Date

Dear (Enter Name),

In 2010 the Louisiana Legislature declared that the Louisiana Emergency Response Network Board shall work with the department of Health and Hospitals to develop stroke and ST segment elevation myocardial infarction (STEMI) systems that are designed to promote rapid identification of, and access to, appropriate stroke and STEMI resources statewide.

In order to develop systems for Stroke and STEMI, the Louisiana Emergency Response Network (LERN) petitioned key physician, nurse and EMS stakeholders from across the state to join the State Stroke Workgroup and the State STEMI Workgroup. These groups were tasked with the responsibility of determining the current status, defining gaps in care and developing a plan for submission to the Board that achieves a statewide system of care for Stroke and STEMI that improves the outcomes for Louisiana citizens regardless of where they live in the state.

These workgroups first convened in September of 2011. As the respective groups met, they recognized the need to develop guidelines and delineate hospital capabilities so that people experiencing acute stroke or STEMI symptoms are accurately identified and transported to destinations that provide appropriate emergency stroke or STEMI care. The ultimate goal is to consistently provide access to hospitals capable of providing a high-standard of emergency care for these patients. Time to treatment is a key element to successful outcomes.

The respective stakeholder workgroups presented recommendations to the LERN Board in March of 2013. The LERN Board adopted the recommendations of these workgroups which defined requirements for:

- STEMI Receiving Centers
- STEMI Referral Centers
- LERN Hospital Stroke Levels

In order to build the state systems for both STEMI and Stroke, the LERN Board is requesting that each hospital declare themselves as one of the above types of facilities. The information regarding the requirements for each level facility is enclosed. Please complete the paperwork and return to:

Louisiana Emergency Response Network
14141 Airline Highway, Building 1, Suite B
Baton Rouge, La 70817

Best Regards,

Paige Hargrove
Executive Director

Please Check the LERN Hospital Level that correlates to your facility.

LERN Stroke Hospital Levels

_____ LERN Level 1 Stroke Hospital = Joint Commission Certified Comprehensive Stroke Center

_____ LERN Level 2 Stroke Hospital = Joint Commission or HFAP Certified Primary Stroke Center

_____ LERN Level 3 Stroke Hospital = Stroke Ready Hospital

_____ LERN Level 4 Hospital = Non-Stroke Hospital

LERN STEMI Centers

_____ LERN STEMI Receiving Center

_____ LERN STEMI Referral Center

Attestation: The undersigned hereby attests that the facility meets all of the standards identified in the associated level checked by the CEO/COO and ensures 24-hour availability of the resources indicted in the level. The undersigned also attests that the hospital can provide verification of the accuracy of the responses.

_____ _____

Print Name of Hospital CEO or COO **Date**

_____

Hospital CEO or COO Signature

(Enter Hospital Name)

Please provide the name of the Stroke and STEMI Program Managers at your hospital. If you do not have employees with these particular titles, please provide contact information for most appropriate staff. We want to keep you up to date on the build out of the system.

Hospital Name: _____

Address: _____

City, State, Zip code: _____

Director of Stroke Program/Stroke Champion
Name: _____

Email Address: _____

Phone Number: _____

Director of STEMI Program/STEMI Champion

Name: _____

Email Address: _____

Phone Number: _____

LERN Level 1 Stroke Hospital Requirement

Must obtain Comprehensive Stroke Center Certification by the Joint Commission.

The following is a description of a Comprehensive Stroke Center:

1. Facilities in this category will provide acute access to stroke care for their geographic area. EMS should not bypass a LERN Level 2 or LERN Level 3 facility where care can be delivered faster to reach such a LERN Level 1 Hospital. This facility will provide support for LERN Level 2 and Level 3 facilities. The comprehensive center will provide a referral source for high level neurological critical care, medical, interventional, and surgical capabilities to support stroke care at other hospitals. The comprehensive centers will provide a resource for medical professional education, research, and stroke program development to other centers and serve as a resource providing clinical and procedural advice to other centers.

2. Emergency department staffed 24/7
    a. Perform initial ER physician patient evaluation within 10 minutes of patient arrival
    b. Develop and maintain an organized Stroke Team with expertise in emergency evaluation and management of stroke.
    c. Notify Stroke team within 15 minutes of arrival.

3. Ability to perform CT of head on site within 25 minutes of arrival and interpret within 45 minutes of patient arrival.

4. Ability to draw and report results of appropriate lab work within 45 minutes of patient arrival. (CBC, platelet count, PT, PTT, INR, chemistry panel)

5. Access to vascular neurological expertise on site within 15 minutes of patient arrival.

6. Proficiency in delivery of tPA and ongoing training programs for care delivery of tPA.
    a. Ensure door-to-drug (needle) times of 60 minutes from arrival.
    b. Transfer patient to an inpatient setting within 3 hours of arrival

7. Written care protocols and order sets for stroke, including guidelines, algorithms, critical care pathways, NIH Stroke Scale training

8. Provision of other items important for quality stroke care:
    a. Health professional training programs twice per year that include education on standards of acute stroke care.
    b. Physicians involved in stroke care have adequate continuing medical education hours.
    c. Mechanism in place to assess stroke patient satisfaction with their stroke care.
    d. Provide a mechanism for continuity of care post stroke including rehabilitation and ongoing risk factor management.

9. Personnel:
    a. Vascular neurology and neurosurgery; vascular surgery
    b. Neuroradiology and Neurointerventional
    c. Critical care specialists
    d. Physical Medicine; Physical, Speech, and Occupational Therapy
    e. Staff stroke nurses, APN, Respiratory Therapy

10. Diagnostic techniques:
    a. MRI with diffusion, MRA, MRV
    b. CT, CTA, TCD, carotid duplex ultrasound, transesophageal echocardiogram
11. Surgical and interventional therapies:
    a. Carotid endarterectomy; hemicraniectomy
    b. Surgical and interventional management of aneurysms and arteriovenous malformations
    c. Placement of ventriculostomy and intracranial pressure transducer
    d. Hematoma removal/drainage
    e. Endovascular treatment of vasospasm
    f. Intra-arterial reperfusion therapy (thrombolytics and embolectomy)

12. Infrastructure:
    a. Stroke unit, Neurological ICU
    b. Operating room and interventional suite available 24/7
    c. Stroke registry; state funding should be provided to develop and maintain such a state-wide registry.

13. Education and research:
    a. Community education; community prevention programs
    b. Professional education; Patient education.

14. Neurosurgeon on site within 30 minutes/available 24/7

15. Neurological Intensive Care Unit and Stroke Unit

16. Neuro-Interventional available 24/7 (Neurology, Neuroradiology, Neurosurgical)

17. Research and educational training program
    a. Residency and fellowship training
    b. Clinical and/or basic science research

18. Quality of stroke care demonstrated by maintenance of certification through the Joint Commission Certification Program for Comprehensive Stroke Centers.

LERN Level 2 Stroke Hospital Requirement

Must obtain Primary Stroke Center Certification by the Joint Commission or by the Healthcare Facilities Accreditation Program (HFAP)

The following is a description of a Primary Stroke Center:

1. Facilities in this category will provide timely access to stroke care but may not be able to meet all the criteria specified for a LERN level 1 Center. These centers will provide acute stroke care in urban and rural areas where transportation and access are limited and is intended to recognize those models of care delivery that have shown utility including "drip-and-ship" and telemedicine. Because these centers can provide care faster these centers should not be bypassed to go to a more distant LERN Level 1 Hospital.

2. Emergency Department physician-staffed 24/7
    a. Perform initial ER physician patient evaluation within 10 minutes of arrival.
    b. Develop and maintain an organized Stroke Team with expertise in emergency evaluation and management of stroke.
    c. Notify Stroke team within 15 minutes of arrival.

3. Ability to perform CT scan of head within 25 minutes of patient arrival and interpret within 45 minutes of arrival.

4. Ability to draw and report results of appropriate lab work within 45 minutes of patient arrival. (CBC, platelet count, PT, PTT, INR, chemistry panel)

5. Access to neurological expertise on site within 15 minutes of patient arrival.

6. Proficiency in delivery of tPA and ongoing training programs for care delivery of tPA.
    a. Ensure door-to-drug (needle) times of 60 minutes from arrival.
    b. Transfer patient to an inpatient setting within 3 hours of arrival.

7. Access to neurosurgical expertise within 2 hours of arrival.

8. Infrastructure: Intensive care unit and stroke unit. Stroke units can be defined an implemented in a variety of ways. The stroke unit does not have to be a specific enclosed area with beds designated only for acute stroke patients, but it will be a specified unit to which most stroke patients are admitted.

9. Written care protocols and order sets for stroke, including guidelines, algorithms, critical care pathways, NIH Stroke Scale training.

10. Provision of other items important for quality stroke care:
    a. Health professional training programs twice per year that include standards of acute stroke care.
    b. Physicians involved in stroke care have adequate continuing medical education hours.

c. Mechanism in place to assess stroke patient satisfaction with their stroke care.
d. Provide a mechanism for continuity of care post stroke including rehabilitation and ongoing risk factor management.

11. Written documentation of a plan for secondary transfer to a LERN Level 1 or other appropriate facility, if resources deemed necessary are not available at the primary destination site.

12. Personnel: Emergency physician; Stroke Champion (any physician specialty)

13. Diagnostic techniques: CT, 24/7 laboratory

14. Quality of care demonstrated by maintenance of certification through the Joint Commission Certification program or the HFAP for Primary Stroke Centers.

LERN Level 3 Stroke Hospital Requirements

1. Facilities in this category will provide timely access to stroke care but may not be able to meet all the criteria specified in LERN Level 1 and Level 2 guidelines. These centers will provide acute stroke care in urban and rural areas where transportation and access are limited and is intended to recognize those models of care delivery that have shown utility including "drip-and-ship" and telemedicine. Because these centers can provide care faster these centers should not be bypassed to go to a more distant LERN Level 1 or Level 2 Hospital.

2. Emergency department physician-staffed 24/7
    a. Perform initial ER physician evaluation within 10 minutes of patient arrival.
    b. Contact with neurological expertise within 15 minutes.

3. Ability to perform CT on site within 25 minutes of patient arrival and interpret within 45 minutes.

4. Ability to draw and report results of appropriate lab work within 45 minutes of patient arrival. (CBC, platelet count, PT, PTT, INR, chemistry panel)

5. Access to neurological expertise by phone or telemedicine within 15 minutes of arrival.

6. Proficiency in delivery of tPA and ongoing training programs for care delivery of tPA.
    a. Ensure door-to-drug (needle) times of 60 minutes from arrival.
    b. Transfer patient to an appropriate higher level of care within 3 hours of arrival, if appropriate.

7. Personnel: Emergency physician

8. Infrastructure: Emergency Room, If the hospital does not have an ICU then patient transfer should be considered after tPA administration.

9. Diagnostic techniques:24/7 CT, 24/7 laboratory

10. Written care protocols and order sets for stroke, including guidelines, algorithms, critical care pathways, NIH Stroke Scale training.

11. Written documentation of a plan for secondary transfer to a LERN Level 1, Level 2, or other appropriate facility, if resources deemed necessary are not available at the primary destination site.

12. Quality of stroke care demonstrated by involvement in quality control program such as American Stroke Association Get With the Guidelines or submission of data to LERN that indicates compliance with CMS Stroke Core Measures

LERN Level 4 Stroke Hospital Requirements

1. These facilities are considered a Non-Stroke Hospital. EMS should not bring patients exhibiting signs or symptoms of stroke to a LERN Level 4 Hospital except for instances where the clinical situation requires stopping at the closest emergency department.

2. Physician staffed ER 24/7

3. CT scan available within 12 hours.

4. Transfer protocol in place for transfer to higher levels of care with a written and agreed upon relationship with a Level I, II, and III Center.

Criteria	LERN Level 4	LERN Level 3	LERN Level 2	LERN Level 1
Physician staffed ER 24/7	X	X	X	X
CT scan available <25 minutes		X	X	X
CT available within 12 hours	X			
CT scan available 24/7		X	X	X
Lab < 45 minutes		X	X	X
Proficient tPA delivery		X	X	X
Neurological expertise		X	X	X
Vascular neurology				X
Neurosurgery <2 h			X	
Neurosurgery < 30 min				X
Interventional				X
Research				X
Training programs				X
Stroke unit			X	X
ICU		If no ICU – should consider drip and ship	X	X
NICU				X
Quality control		GWTG, or submission of data to LERN that indicates compliance with CMS Stroke Core Measures	GWTG/JC	GWTG/JC
Protocols for stroke care		X	X	X

GWTG= Get with the Guidelines, American Heart and Stroke Association
JC= Joint Commission

References:

1. The Joint Commission Web Site
2. Alberts MJ, Latchaw RE, et al. Revised and updated recommendations for the establishment of Primary Stroke Centers. Stroke 2011; 42: 2651-2665.
3. Alberts MJ, Latchaw RE, et al. Recommendations for comprehensive stroke centers. Stroke 2005; 36:1597-1618.
4. Acker JE III, Pancioli AM, et al. Implementation strategies for emergency medical services within stroke systems of care. Stroke 2007; 116: 3097-3115.
5. Schwamm LH, Holloway RG, et al. A review of evidence for use of telemedicine within stroke systems of care. Stroke 2009; 40: 2616-2634.
6. Schwamm LH, Audebert HJ, et al. Recommendations for the implementation of telemedicine within stroke systems of care. Stroke 2009; 40: 2635-2660.
7. Schwamm LH, Panicioli A, et al. Recommendations for the establishment of stroke systems of care. Stroke 2005; 36: 690-703.
8. Alberts MJ, Latchaw RE, et al. Revised and updated recommendations for the establishment of primary stroke centers. Stroke 2011; 42: 2651-2665.
9. Demaerschalk BM. Seamless integrated stroke telemedicine systems of care: A potential solution for acute stroke care delivery delays and inefficiencies. Stroke 2011; 42: 1507-8.
10. Moskowitz A, Chan Y, et al. Emergency physician and stroke specialist beliefs and expectations regarding telemedicine. Stroke 2010; 41: 805-809.

LOUISIANA
EMERGENCY RESPONSE NETWORK

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 fibrinolytic-ineligible patients receive highest priority response and are communicated en-route to bypass STEMI Referral Centers (where appropriate).
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.

STEMI-Referral Center Requirements

If your facility does not meet the requirements of a STEMI-Receiving Center, then by default the facility is classified as a STEMI Referral Center.