What is the Louisiana Emergency Response Network (LERN)?

- Lead agency for trauma in Louisiana
- Created by legislation in 2004
- Responsible for developing and maintaining a statewide system of care coordination for patients with traumatic injury or time-sensitive illness (such as heart attack and stroke).
Governance

• LERN Board – Appointed by the Governor. Consists of 28 organizations that relate to components of a trauma and time sensitive illness system.

• It is a governing board that was created to plan, govern and direct the statewide system for trauma and time sensitive illness.
LERN Regional Commissions

- LERN is organized into 9 geographic regions
- Guided by LERN Regional Commissions
- Commissions are an advisory body of key community stakeholders – advisory to the LERN Board
- Each Commission has a minimum of 12 members
Trauma Center Legislation

• Louisiana recognizes 3 levels of trauma centers: Level I, II, & III

• The Health Standards Section of the Louisiana Department of Health (LDH) is charged with the responsibility of designating trauma centers.

• To receive DHH designation as a trauma center, Louisiana hospitals must successfully complete the trauma center verification process of the American College of Surgeons, Committee on Trauma.
LERN Boards Vision

• At least 1 ACS verified trauma center in each region of the state
## Current Trauma Centers

<table>
<thead>
<tr>
<th>Trauma Center</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Health Shreveport</td>
<td>ACS Level 1</td>
</tr>
<tr>
<td>University Medical Center New Orleans</td>
<td>ACS Level 1</td>
</tr>
<tr>
<td>Rapides Regional Medical Center</td>
<td>ACS Level 2</td>
</tr>
<tr>
<td>Our Lady of the Lake Regional Medical Center</td>
<td>ACS Level 2</td>
</tr>
<tr>
<td>North Oaks Medical Center</td>
<td>ACS Level 2</td>
</tr>
</tbody>
</table>
Trauma Centers

• Louisiana law (LA RS 40:2841-2846) states that the *trauma center* label shall be reserved exclusively for hospitals with state-issued trauma center designation.
Trauma Programs (LAC 48:1. Chapter 197)

- Allows for a process by which hospitals pursuing Level II or Level III Trauma Center designation to attest to meeting LERN required benchmarks.
- Only applies to LDH regions without an existing ACS Level I or Level II trauma center.
- Attestation validated by a site visit.
- Must schedule ACS Site visit or consultation within 1 year of attestation.
- Must schedule ASC survey within 1 year of consultation or “Trauma Program” status removed.
Trauma Centers + Trauma Programs

67.3% of the population has access to a Trauma Center or Trauma Program within a 60 minute drive time.

Map produced October 6, 2016 by the Louisiana Department of Health / Office of Public Health / Section of Environmental Epidemiology and Toxicology (SEET).

Population data is from the 2010 US Census. Census blocks that have their central point (centroid) within the 1 hour polygons were used in the calculations. One hour drive times are approximate. DISCLAIMER: SEET cannot guarantee the accuracy of the information contained on these maps and expressly disclaims liability for errors and omissions in their contents.
LERN Communication Center (LCC)

• The LERN Communication Center (LCC) serves as the core resource of LERN’s logistical operation.
• When a pre-hospital provider (EMS) or a 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.
LERN Communication Center

- The LCC utilizes the Resource Management Tool in Louisiana’s ESF-8 Portal to match patients to the most appropriate hospital resources.
- 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 support the statewide interoperability mission in times of disaster.
Call LERN Communication Center at 1-866-320-8293 for patients meeting the following criteria:

- Uncontrollable airway
- Traumatic cardiac arrest
- Severe head injury
- Burn patient > 40% BSA without IV

Measure vital signs and level of consciousness:
- GCS: ≤3
- SBP < 70 mmHg
- RR <10 or >20 breaths per minute, or need for ventilator Support (≤20 in infant aged ≤ 1 year)

Assess anxiousness of injury:
- All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee
- Chest wall instability or deformity (e.g. Flail chest)
- Two or more proximal long bone fractures
- Blunt, depressed, or distracted skull fracture
- Paralysis
- Fractures with neurovascular compromise (e.g. depressed peripheral pulses or prolonged capillary refill, motor or sensory deficit distal to fracture)

Assess mechanism of injury and evidence of high-energy impact:
- Falls:
  - Adults: > 20 ft (one story is equal to 10 feet)
  - Children: >10 feet or two to three times the height of the child
  - High-risk activity
    - Trampoline, including roof; > 12 inches above ground site; > 18 inches any site
    - Ejection (partial or complete) from automobile
    - Death in the same passenger compartment
    - Vehicle-restraint system connection with a high risk of injury
  - Auto vs. pedestrian/bicyclist/ATV (thrown, run over, or with significant [≥20 mph] impact)
  - Motorcycle crash [≥20 mph]

- Consider special patient or system considerations:
  - Older Adults:
    - Risk of injury increases after age 50
    - SBP < 110 may represent shock after age 60
    - Low impact mechanisms (e.g. ground level falls) may result in severe injury
  - Children:
    - Should be triaged preferentially to pediatric capable trauma centers
  - Anticoagulants and bleeding disorders
  - Patients with head injury are at high risk for rapid deterioration
  - Burns:
    - With trauma mechanism (impact to trauma center)
    - Pregnancy ≥30 weeks
    - Major fractures (hip, knee, ankle, elbow)
    - Open Fractures
    - EMS provider judgment

Multi/Mass Casualty Incident:

Transport to Trauma Center/Trauma Program:
- These patients should be transported to the highest level of care within the defined trauma system. This is a Level 1 or Level 2 Trauma Center or Trauma Program. If distance or patient condition impedes transport to trauma facility, consider transport to most appropriate resource hospital.

When in doubt, transport to a trauma center.

Destination Protocol TRAUMA

Transport to Trauma Center/Trauma Program or hospital capable of timely and thorough evaluation and initial management of potentially serious injuries. Consider consultation with medical control.

LOUISIANA EMERGENCY RESPONSE NETWORK
Limitation of Liability

- RS 9:2798.5 – Provides for a limitation of liability for EMS who specifically acts in accordance with protocols adopted and promulgated by the Louisiana Emergency Response Network Board for the transport of trauma and time-sensitive ill patients.

<table>
<thead>
<tr>
<th>Region 4</th>
<th>Trauma Level</th>
<th>Trauma Program (LEER use Only)</th>
<th>CT</th>
<th>Gen Surgery</th>
<th>Ortho Surgery</th>
<th>Neuro Surgery</th>
<th>ICU</th>
<th>ED</th>
<th>PICU</th>
<th>Peds Trauma</th>
<th>Off Trauma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbeville General Hospital</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Abrom Kaplan Memorial Hospital</td>
<td>--</td>
<td>--</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Acadia General Hospital - American Legion</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>NO</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Acadia St. Landry Hospital</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Acadian Medical Center</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Iberia Baptist Hospital of Lafayette</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>NO</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>NO</td>
</tr>
<tr>
<td>Iberia Medical Center</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>NO</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Lafayette General Medical Center</td>
<td>--</td>
<td>TF2</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Lafayette General Southwest</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Mercy Regional Medical Center</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Ochsner General Health System - South Campus</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Ochsner General Health Systems</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Our Lady of Lourdes Regional Medical Center Inc.</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Ochsner Medical Center</td>
<td>--</td>
<td>--</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>St. Martin Hospital</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>University Hospital and Clinics</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Women's and Children's Hospital</td>
<td>--</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>
LCC Volume

Call Center Patient Volume

<table>
<thead>
<tr>
<th>Year</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>CY 2011</td>
<td>11743</td>
</tr>
<tr>
<td>CY 2012</td>
<td>14846</td>
</tr>
<tr>
<td>CY 2013</td>
<td>14492</td>
</tr>
<tr>
<td>CY 2014</td>
<td>15602</td>
</tr>
<tr>
<td>CY 2015</td>
<td>16651</td>
</tr>
<tr>
<td>CY 2016</td>
<td>16401</td>
</tr>
</tbody>
</table>
LCC Contact: Pre-Hospital vs. Hospital

LCC Contacted By

<table>
<thead>
<tr>
<th>Year</th>
<th>EMS</th>
<th>Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>CY2014</td>
<td>15093</td>
<td>509</td>
</tr>
<tr>
<td>CY2015</td>
<td>16059</td>
<td>592</td>
</tr>
<tr>
<td>CY2016</td>
<td>15484</td>
<td>917</td>
</tr>
</tbody>
</table>
Secondary Transfers

<table>
<thead>
<tr>
<th>Transferred</th>
<th>Directed by LERN</th>
<th>Not Directed by LERN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>386</td>
<td>503</td>
</tr>
<tr>
<td>No</td>
<td>12091</td>
<td>1432</td>
</tr>
<tr>
<td>Total</td>
<td>12477</td>
<td>1935</td>
</tr>
</tbody>
</table>

Secondary transfers for LERN directed patients remained the same for 2016.

Patients not directed by LCC and required transfer increased from 22% in 2015 to 26% in 2016.
LCC and Mass Casualty (CY 2016)

LCC Managed 150 MCI events statewide involving 808 patients
## LERN Trauma Education 2016

<table>
<thead>
<tr>
<th>Course Name</th>
<th># Classes</th>
<th># Students</th>
<th>Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>TNCC</td>
<td>26</td>
<td>280</td>
<td>All 9 Regions</td>
</tr>
<tr>
<td>ENPC</td>
<td>10</td>
<td>92</td>
<td>1, 2, 3, 6, 9</td>
</tr>
<tr>
<td>RTTDC</td>
<td>1</td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td>PCAR/TCAR</td>
<td>4</td>
<td>121</td>
<td>2, 7</td>
</tr>
<tr>
<td>AIS</td>
<td>1</td>
<td>25</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTALS:</strong></td>
<td><strong>42</strong></td>
<td><strong>549</strong></td>
<td></td>
</tr>
</tbody>
</table>
# Trauma Education – since 2012

<table>
<thead>
<tr>
<th>Course Name</th>
<th># of Classes</th>
<th># of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>TNCC</td>
<td>106</td>
<td>1,148</td>
</tr>
<tr>
<td>ENPC</td>
<td>32</td>
<td>313</td>
</tr>
<tr>
<td>RTTDC</td>
<td>18</td>
<td>500</td>
</tr>
<tr>
<td>PHTLS</td>
<td>11</td>
<td>162</td>
</tr>
<tr>
<td>Hemorrhage Control</td>
<td>8</td>
<td>286 (law enforcement)</td>
</tr>
<tr>
<td>TCAR/PCAR</td>
<td>6</td>
<td>196</td>
</tr>
<tr>
<td>AIS</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td><strong>Totals:</strong></td>
<td><strong>182</strong></td>
<td><strong>2630</strong></td>
</tr>
</tbody>
</table>
Areas of Opportunity

• System Performance Improvement
• State Trauma Registry Development
  ❖ Only 7 hospitals submit data to state registry
  ❖ Legislatively mandated, but only “if funded”
State Stroke System

Legislative Charge:
The Board shall work with the department of health to develop stroke and STEMI systems that are designed to promote rapid identification of, and access to, appropriate stroke and STEMI resources statewide.
Guiding Principles

• Time is the critical variable in acute stroke care
• Treatment with intravenous tPA is the only FDA approved acute therapy for ischemic stroke
• EMS should identify the geographically closest facility capable of providing tPA treatment.
• Transfer patient to the nearest hospital equipped to provide tPA treatment.
LERN Board Approved 4 Stroke Levels

- **LERN Level I**
  - Comprehensive Stroke Center - TJC

- **LERN level II**
  - Primary Stroke Center – TJC, DNV, HFAP

- **LERN Level III**
  - Stroke enabled hospital (requirements based on Acute Stroke Ready criteria)

- **LERN Level IV**
  - Non- Stroke Hospital or Stroke bypass hospital
Board Approved Attestation Process

- CEO’s across the state attested as to how they fit into the state stroke system: Level 1, 2, 3, or 4.
- Rule promulgated – requires attestation every 2 years or as resources change.
- Maps developed of stroke system
- ESF-8 Portal amended to include stroke
Board Approved Destination Protocol

- Protocol developed by the LERN Stroke Medical Director and the State Stroke Workgroup
- Vetted at the regional commission level
- Approved by the board
- Promulgated in Rule
- Statewide education targeted to EMS and Hospitals

**STROKE DESTINATION PROTOCOL**

The following protocol applies to patients with suspected stroke:

- Compromise of:
  - Airway
  - Breathing
  - Circulation

  -> Closest ED

- All other patients with suspected stroke

Patients with seizure and facial deficit, extended window (4-hrs from onset), and patients with unknown onset may benefit from evaluation at Level I or II hospital with on-site stroke expertise.

  -> Transport to LERN Stroke Level I, II, or III

- Terminally III or Palliative Care Patient

  -> Transport to LERN Stroke Level I, II, III or IV

**Guiding principles:**

- Time is a critical variable in acute stroke care
- Protocols that include pre-hospital notification while en route by EMS should be used for patients with suspected acute stroke to facilitate primary destination efficiency
- Treatment with intravenous tPA is the only FDA approved acute therapy for stroke
- EMS should identify the geographically closest facility capable of providing tPA treatment
- Transfer patient to the nearest hospital equipped to provide tPA treatment
- Secondary transfer to facilities equipped to provide tertiary care and interventional treatments should not prevent administration of tPA to appropriate patients

Adopted 11/21/2013

LERN Communication Center: 1-866-320-8293
Stroke Maps

Stroke Level
- Level 1 (2)
- Level 2 (16)
- Level 2, Telestroke
- Level 3 (56)
- Level 3, Telestroke (43/56)
- Level 4, Non-Stroke Hospital (38)
## Stroke Page on ESF-8 Portal

<table>
<thead>
<tr>
<th>Region 7</th>
<th>Trauma Level</th>
<th>Stroke Level</th>
<th>CT</th>
<th>TeleStroke Hub</th>
<th>Endovascular-Stoke</th>
<th>STEMI</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bienville Medical Center</td>
<td>--</td>
<td>4</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>REFERRAL</td>
</tr>
<tr>
<td>Christus Couchatta Health Care Center</td>
<td>--</td>
<td>3</td>
<td>YES</td>
<td>OCHSNER</td>
<td>--</td>
<td>--</td>
<td>REFERRAL</td>
</tr>
<tr>
<td>CHRISTUS Highland Medical Center</td>
<td>--</td>
<td>3</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>RECEIVING</td>
</tr>
<tr>
<td>Claiborne Memorial Medical Center</td>
<td>--</td>
<td>4</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>REFERRAL</td>
</tr>
<tr>
<td>DeSoto Regional Health System</td>
<td>--</td>
<td>3</td>
<td>YES</td>
<td>OCHSNER</td>
<td>--</td>
<td>--</td>
<td>REFERRAL</td>
</tr>
<tr>
<td>Minden Medical Center</td>
<td>--</td>
<td>3</td>
<td>YES</td>
<td>OCHSNER</td>
<td>--</td>
<td>--</td>
<td>REFERRAL</td>
</tr>
<tr>
<td>Natchitoches Regional Medical Center</td>
<td>--</td>
<td>3</td>
<td>YES</td>
<td>OCHSNER</td>
<td>--</td>
<td>--</td>
<td>REFERRAL</td>
</tr>
<tr>
<td>North Caddo Medical Center</td>
<td>--</td>
<td>3</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>REFERRAL</td>
</tr>
<tr>
<td>Sabine Medical Center</td>
<td>--</td>
<td>4</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>REFERRAL</td>
</tr>
<tr>
<td>Springhill Medical Center</td>
<td>--</td>
<td>3</td>
<td>YES</td>
<td>OCHSNER</td>
<td>--</td>
<td>--</td>
<td>REFERRAL</td>
</tr>
<tr>
<td>University Health Shreveport</td>
<td>--</td>
<td>2</td>
<td>YES</td>
<td>--</td>
<td>YES</td>
<td>YES</td>
<td>RECEIVING</td>
</tr>
<tr>
<td>Willis-Knighton Bossier</td>
<td>--</td>
<td>3</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>RECEIVING</td>
</tr>
<tr>
<td>Willis-Knighton Medical Center</td>
<td>--</td>
<td>3</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>RECEIVING</td>
</tr>
<tr>
<td>Willis-Knighton Pierremont HC</td>
<td>--</td>
<td>2</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>RECEIVING</td>
</tr>
<tr>
<td>Willis-Knighton South</td>
<td>--</td>
<td>4</td>
<td>YES</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>REFERRAL</td>
</tr>
</tbody>
</table>
Stroke Volume by Region

Stroke Patients by Region Received
Total = 1328
Stroke Maps

66.8% of population access to CSC or PSC within 60 minute drive time

80.3% of population access to a CSC or PSC within 60 minute drive time
Stroke Maps

Current Level I, II and III Stroke Centers

- Current I, II, and III Stroke Centers
- 60 Minute Drive Time
- 99.5% of Total Population

LOUISIANA EMERGENCY RESPONSE NETWORK
System Growth

- Since 2013, # of PSC increased from 9 to 16
- # of telemedicine enabled “spokes” increased from 34 to 43
- One of only 12 states and the District of Columbia who have enacted policies around the recognition of stroke facility designations
- Treatment rate w/ tPA for ischemic stroke has doubled
Stroke Education

• Developed and distributed Stroke Toolkits & other materials/resources to support Acute Stroke Ready Hospitals (LERN Level III)
• Stroke Webinars
Education

EDUCATION MATERIALS

Early identification and intervention is essential in a time-sensitive illness like a stroke. LERN has produced education tools for public use as part of their efforts to increase awareness about stroke symptoms and early intervention.

- Stroke Education Video by Dr. Sheryl Martin-Schild
- Stroke Assessment Video by Dr. Sheryl Martin-Schild
- LERN Stroke Assessment Course
- Stroke LERN-AHA Education Card
- Stroke FAST Card
- Stroke Pamphlet
- Stroke Poster – LERN Logo
- Stroke Poster – with space for cc-brand logo
- Stroke Hospital Reference Cards – Version October 2016 (Slides updated from previous version: 12-14, 10-21)
- Stroke Scoring of Mini NIHSS Card
- Stroke Hospital Toolkit
- Host a Stroke Awareness Event
State STEMI System

Legislative Charge:

The Board shall work with the department of health to develop stroke and STEMI systems that are designed to promote rapid identification of, and access to, appropriate stroke and STEMI resources statewide.
Guiding Principles

Goals of care: *timely* re-opening of artery

- Clot-busting medications (easier, faster, less effective) within 30 minutes
- Primary PCI (more efficacious and safer but less available) within 90 minutes
The Goal

Onset of symptoms of STEMI → Call 9-1-1 → EMS Dispatch → EMS on-scene
- Encourage 12-lead ECGs
- Consider prehospital fibrinolytic if capable and EMS-to-needle within 30 min

EMS Triage Plan
- Hospital fibrinolysis: Door-to-Needle within 30 min
- Not PCI capable
- PCI capable

Goals†
- Patient 5 min after symptom onset
- Dispatch 1 min
- EMS on scene Within 8 min
- Prehospital fibrinolysis: EMS-to-Needle within 30 min

EMS transport
- EMS transport: EMS-to-Balloon within 90 min
- Patient self-transport: Hospital Door-to-Balloon within 90 min

Total ischemic time: Within 120 min*

*Golden Hour = First 60 minutes

LOUISIANA EMERGENCY RESPONSE NETWORK
Process

• State STEMI Workgroup: comprised of subject matter experts and invested community leaders throughout the state to develop a system that could provide high level STEMI care to all Louisiana residents.

• Workgroup met September 2011 to assess need for state-wide system and identify what we knew and what we did not.
Workgroup Findings

Workgroup Findings:

• Some Regions are further ahead in process of organizing; others lag.
• No central data registry existed to assess efficacy of triage strategies or outcomes of transferred patients.

Survey disseminated October 2011-January 2012
• Used survey findings and State STEMI Workgroup to develop STEMI Destination Protocol and requirements for STEMI Receiving Centers
• LERN Board approved STEMI Pre-Hospital Destination Protocol and Protocol for self presentation
• LERN Board approved STEMI Receiving Center requirements and attestation process
STEMI Triage Guideline for Pre-Hospital Providers

**STEMI Triage Guideline for Pre-Hospital Providers**

- Acute coronary symptoms ≥ 15 minutes and < 12 hours
- AND
- 12 lead ECG criteria of 1 mm ST elevation in 2 or more contiguous leads
- OR
- LBBB NOT KNOWN to be present in the past
  
  EMS ECG interpreted or transmitted to hospital for MD consult for bypass and activation.

- STEMI-Receiving Center with medical-contact-to-device (PCI) ≤ 90 minutes (by ground or air)?
  - YES
    - Transport to nearest STEMI-Receiving Center with pre-hospital notification/activation
      - Goal medical contact to device (PCI) time of 90 minutes or less
  - NO
    - Transport to closest STEMI-Referral Hospital with pre-hospital notification/activation
      - Goal medical contact to fibrinolytic needle time of 30 minutes or less
    - Transport to nearest STEMI-Receiving Center for subsequent PCI
Based on Mission: Lifeline

STEMI – Receiving Center Requirements

Each STEMI-Receiving Center in Louisiana should:

1. Have recognized hospital champion(s) for STEMI care.
2. Have 24/7 Cardiac Catheterization Lab (CCL) availability within 30 minutes of notification (including interventional cardiologist present at start of the case).
3. Have single call pre-hospital activation of CCL by paramedic or ED Physician for those patients transported by emergency medical services.
4. Accept all STEMI patients regardless of bed availability (from EMS and STEMI Referral Centers).
5. Have on-site cardiac surgery back up or a pre-designated surgical back up site, and meet hospital procedural volume standards as delineated by the American Heart Association.
6. Ensure annual interventional cardiologist volume as delineated by the American Heart Association.
7. Have on-going multidisciplinary team meetings to evaluate outcomes and quality improvement data for all STEMI patients. Operational issues should be reviewed, problems identified, and solutions implemented.
8. Provide concurrent feedback to EMS and STEMI Referral Centers (including data sharing with EMS or referral Center at the end of case, quarterly meetings to review cases, and data exchange with the EMS/STEMI Referral Center).
9. Participate in the LERN STEMI workgroup to contribute to the development and management of a regional STEMI System of Care plan.
10. Demonstrate commitment to the Emergency Department (ED) and Cardiac Catheterization Lab having adequate staff, equipment, and training to perform rapid evaluation, triage, and treatment for STEMI patients.
11. Demonstrate commitment to developing and/or refining ED and Cardiac Catheterization Lab transfer protocol to be in compliance with the regional STEMI systems of care plan.
12. Develop a plan with local prehospital providers to ensure inter-hospital transfers and
13. Register with American Heart Association Mission: Lifeline as a STEMI Receiving Center and participate in state-wide data collection, quality improvement efforts, and feedback to ensure optimal STEMI care is delivered in Louisiana.
CEO Attestation/Mapped Receiving Centers

39 STEMI Receiving Centers

65 STEMI Referral Centers

Hospital STEMI Receiving Center Attestation with Travel Time to PCI Capable Hospitals

96.6% of the population lives within 60 minutes of a STEMI Receiving Center

Hospitals
- H: Receiving
- : Referral
- : 60 Minute Drive Time

LOUISIANA EMERGENCY RESPONSE NETWORK
LERN’s goals in obtaining the Report are to:

• Collaborate to improve STEMI Care on a Regional Level
• To identify process improvement opportunities that may exist in the state
• To develop targeted education initiatives.
Regional Report

• The report will be used to compare the state to national performance measures to include but not limited to:
  • First medical contact to device
  • Transfers: 1st door to device
  • Arrival to device activation
  • Mode of arrival
  • Reperfusion method
  • In-hospital mortality

• 10 hospitals currently participating
• Commitments from 12 additional hospitals
• 22 of the 39 STEMI Receiving Centers
Education

- Provide 12 Lead ECG Education
- Led by the LERN STEMI Medical Director
- Conducted in all 9 regions of the state by volunteer physicians and other educators

<table>
<thead>
<tr>
<th></th>
<th># of Classes</th>
<th># of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>CY 2015</td>
<td>9</td>
<td>272</td>
</tr>
<tr>
<td>CY 2016</td>
<td>17</td>
<td>545</td>
</tr>
<tr>
<td>Totals</td>
<td>26</td>
<td>817</td>
</tr>
</tbody>
</table>
All Disaster Response

- LCC First Call “Help Desk” and 24/7/365 information coordinator for unfolding events
- LCC sends portal alerts during events
- LERN manages the EMS tactical operating center during disasters
- Provides education on MCI Procedures
MCI Procedure

Combined START/JumpSTART Triage Algorithm

- Able to walk? Yes -> MINOR -> Secondary Triage*
  - No
    - Breathing? No -> IMMEDIATE
    - Yes
      - Position Upperairway Breathing Apneic
        - Pediatric
        - Adult
        - With Pulse
          - Five Rescue Breaths
            - Breathing
            - IMMEDIATE
          - Without Pulse
            - APNEIC
            - DECEASED
        - Without Pulse
          - IMMEDIATE
    - Respiratory Rate
      - >30 Adult
      - <15 or >45 Pediatric
      - <30 Adult
        - Perfusion
          - No Palpable Pulse (Pediatric)
            - IMMEDIATE
          - CRB > 2 Sec (Adult)
            - IMMEDIATE
        - Mental Status
          - Doesn't Obey Commands (Adult)
            - ""P"" (Inappropriate) Posturing or ""U"" (Appropriate)
              (Pediatric)
          - Obey Commands (Adult)
            - ""A", "V", or ""E"" (Appropriate)
              (Pediatric)

* Using the 35 algorithm, evaluate first all children who did not walk under their own power.

Multi/Mass Casualty Incident (MCI) Procedure

- EMS Notifies LERN
  - LERN Notifies DRC and Hospitals
  - EMS IC Contacts LERN with Patient Information
    - Triage Color
      - Red
      - Yellow
      - Green
    - Age*
      - Adult
      - Pediatric
    - Primary Injury*
      - Neuro
      - Ortho
      - Chest/Abdomen

- LERN Directs Transport and Tracks Patients
  - Each Transporting Unit Contacts ED with Report
  - EMS IC Notifies LERN when Scene Clear

LERN MCI LEVELS

1* – 5 to 10 Patients
2* – 11 to 20 Patients
3 – 21 to 100 Patients
4 – 101 to 1000 Patients
5 – Greater than 1000
Mass Casualty Incidents

LCC Managed 150 MCI events statewide involving 808 patients
Other Numbers

153 ESF-8 Tech Support Calls

131 ESF-8 Portal Alerts

73,459 Phone Calls (excluding radio traffic)