of professional experience, combined with its generous commitment to our mission, is centrally responsible for LERN's growing success. Having such a board is an asset for LERN and our state. But, as they say on the TV commercials... wait, there is more!

LERN is also supported and guided by the work of nine regional commissions, each comprised of, at a minimum, 12 regional commissioners who volunteer their time and expertise to address regional issues and coordinate local opportunities to strengthen Louisiana's networks of care. Doing the math (nine commissions times 12 commissioners), our regional commissions add a total of 108 dedicated healthcare professionals to LERN's statewide army of volunteers.

This annual report is organized to highlight LERN's efforts and results in all four of LERN's areas of focus, including Trauma, All Disasters Response, Stroke, and STEMI (the deadliest form of heart attack). LERN is a small agency of Louisiana state government. Our staff includes only seven full-time employees and our annual state appropriation is less than \$2 million.

Nonetheless, as this annual report makes evident, LERN's work is expanding and strengthening Louisiana's coverage maps for trauma and time-sensitive illness. LERN, now more than ever, is an important component of Louisiana's All Disasters Response infrastructure. LERN's volunteer army deserves much credit for this progress. This annual report is dedicated to them.



Paige Hargrove, BSN, RN
Executive Director
LERN

2015 - 2016 BOARD OF DIRECTORS

II

EXECUTIVE COMMITTEE

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Chairman of the Board

Chief Medical Officer

C&M Medical Services

Nominating Entity: Louisiana American College of Emergency Physicians

John T. Owings, MD, FACS

Vice-Chairman of the Board

Professor of Surgery, Trauma Medical Director

Louisiana State University Health Sciences Center – Shreveport

Nominating Entity: Louisiana State University Health Sciences Center – Shreveport

Tracy Wold

Treasurer of the Board

Director of Operations

Pafford Emergency Medical Services

Nominating Entity: Louisiana Rural Ambulance Alliance

John P. Hunt, MD, MPH, FACS

Immediate Past Chairman of the Board

Professor of Surgery

Louisiana State University Health Sciences Center – New Orleans

Nominating Entity: Louisiana State University Health Sciences Center – New Orleans

Coletta Barrett, RN, FACHE

Executive Committee Member

Vice President of Mission

Our Lady of the Lake Regional Medical Center

Nominating Entity: Louisiana Alliance of Information and Referral Systems

Jimmy Guidry, MD

Executive Committee Member

State Health Officer

Department of Health

Nominating Entity: Louisiana Department of Health

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Owner

Dr. Cynthia W. Baker, OD Eye Clinic

Nominating Entity:

Optometry Association of Louisiana

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Senator

Louisiana State Senate

Nominating Entity: Louisiana State Senate

Billy Conerly

Director of Emergency Department
and Clinical Services

Lane Regional Medical Center

Nominating Entity: Louisiana Hospital
Association – Service District Hospital

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Coroner

Jefferson Parish

Nominating Entity:

Louisiana State Coroners Association

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Pediatric Surgeon

Women's and Children's Hospital – Lafayette

Nominating Entity:

Louisiana State Medical Society

Craig C. Greene, MD

Assistant Clinical Professor Of Orthopaedic Surgery
Baton Rouge Orthopaedic Clinic

Nominating Entity:

Louisiana State Medical Society

Christopher Guilbeaux

Deputy Director of Preparedness,
Response & Interoperability

Louisiana Governor's Office of Homeland
Security and Emergency Preparedness

Nominating Entity: Louisiana Governor's Office of
Homeland Security and Emergency Preparedness

Katherine Hebert

Chief Operating Officer

University Hospital & Clinics

Nominating Entity: Rural Hospital Coalition

Honorable Frank A. Hoffmann

Representative

Louisiana House of Representatives

Nominating Entity:

Louisiana House of Representatives

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Trauma Medical Director

Our Lady of the Lake Regional Medical Center

Nominating Entity: Committee on Trauma,
American College of Surgeons

Danita Leblanc

Program Manager

Louisiana Department of Health

Nominating Entity: Louisiana Department of Health

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President and Chief Executive Officer
Tulane University Hospital and Clinic

Nominating Entity:

Tulane University Health Sciences Center

Dawn D. McKeown, RN

Trauma Program Manager
 University Health – Shreveport
 Nominating Entity: Louisiana State Board of Nursing

Honorable Dustin Miller

Representative
 Louisiana House of Representatives
 Nominating Entity: Louisiana House of Representatives

Jeanette M. Ray, BS, MS

Vice President of Rehabilitation and Post Acute Services
 Touro Infirmary Hospital
 Nominating Entity: Louisiana Hospital Association – Rehab Constituency Group

John P. Reilly, MD

Vice Chair of Cardiovascular Diseases
 Ochsner Clinic Foundation
 Nominating Entity: Louisiana Chapter of the American College of Cardiology

Carl J. Varnado, Jr.

Deputy Director
 National Emergency Number Association
 Nominating Entity: National Emergency Number Association

Honorable Mack “Bodi” White, Jr.

Senator
 Louisiana State Senate
 Nominating Entity: Louisiana State Senate

Robert K. Wolterman, BS, MBA, MHA

Chief Executive Officer
 Ochsner Medical Center
 Nominating Entity:
 Metropolitan Hospital Council

Richard M. Zweifler, MD

Chairman, Department of Neurology
 Ochsner Health Systems, Neurology Department
 Nominating Entity: American Stroke Association

Other Nominating Entities:

Louisiana Association of EMS Physicians
 Louisiana Medical Association

TRAUMA SYSTEM UPDATE



A MESSAGE FROM

JOHN P. HUNT, MD, MPH, FACS & JOHN T. OWINGS, MD, FACS

LERN'S INTERIM TRAUMA MEDICAL DIRECTORS

From 2010 through the middle of 2016, Dr. Robert (Bob) Coscia led LERN's efforts to expand Louisiana's network of designated trauma centers. Dr. Coscia, who served as LERN's Medical Director throughout that period, is a trauma surgeon by training and a longtime contributor to the nationally-recognized trauma center verification program administered by the American College of Surgeons Committee on Trauma (ACS-COT).

There were only two state-designated trauma centers in Louisiana when Dr. Coscia arrived in 2010 – one attached to our medical schools (LSU and Tulane) in New Orleans and one attached to our medical school (LSU) in Shreveport. Most of Louisiana's citizens lived more than one hour away from those trauma centers.

With Bob's help, Louisiana now boasts five state-designated trauma centers. The additions under his watch include Rapides Regional Medical Center in Alexandria, Our Lady of the Lake Regional Medical Center in Baton Rouge, and most recently North Oaks Medical Center in Hammond.

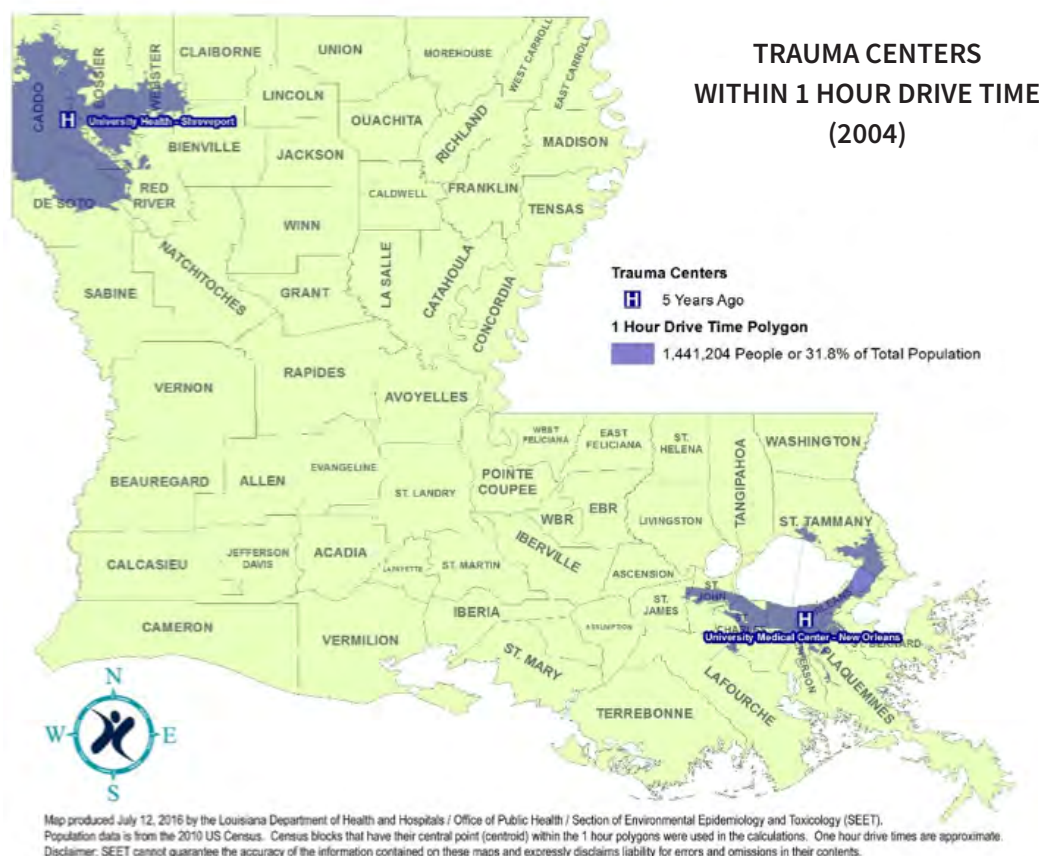
Thank you, Dr. Coscia for your seven years of service and your commitment to Louisiana's trauma system. We wish you the best.

We can also happily report that three additional Louisiana hospitals are deep into the ACS-COT trauma center verification process – Lafayette General Medical Center in Lafayette, and Lakeview Regional Medical Center and St. Tammany Parish Hospital on the Northshore. Soon, Louisiana's trauma coverage map will include eight centers.

In addition to these trauma centers, Louisiana's trauma system includes most of the community hospitals and many of the EMS providers across the state. And together, their hard work is apparently beginning to show in the numbers. Per the national Centers for Disease Control and Prevention (CDC), in 2007 Louisiana's trauma fatality rate was 5th highest in the nation. By 2010, Louisiana's rate had declined slightly to 7th highest, and the latest fatality ratings available (2014) show Louisiana's rate dropping again to 11th highest. That's measurable progress.

We still have a long way to go, but the growing expertise and dedication of Louisiana's trauma care providers have us headed in the right direction.

FIGURE 1
2004 STATEWIDE
COVERAGE

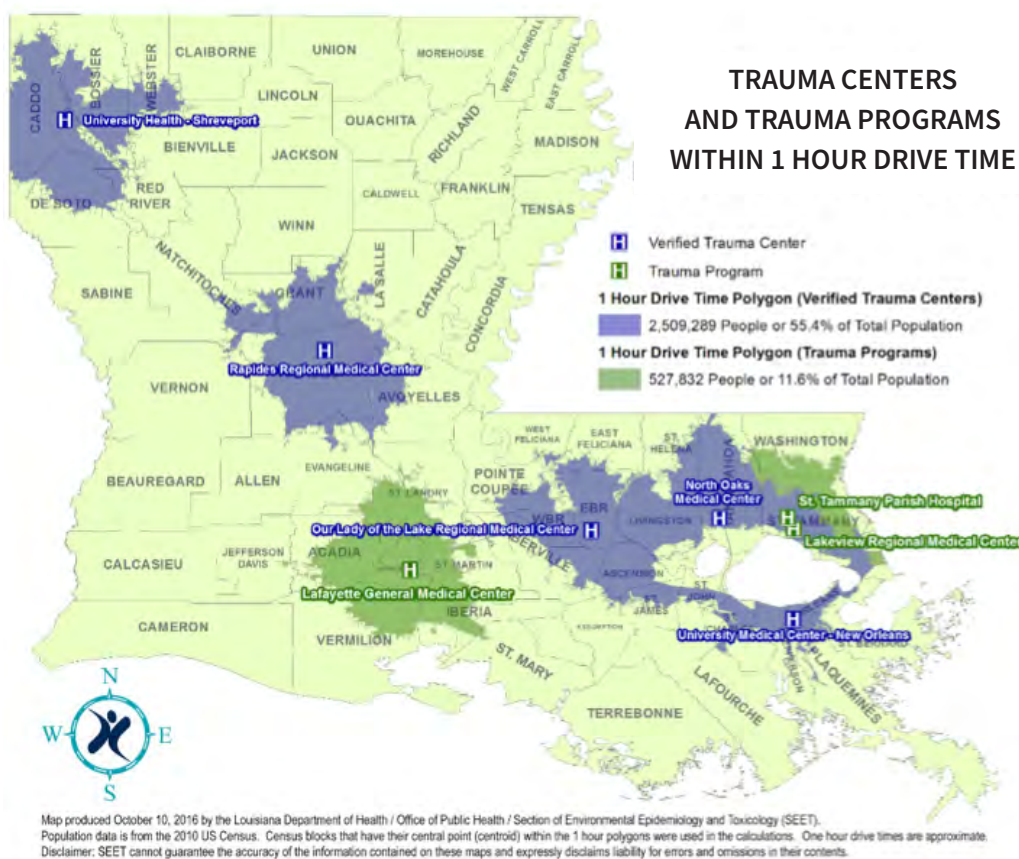


STATEWIDE COVERAGE

These two trauma centers (**Figure 1**) provided 1.4 million citizens, or approximately 31% of Louisiana's population, with access to a trauma center within a 60-minute drive time. Given the lack of trauma centers in the state, one of LERN's strategic priorities is to facilitate the development of a comprehensive statewide trauma network that includes a state-designated trauma center in each of Louisiana's nine regions. Accomplishing this strategic priority would place the vast majority (approximately 83%) of Louisiana's citizens within one hour of a state-designated trauma center.

Accessing definitive care within one hour of injury (often referred to as the golden hour) is a nationally-recognized best practice. Today, Louisiana's five trauma centers collectively provide golden hour access to approximately 67% of the state's population.

FIGURE 2
2016 STATEWIDE
COVERAGE



Louisiana's current list of trauma centers includes:

1. University Health – Shreveport (Level I Trauma Center)
2. University Medical Center – New Orleans (Level I Trauma Center)
3. Rapides Regional Medical Center – Alexandria (Level II Trauma Center)
4. Our Lady of the Lake Regional Medical Center – Baton Rouge (Level II Trauma Center)
5. North Oaks Medical Center – Hammond (Level II Trauma Center)

The trauma care coverage map (**Figure 2**) also recognizes three additional hospitals (Lafayette General Medical Center, Lakeview Regional Medical Center, and St. Tammany Parish Hospital) as Trauma Programs, a recognition that indicates these hospitals are formally engaged in the process required to achieve ACS-verification and state designation as a trauma center.

THE LERN COMMUNICATION CENTER

LERN's mission is to defend the public health, safety, and welfare by protecting the people of Louisiana from unnecessary deaths and morbidity due to trauma and time-sensitive illness. In accordance with this mission, the LERN Communication Center (LCC) serves as the core resource of LERN's logistical operation.

When a pre-hospital provider (EMS) or hospital determines a patient meets trauma criteria as defined in the LERN Trauma Destination Protocol, the LCC is engaged to match the patient to the hospital with the most appropriate level of care. The LCC utilizes the Resource Management Tool in Louisiana's ESF-8 Portal to match patients to the most appropriate hospital resources. Trauma patients typically need the specialized care of general surgeons, orthopedic surgeons, or neurosurgeons.

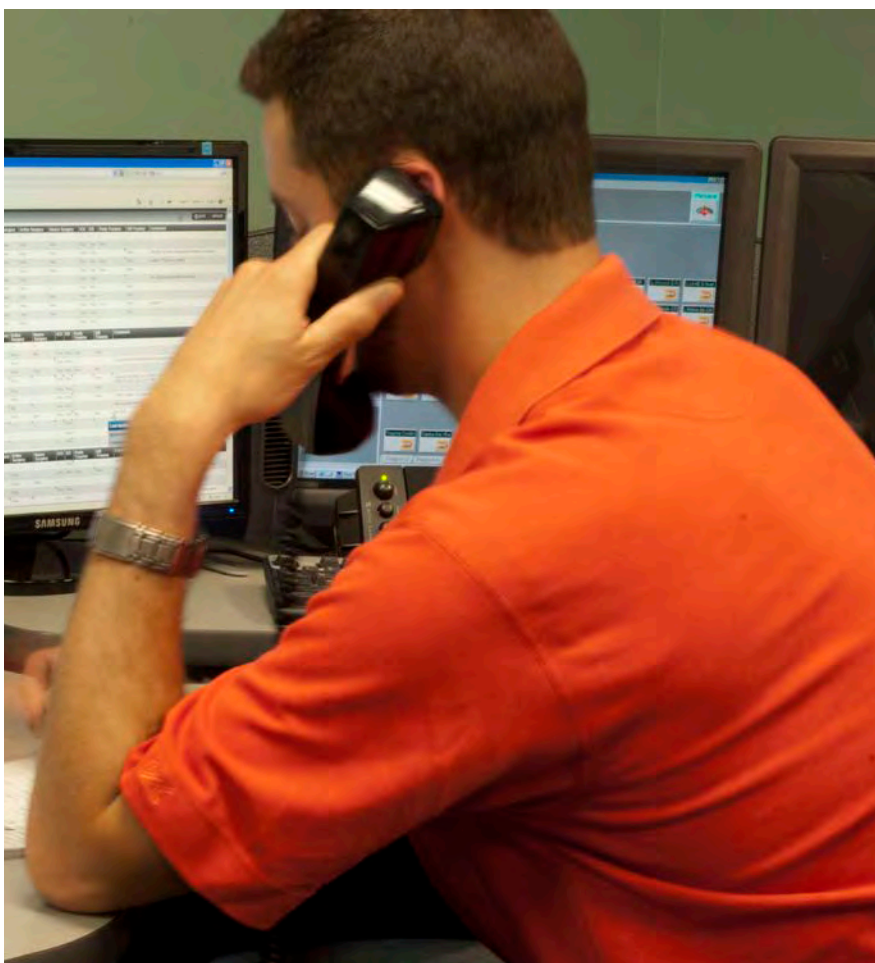
These resources are not readily available across the state, especially in rural areas. Because time is critical for trauma patients, the LCC matches each patient's clinical needs to the resources required for treatment. Often, this requires bypassing the closest hospital to get the patient to the definitive care he/she needs. In 2014, the LCC began providing this same service for patients experiencing two time-sensitive illnesses – stroke and STEMI (heart attack).

The LCC communications infrastructure is designed to interface with the state's current communications technology systems – to support LERN's day-to-day network operations and the statewide interoperability mission in times of disaster.

LCC STAFFING

- 1 Supervisor
- 7 Full-Time Communicators
- 6 Part-Time Communicators

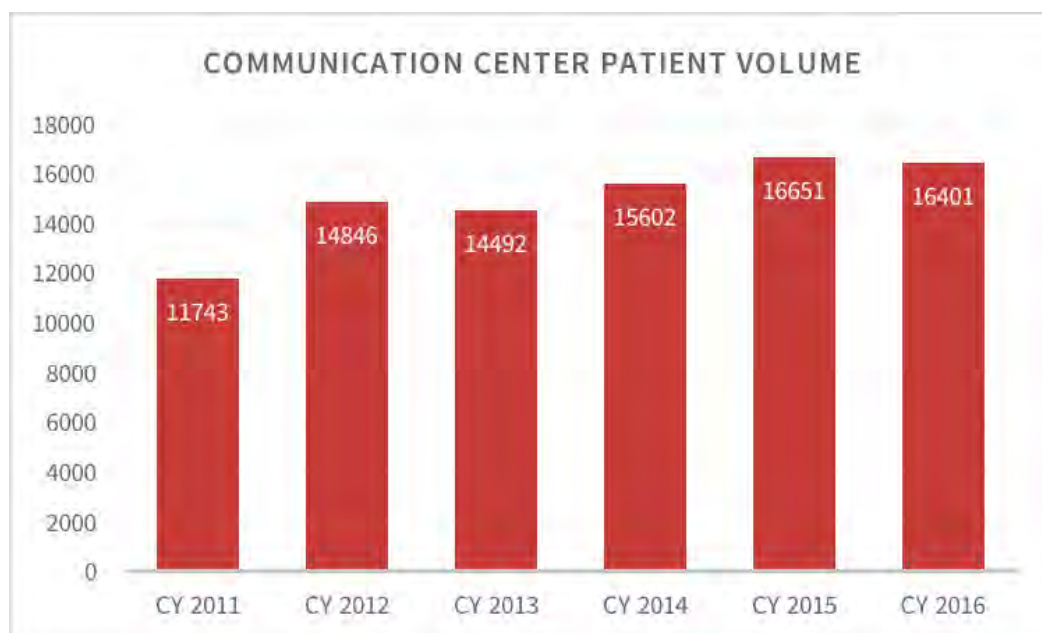
The LCC is staffed via contracted services 24 hours a day/seven days a week/365 days a year by nationally-certified paramedics.



FIRST CALL HELPDESK FOR DESIGNATED REGIONAL COORDINATOR NETWORK

The LCC continues to serve as the “first call” helpdesk and the 24/7/365 information coordinator for unfolding events in Louisiana. This task ranges from resetting passwords so hospitals, nursing homes, and others can report bed statuses during disasters to notifying administration and response teams of events – such as the August 2016 LaPlace bus accident that resulted in the transport of 41 patients.

FIGURE 3
COMMUNICATION
CENTER PATIENT
VOLUME



Trauma patients continue to represent the clear majority of the LCC patient call volume.

FIGURE 4
COMMUNICATION
CENTER PATIENT
VOLUME

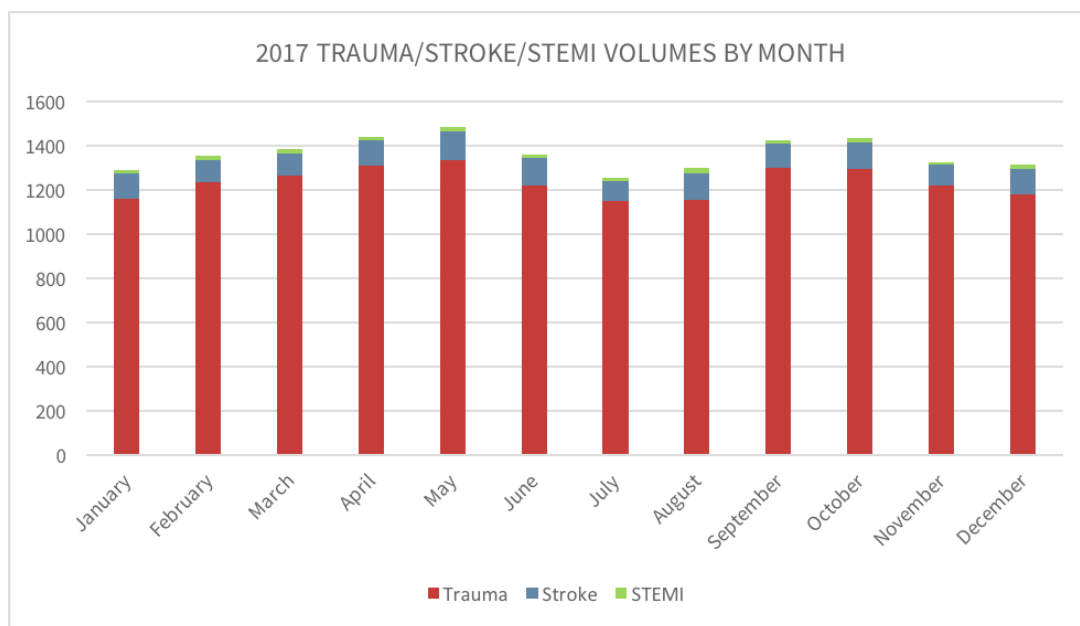


Figure 5 illustrates the high volume of trauma cases that involve motor vehicles, motorcycles, all-terrain vehicles (ATVs), and pedestrians.

FIGURE 5
LERN TRAUMA
CALLS

Top 10 Causes of Injury	Total
Falls	6,383
Motor Vehicle Traffic Accidents	4,971
Pedestrian Traffic Accidents	601
Motorcycle Accidents	512
Firearm Assaults	477
Assaults	280
Other Injury	266
ATV Rider Accidents	234
Motor Vehicle Non-Traffic Accidents	215
Stabbing/Cutting Assaults	150

BREAKDOWN

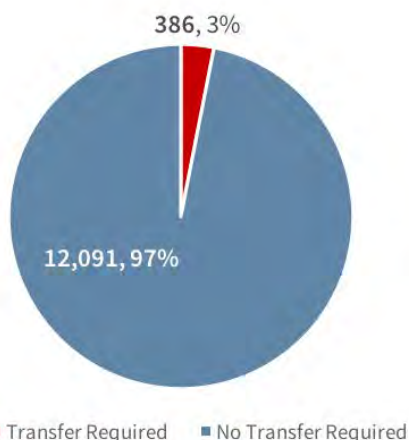
- Falls accounted for **43%** of calls
- Motor Vehicle Accidents accounted for **33%** of calls
- Motorcycle Accidents accounted for **3%** of calls

SECONDARY TRANSFERS

Secondary transfers are reported to the Louisiana Department of Health quarterly as part of the LERN performance indicator set. The benchmark is to achieve a target secondary transfer rate less than 5%. Research indicates that a considerable number of transferred trauma patients undergo potentially preventable, repeated CT scans, adding radiation dose to patients and costs to the healthcare system. More consequently, time is critical for trauma patients. The ideal is treatment within the golden hour. The LCC consistently reports a secondary transfer rate (of LERN-directed patients) of less than 5% – this FY retaining an agency low of 3%. A secondary transfer of 26% is reported for trauma patients not directed by the LCC.

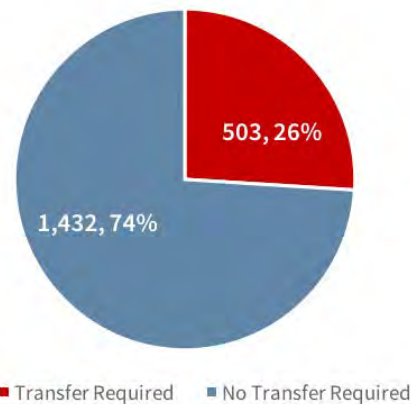
FIGURE 6
PATIENTS
REQUIRING
TRANSFER

PATIENTS DIRECTED BY LERN - 2016



Secondary transfers for LERN-directed patients remained at 3% from 2015 to 2016

PATIENTS NOT DIRECTED BY LERN - 2016



Secondary transfers not directed by LERN increased from 22% in 2015 to 26% in 2016

OUT-OF-REGION TRANSFERS

The LCC facilitates trauma patient transfers out-of-region when appropriate.

Figure 7 indicates the highest numbers of out-of-region transfers are found in Region 3 (Houma/Thibodaux), Region 5 (Lake Charles), and Region 8 (Monroe), which has by far the highest number of out-of-region transfers. There are no state-designated trauma centers in these three regions.

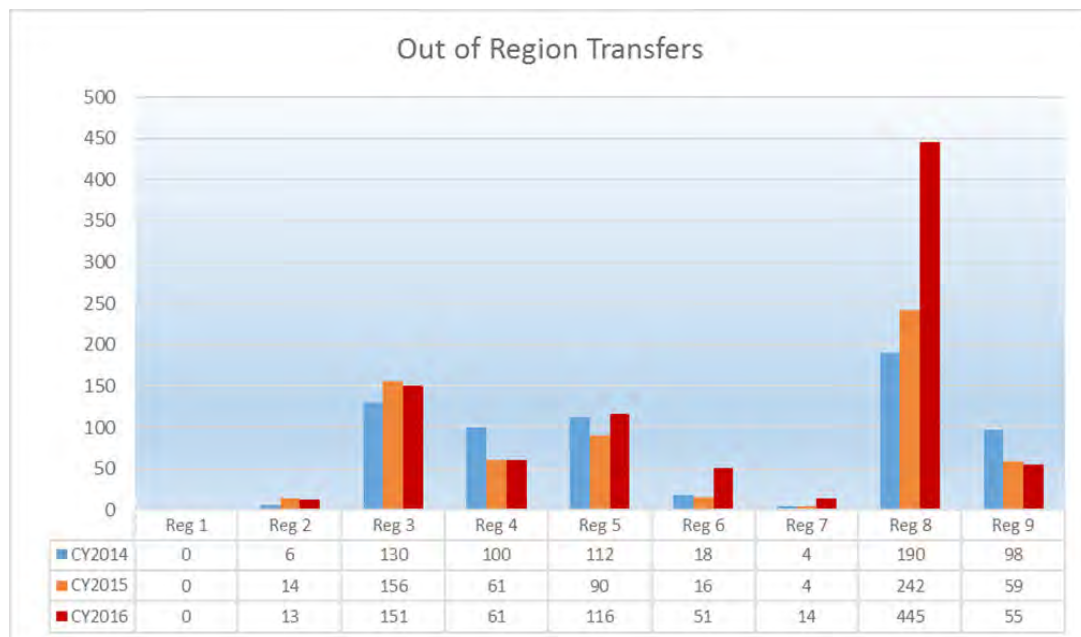


FIGURE 7
OUT-OF-REGION
TRANSFERS

DESTINATION PROTOCOLS

Pictured right:
LERN's Destination
Protocols hanging
in a Pafford EMS
ambulance.



“ The [Trauma Care After Resuscitation Course] was a very informative overview of the trauma PT and helped me to ‘put it all together’ so to speak. I have more of an understanding of why the trauma doctors order certain treatments and labs on the PT and a better understanding of when intervention is needed. ”

SARAH CARGIL, RN
NORTH OAKS

TRAUMA EDUCATION

Through the efforts of LERN’s Tri-Regional Coordinators, the LERN Regional Commissions, and collaborative partners like the Emergency Nurses Association, the Louisiana Bureau of EMS, Louisiana’s trauma centers, and other community stakeholders, LERN has made tremendous progress toward an important strategic goal – to provide trauma, stroke, and STEMI training opportunities to providers at all levels and to the public statewide.

In FY 2015 - 2016, LERN provided the following education services.

FIGURE 8
LERN TRAUMA
EDUCATION
FY 2015 - 2016

LERN TRAUMA EDUCATION FY 2015 - 2016			
Course Name	# of Classes	# of Students	Regions
Trauma Nursing Core Curriculum	19	219	2, 3, 4, 5, 6, 7, 8
Emergency Nursing Pediatric Course	16	165	1, 2, 3, 6, 7, 9
Rural Trauma Team Development Course	3	83	2, 4, 9
Pediatric Care After Resuscitation/Trauma Care After Resuscitation	4	121	2, 7
AIS Registry Course	1	25	2
Hemorrhage Control	8	286 (law enforcement)	statewide
Totals:	51	899	

“ My first patient post-ENPC class was a pediatric code today. I was systematic and followed my abc’s... Things happen for a reason and I just wanted to let you know that having ENPC class has made me aware as both a nurse and parent on how prepared we must be. I will forever be changed from ENPC and my experience today. ”

LAUREN WHITE RN, CEN

HEMORRHAGE CONTROL TRAINING

The number one cause of preventable death in penetrating trauma is hemorrhage. LERN partnered with the University Medical Center (UMC) New Orleans Level I Trauma Center to support hemorrhage control training to law enforcement across the state. Through this partnership and by utilizing the education program developed by UMC, we provided this important training to law enforcement.

In light of recent tragedies (Sandy Hook Elementary, Newtown, Connecticut; Aurora, Colorado; the Boston Marathon in Massachusetts; and Lafayette, Louisiana), the American College of Surgeons brought together leaders from law enforcement, the military, fire/rescue, and medicine to review the active shooter events and develop policies which would decrease the number of fatalities in mass casualty shootings. The resulting documents are referred to as the Hartford Consensus and the paper is titled “Improving Survival from Active Shooter Events.” Upon review, it was evident that the long-standing practices of law enforcement and EMS would need to be enhanced to increase survivability of the victims. Using existing tactics and a method already in existence, it was noted that we have the means to increase survivability, however it is underutilized. Early hemorrhage control is necessary to increase the survivability of any victim, including law enforcement whose priority is to stop or isolate the event. The UMC Hemorrhage Control Education Program is based on the concepts identified by the Hartford Consensus.

UMC dedicated the hemorrhage control program to the memory of Dr. Norman E. McSwain, Jr. who was a trauma care pioneer recognized around the world, a founding member of the Hartford Consensus, and a former LERN Board Chairman.

“ My nurses loved the class. Thank you for making this happen! ”

CHRISTY MORGAN, RN
SICU UNIT MANAGER,
NORTH OAKS

ALL DISASTERS RESPONSE UPDATE

IV

A MESSAGE FROM

JIMMY GUIDRY, MD

LDH STATE HEALTH OFFICER & LERN BOARD MEMBER

In a few short years, LERN has become an integral component of Louisiana's all disasters response infrastructure. LERN serves as a vital communications coordinator during disasters and mass casualty incidents (MCIs), and participates in disaster response planning exercises and drills throughout the year.

When we hear the term "disaster response" we typically think about hurricanes, tornadoes, and floods. Those large-scale events require a comprehensive and coordinated response from local and state resources, including LERN, to limit injury and the loss of life. However, all disasters response can also include incidents such as industrial accidents, explosions, structure collapses, bus crashes, multiple vehicle crashes, fires, and mass casualty shootings, just to name a few.

LERN played an active management role in 150 MCIs in 2016. We prepare year-round. Our goal is to always be ready because we know the next one is coming.



LERN'S ROLE DURING MASS CASUALTY INCIDENTS (MCI)

LERN plays a pivotal communications role during disasters and mass casualty incident (MCI) events in Louisiana. As the statewide “first call” helpdesk and 24/7/365 information coordinator for unfolding events, the LCC provides timely information that helps our hospitals, other healthcare providers, and relevant stakeholder agencies prepare for and manage a local and/or statewide emergency response.

Additionally, LERN's role in Louisiana's all disasters response includes:



Supporting hospital, EMS, and emergency preparedness partners in managing incidents.

- Alerting hospital and emergency response stakeholders with details of the incident through the ESF-8 Portal messaging system.
- Directing patient transports to the most appropriate hospital emergency departments – based upon scene resources, patient triage, and surrounding hospitals' resources.
- Sharing information throughout the event with affected regional personnel and state leadership.



Joining state, regional, and local partners in conducting emergency preparedness drills across the state including active shooter drills, emergency system tests and planning events, and a MCI boot camp.

- Attending planning meetings, as well as on-site evaluation for many drills, to provide support and necessary feedback to improve efforts.
- Providing education on Trauma Network and LCC procedures during drill events to ensure stakeholders have knowledge of resources available to support them.
- Assisting with local, regional, or state emergency response plans.



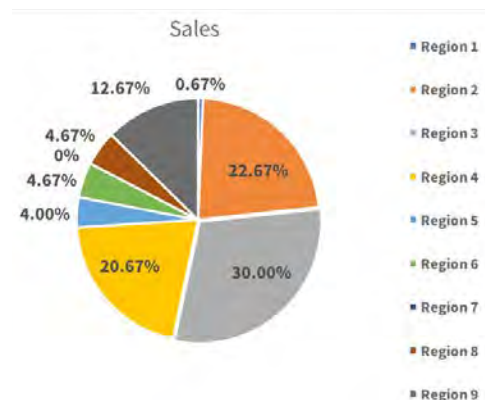
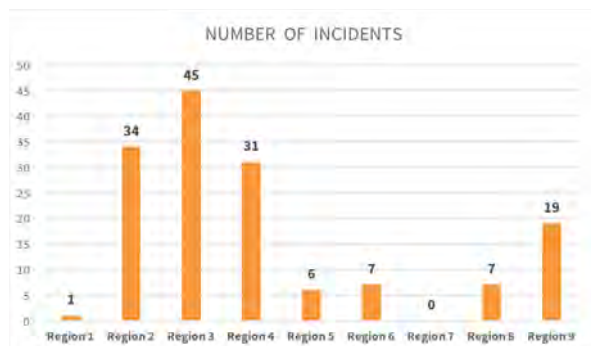
Managing the EMS tactical operations center during disasters.

- Operating as tactical command for incoming emergency medical assets including air/ground ambulances, para-transit vehicles, and ambu-buses.
- Directing movement and response of ambulances for a declared emergency. Responses may include evacuation of facilities, search and rescue, and support of local 911.
- Coordinating with local, state, and federal partners to strategically respond to the needs of the citizens of Louisiana during a disaster.

The LCC managed 150 MCI events across the state last year that included a total of over 800 patients. LERN assisted with MCI events in almost every region of the state with the largest number of incidents in Region 3 (Houma/Thibodaux).

In FY 2015 - 2016, the LCC managed 150 MCI events statewide involving 808 patients.

FIGURE 9
MASS CASUALTY
INCIDENTS



Each year, LERN is invited to participate in a variety of planning exercises, drills, and education programs that are sponsored by local, regional, and state entities. These preparatory efforts serve to strengthen Louisiana's all disasters response infrastructure.

2016 Exercises

- Hurricane Zack MACC Response
- Riverbend Tabletop Exercise
- Region 8 Drax Bioenergy Emergency Response Drill
- Region 8 Airport Drill
- Baton Rouge General Code Pink Drill
- Riverbend Nuclear Plant Drill
- MSY Airport MCI Drill
- BASF Wounded Eagle Hazardous Material Spill and MCI
- St. John Active Shooter Drill
- Acadian MCI Boot Camp

2016 Education/Outreach

- West Baton Rouge Task Force/Industry
- Mayor's Office of Homeland Security and Emergency Preparedness
- New Orleans Joint Counter-terrorism Awareness Workshop
- Acadian MCI Boot Camp

STROKE SYSTEM UPDATE

V

A MESSAGE FROM

SHERYL MARTIN-SCHILD, MD, PHD, FANA, FAHA LERN STROKE MEDICAL DIRECTOR

Louisiana continues to make great progress towards our goal of implementing a sustainable statewide system of care for providing access to time-sensitive treatment for stroke. We now have Stroke Champions in eight of our nine regions. The LERN State Stroke Workgroup has produced a 13-part Comprehensive Stroke Webinar series to meet identified educational needs, including a Data Collection Webinar focused on how to meet the Level III requirement for participation in a quality improvement initiative. Stroke Champions will enhance engagement with Level III hospitals in their regions to improve utilization and efficiency of alteplase (tPA) administration for acute strokes and identification of candidates for endovascular treatment of acute ischemic stroke.

Currently, there are 16 Primary Stroke Centers (Level II) and two Comprehensive Stroke Centers (Level I). Eight hospitals offer endovascular services for the treatment of stroke caused by large vessel occlusions. Collaborative relationships, crucial to providing access to endovascular services, have further developed across Louisiana. The LCC has triaged an escalating number of suspected stroke patients to facilitate initial and secondary destination transfers to appropriate facilities.

The foundation of Louisiana's stroke system of care is solid and re-enforced by support from LERN administration, the LERN State Stroke Workgroup, and Stroke Champions.

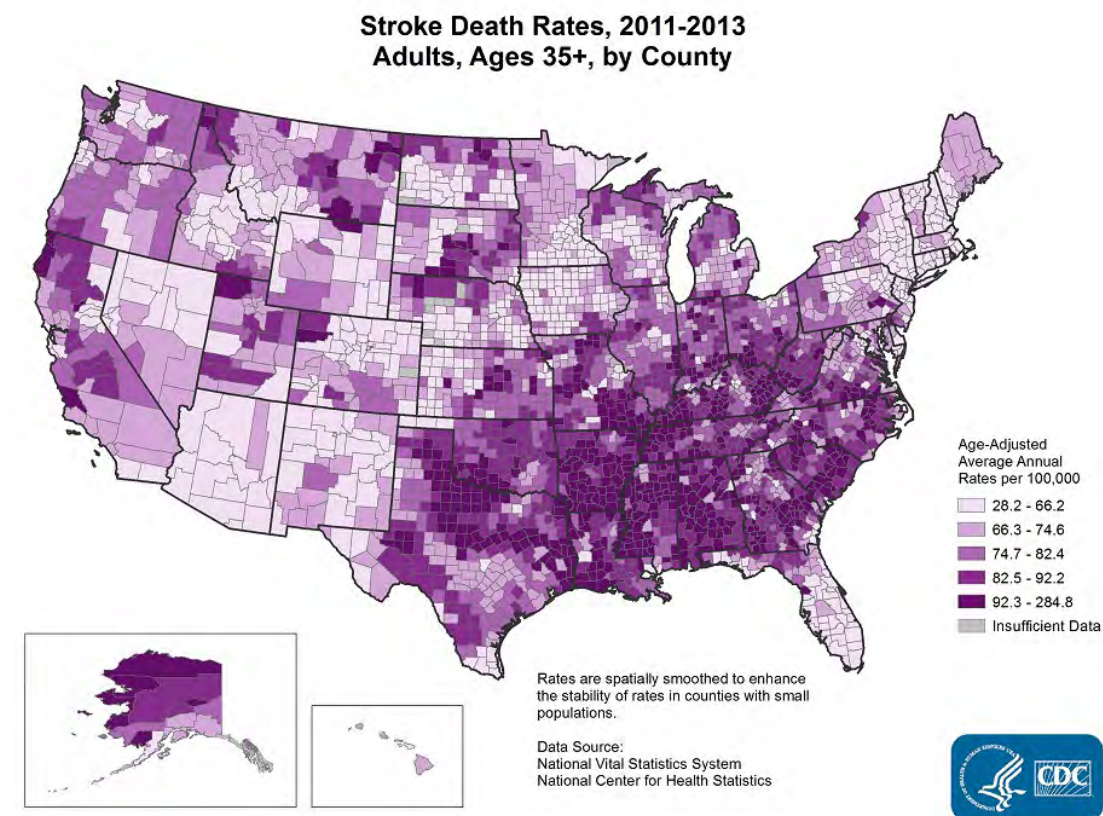
STROKE CHAMPIONS

Stroke Champions are neurologists who serve on regional commissions as vital bridges to the Stroke Medical Director for information exchange regarding practice-changing research, stroke educational needs for the community, pre-hospital, and other healthcare providers, and changes in statewide protocols and LERN initiatives.



Stroke is a common and potentially deadly time-sensitive illness. According to the latest available statistics from the National Centers for Disease Control and Prevention (CDC), approximately 800,000 people in the United States have a stroke each year and about 130,000 of those people do not survive the experience. Stroke is the fifth leading cause of death for Americans. Stroke risk does increase with age, but strokes can (and do) occur at any age. High blood pressure, high cholesterol, and smoking are leading causes of stroke. Louisiana has some of the highest stroke rates in the nation as **Figure 10** clearly demonstrates.

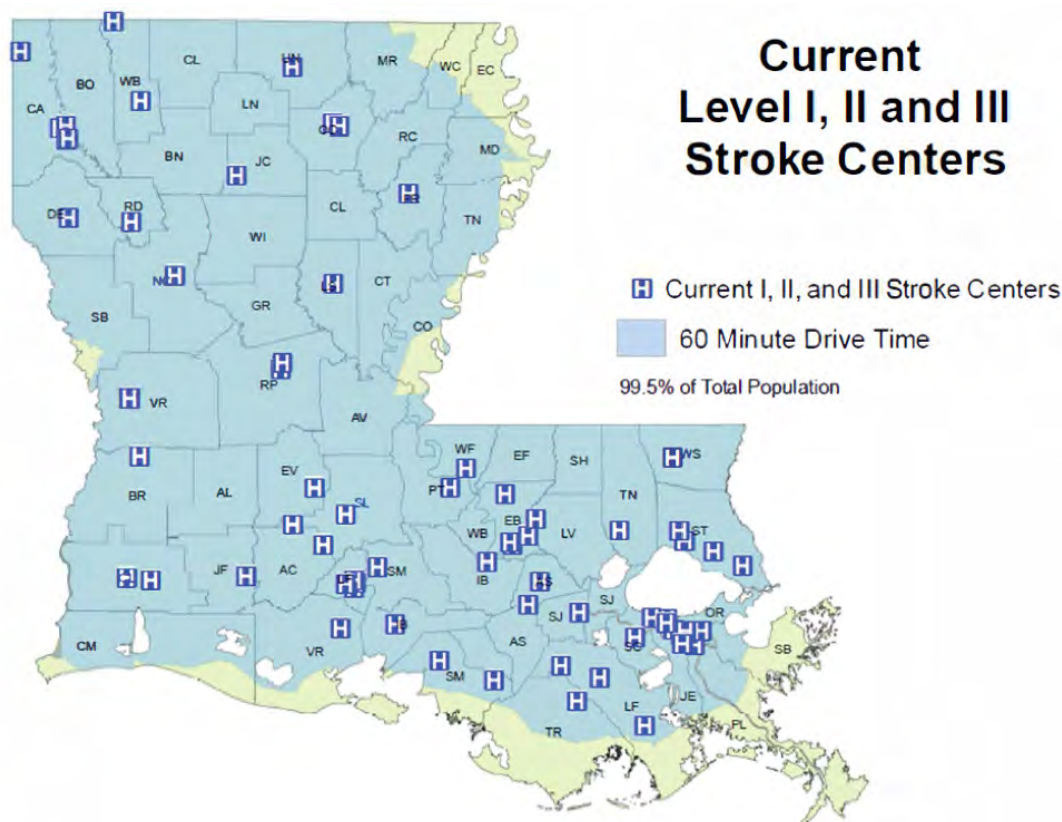
FIGURE 10
CDC NATIONAL
STROKE DEATH
RATES 2011-2013



Research indicates that stroke patients who arrive at the emergency room within three hours of their first symptoms often have less disability three months after their stroke than those who received delayed care. Time is critical.

Adding Level III Stroke Centers to the map expands Louisianans 60-minute (or less) drive time access to tPA capable hospitals from 80% to 99.5% of the population.

FIGURE 12
CURRENT LEVEL
I, II, AND III
STROKE
CENTERS



Forty-three (43) of Louisiana's 56 Level III stroke centers have telemedicine capability (up from 34 Level III stroke centers in 2013).

LERN continues to promote a system of transporting stroke patients to tPA capable centers in Louisiana – tissue plasminogen activator (tPA) is the only FDA-approved medication for the treatment of an occlusive stroke within the first few hours. Treatment rate with intravenous tPA for ischemic stroke has more than doubled in Louisiana over the last five years and the number of patients treated by the drip and ship strategy has also increased. The “Drip and Ship” strategy refers to administration of tPA at the sending or “Spoke” hospital to the accepting “Hub” hospital. The patient receives the initial treatment of tPA but is then transferred to a higher level of care for continued treatment.

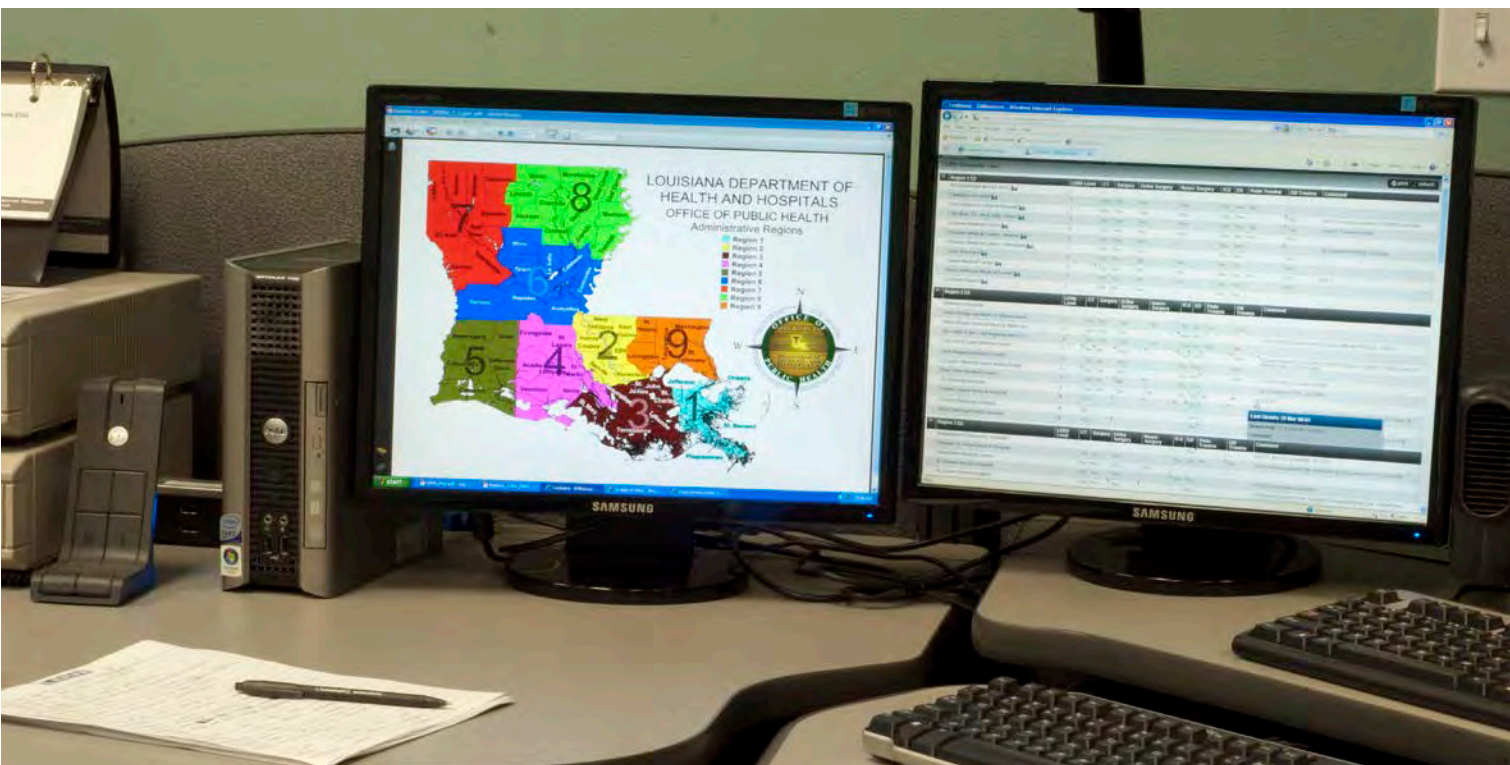
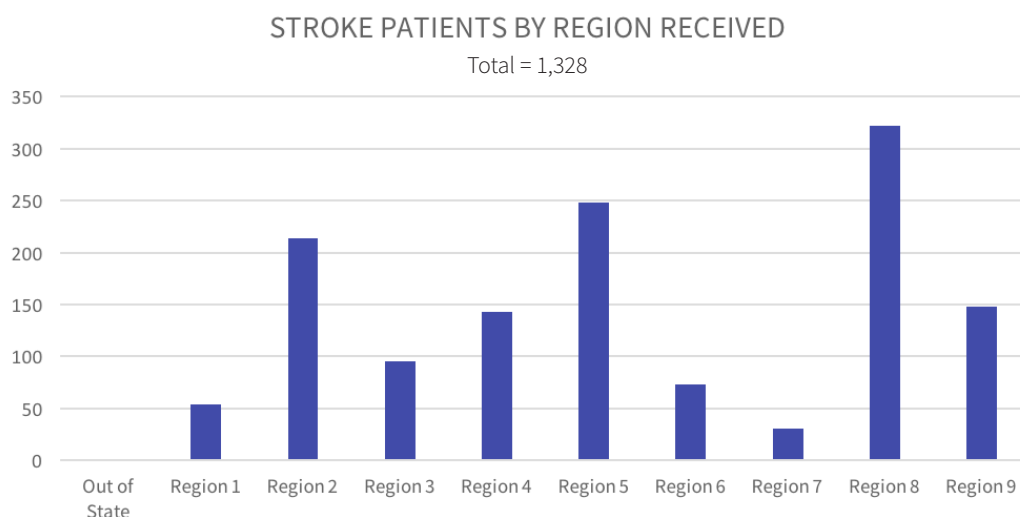
LERN's Stroke Medical Director, Dr. Sheryl Martin-Schild, analyzes data collected from participating Level III stroke centers to monitor progress and support ongoing performance improvement efforts. Over two years, Level III stroke centers submitted data on 1,903 patients. The treatment rate with tPA was 11%, increasing from 9.8% in 2014 to 11.7% in Q1-2 of 2016.

After excluding patients who present to the hospital outside of the recommended parameters for treatment with tPA, those with clinical TIA - transient ischemic attack (10.5%) and hemorrhage on CT (4.3%), the treatment rate increased from 31.4% in 2014 to 65.9% in 2016. These dramatic tPA treatment rate increases are a credit to LERN's stroke network partners across the state.

STROKE PATIENTS ROUTED BY THE LCC

EMS engagement of the LCC facilitates a stroke patient's delivery to the most appropriate hospital for treatment. The total number of stroke patients routed annually by the LCC increased by 25% in CY 2016. **Figure 13** indicates the volume of stroke patients LERN routed by region.

FIGURE 13
STROKE
PATIENTS BY
REGION
RECEIVED



STROKE EDUCATION

LERN is very proud to have met the strategic goal of providing a 12-part stroke education webinar series to our stroke system stakeholders across Louisiana. This series addressed educational needs identified by LERN's Statewide Stroke WorkGroup. These completed webinars are now posted on the LERN website to allow continued learning by our stakeholders. LERN is most appreciative of the physicians and nurses who donated their time and talents to this education effort.

Session	Title	Presenter	Date
1	Neuro Exam & Common Stroke Syndromes	Laurie Schuluter, MSN, FNP, ANVP	January 28
2	Pre-hospital Acute Stroke Management	Chuck Burnell, MD	February 25
3	Acute Stroke Management	Joseph Acosta, MD	March 24
4	Stroke Types & Etiologies (AIS, TIA, ICH, SAH)	Sheryl Martin-Schild, MD, PhD, FANA, FAHA	April 28
5	Stroke Mimics & Atypical Presentations	Richard Zweifler, MD	May 26
6	Blood Pressure Management	Digvijaya Navalkele, MD, MPH	June 23
7	tPA Administration Management	Ken Gaines, MD	July 28
8	Higher Level of Care & Secondary Transfer	Keith Carter, EMT-P & Sheryl Martin-Schild, MD, PhD, FANA, FAHA	August 25
9	Intra-Arterial tPA & Mechanical Thrombectomy	Gabi Vidal, MD	September 22
10	Signs and Symptoms of Increased ICP	Edison Valle, MD	October 27
11	Prevention of Complications After Stroke	Toni Rougeau, RN	December 1
12	Intracranial Aneurysms & Subarachnoid Hemorrhage	Frank Culicchia, MD	January 26

STEMI SYSTEM UPDATE

VI

A MESSAGE FROM

MURTUZA ALI, MD

LERN STEMI MEDICAL DIRECTOR

STEMI (ST-elevation myocardial infarction) is the deadliest form of heart attack. In FY 2015 - 2016, LERN's efforts at developing a system of care for STEMI patients in Louisiana continued to flourish. In collaboration with the American Heart Association staff and physician leaders from across the state, a voluntary data-sharing agreement through the National Cardiovascular Data Registry is in place between LERN and 11 STEMI receiving centers across Louisiana.

Data from this registry confirms that participating hospitals in Louisiana provide care to STEMI patients at a level consistent with national standards, with excellent clinical outcomes. We hope to continue recruiting hospitals to participate in data-sharing to drive performance improvement across the state.

Our efforts at prehospital electrocardiography (EKG) education continue to thrive. We completed 11 sessions this fiscal year covering three regions of the state, all with extremely favorable feedback. Further sessions are being scheduled in early 2017 and will continue thereafter.

Through our gap analysis, conducted initially in 2011 and repeated in 2016, we have identified data-sharing and EKG education as areas of potential development for our state. We will continue to direct our efforts on these focus areas and collaborate with the LERN Regional Commissions to provide targeted information and education as appropriate for each community.



STEMI IS A LERN STRATEGIC PRIORITY

LERN's establishment of STEMI as a strategic priority demonstrates our commitment to fully developing a statewide system of STEMI care that improves outcomes for Louisiana citizens regardless of where they live in the state. LERN's STEMI Design the System Workgroup identified the following as central components of this system:

- PCI* Hospitals
- Non-PCI Hospitals
- EMS Providers
- The Public
- A Statewide Data Registry

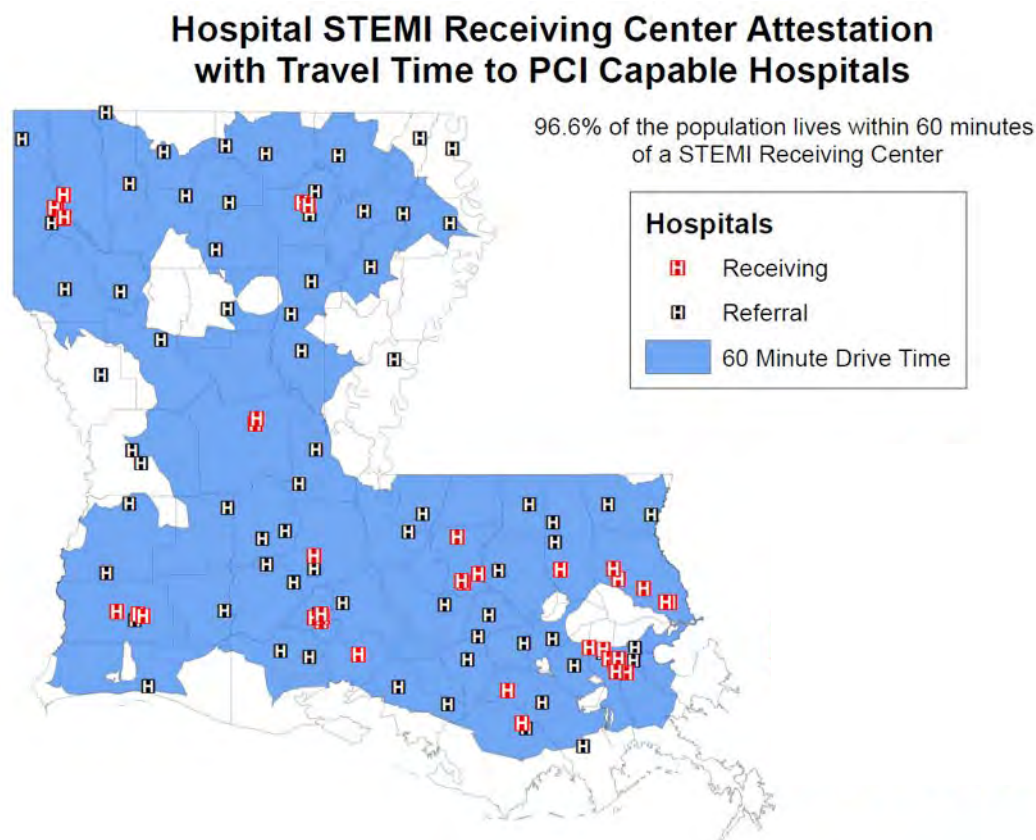
* Percutaneous coronary intervention, commonly known as a coronary angioplasty or "balloon" procedure

STEMI SYSTEM UPDATE

LERN continues to facilitate the ongoing development of Louisiana's statewide STEMI care system that includes STEMI Receiving Centers and STEMI Referral Centers – based on guidelines established by the American Heart Association's Mission Lifeline. Guided by LERN's Medical Director for STEMI, Dr. Murtuza Ali, the LERN Board established guidelines and protocols for STEMI patient care in Louisiana.

Hospital CEO attestations indicate that Louisiana's STEMI care system now includes 37 STEMI Receiving Centers and 74 STEMI Referral Centers. This outstanding result provides 96.6% of the Louisiana population with access to a STEMI Receiving Center within a 60-minute drive time window.

FIGURE 14
STEMI TRAVEL
TIMES MAP





Dr. Ali, LERN STEMI Medical Director, leads STEMI education outreach

LERN's educational role in support of the STEMI system includes development of a 12-Lead EKG course which has now been taught in most regions across the state.

12-Lead EKG Education Courses CY 2015 - 2016			
Year	Classes	Students	Regions
2015	9	272	1, 6, 7
2016	17	545	1, 2, 3, 6, 7, 9
TOTALS:	26	817	

CREATING A STEMI REPORT

LERN has made tremendous progress during FY 2015 - 2016 in building consensus for participation in a state STEMI report. This report facilitates collaboration to improve STEMI care on a regional level, to identify process improvement opportunities that may exist in the state, and to develop targeted education initiatives. These ongoing reports will be shared with the LERN Board and the LERN Regional Cardiac Champions. The reports will be used to compare the state to national performance measures including, but not limited to:

- First medical contact to device¹
- Transfers: 1st door to device
- Arrival to device activation
- Mode of arrival
- Reperfusion² method
- In-hospital mortality

¹ device = placement of angioplasty guide wire, balloon, stent, atherectomy, brachytherapy, or thrombectomy catheter into an artery for the purpose of mechanical coronary revascularization

² Reperfusion method refers to thrombolysis vs primary PCI

Currently, eleven (11) Louisiana hospitals have submitted STEMI data and two Mission: Lifeline Regional Hospital Reports have been issued. A total of 23 Louisiana hospitals have given a verbal commitment to participate in the Mission: Lifeline Regional Hospital Report. Results highlighted from our most recent STEMI report include the following.

Demographics

PATIENT DEMOGRAPHICS

- Louisiana reports a higher ratio of women experiencing STEMI (33%) compared to the nation (20%)
- Louisiana reports a higher ratio of African-Americans experiencing STEMI (24%) compared to the nation (9%)
- Louisiana reports similar rates of patients > age 75 as compared to the nation
- Louisiana's reported median age of 60 years old is similar to the nation median of 61 years old

Positive Results

CHOICE OF REPERFUSION STRATEGY – LOUISIANA COMPARED TO NATIONAL

- Direct presenters have similar primary PCI rates
- Transfer patients receive more PCI in Louisiana (86%) than nationally (74%)

ARRIVAL TO PCI \leq 90 MINUTES

- Louisiana patients who arrive at the participating hospitals by direct presentation (walk-in) achieve a door to PCI time of <90 minutes 95% of the time - this result beats the national average of 91%
- Louisiana patients brought in by EMS have similar door to PCI times to the nation (LA 97% \leq 90 minutes vs national average of 98%)

EMS ASSESSMENT AND STEMI NOTED ON ECG

- STEMI was noted on first the ECG 88% of the time in Louisiana vs 84% of the time nationally

Opportunities

EMS FIRST MEDICAL CONTACT TO PCI \leq 90 MINUTES

- Overall 58% of Louisiana patients have an EMS first medical contact to PCI in less than 90 minutes as compared to 67% nationally

MODE OF TRANSPORT

- A smaller percentage of patients arrive via EMS (ambulance) in Louisiana (52%) as compared to the nation (60%)

FINANCIALS

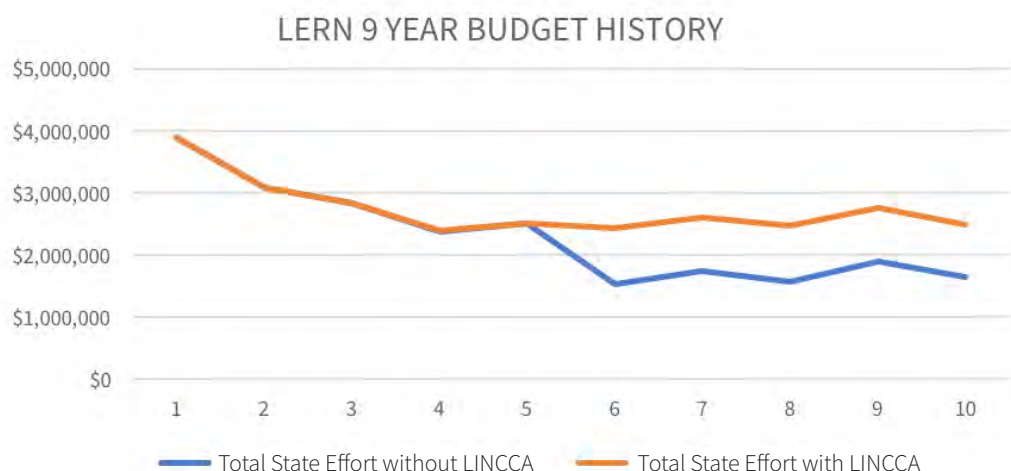
VII

FUNDING

Funding for LERN comes from two relatively unstable sources – the state general fund (SGF) and federal LINCCA (Low-Income and Needy Care Collaboration Agreement) funds. Since fiscal year ending 2009, total LERN funding has decreased by 36% from approximately \$3.9 million in FY 2009 to approximately \$2.5 in FY 2017. During that same time, SGF to LERN have decreased 59% from approximately \$3.9 million to \$1.6 million.

Figure 15 illustrates these declines.

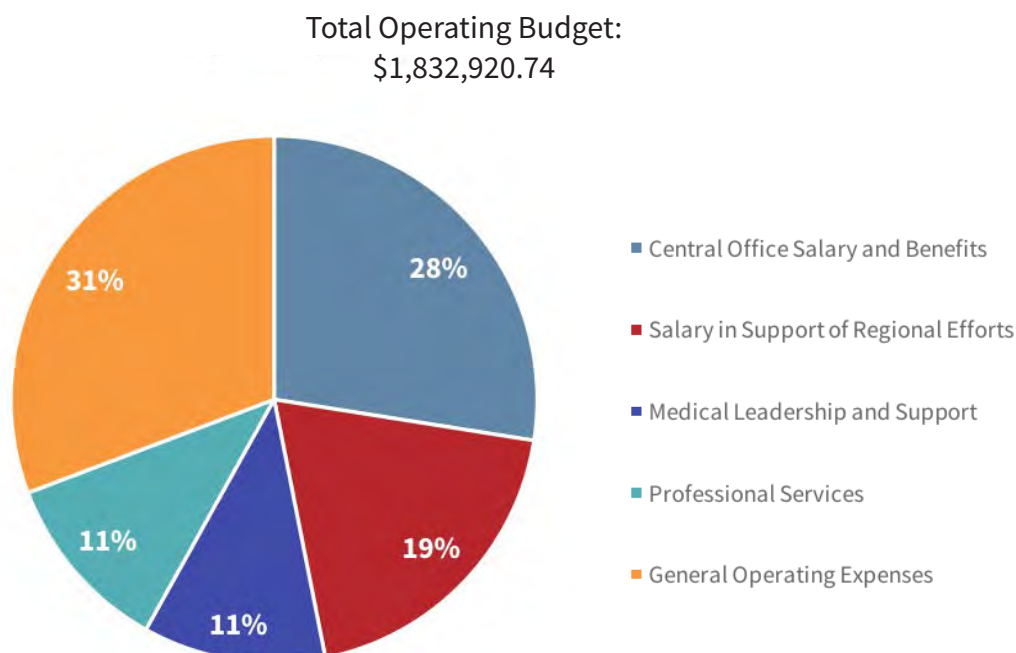
FIGURE 15
LERN 9 YEAR
BUDGET
HISTORY



CURRENT OPERATIONS

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.

FIGURE 16
OPERATING
BUDGET



PERFORMANCE INDICATORS

VIII

PERFORMANCE INDICATORS - FY 2015 - 2016

In FY 2015 - 2016, LERN reported four Performance Indicators in the Louisiana Performance Accountability System (LaPAS). These indicators are part of LERN's Quality Measurement System. They are tied to participation by healthcare providers in the prehospital and hospital settings and LERN's ability to direct traumatically injured patients to definitive care.

LERN obtains signed agreements of understanding with regional hospitals and EMS agencies to ensure compliance with LERN protocols as set forth by the LERN Board of Directors.

PERFORMANCE INDICATOR 1:

This indicator reports the percentage of hospitals having emergency room services that participated in LERN in FY 2015 - 2016.

- **114** (hospitals participating)/**116** (total number of hospitals) = **98.3%**

PERFORMANCE INDICATOR 2:

This indicator reports the percentage of EMS agencies that participated in LERN in FY 2015 - 2016.

- **30** (EMS participating)/**54** (total number of EMS agencies) = **55.6%**

PERFORMANCE INDICATOR 3:

This indicator reports the percentage of time where traumatically injured patients that were directed by LERN to an Emergency Department for definitive care did not require transfer to another facility for higher level resources. This data is reflective of FY 2015 - 2016.

- Total patients directed by LERN = **13,326**
- Total patients transferred = **422**
- Percent of LERN directed patients not requiring transfer = **96.8%**

PERFORMANCE INDICATOR 4:

This indicator reports the percentage of EMS agencies that submit data to the State EMS Registry.

- **27** (EMS participating)/**54** (total number of EMS agencies) = **50%**

REGIONAL COMMISSIONS

IX

LERN is organized into nine geographic regions, and efforts in each region are guided by a regional commission – a regional advisory board of key trauma and time-sensitive illness stakeholders. LERN Regional Commission meeting dates can be found on the LERN website at lern.la.gov.

LERN TRI-REGIONAL COORDINATORS

Each region has an assigned LERN Tri-Regional Coordinator who serves as a resource to its commission and a liaison to the LERN staff, medical directors, and Board of Directors.

For more information about LERN Regional Commissions, please contact your Tri-Regional Coordinator.

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