LOUISIANA
EMERGENCY RESPONSE NETWORK

Acute Stroke Ready Hospital Data Collection Requirements

Who?

All LERN Acute Stroke Ready Hospitals. Primary, Thrombectomy Capable, and Comprehensive Stroke Centers have reporting requirements to The Joint Commission or other Board-approved credentialing agency as a part of the credentialing and maintenance of certification processes. LERN Stroke Bypass Hospitals have no reporting requirements. LERN Acute Stroke Ready Hospitals must submit quarterly reports to LERN in order to ensure that these centers are functioning at the standards set for a LERN Acute Stroke Ready Hospital.

Why?

The primary aim of LERN's stroke system of care efforts is to develop a comprehensive stroke system of care in Louisiana to provide timely access to proven treatments necessary to reduce death and dependency. Your center has attested to LERN Acute Stroke Ready Hospital capability. While Primary, Thrombectomy Capable, and Comprehensive Stroke Centers are held accountable by The Joint Commission or other Board-approved credentialing agency through quarterly reports and on-site reviews, LERN seeks to develop a mechanism of confirming that LERN Acute Stroke Ready Hospitals are functioning as Stroke Enabled Centers. The data collected by the Acute Stroke Ready Hospitals will provide the LERN Stroke Medical Director with the opportunity to provide direction for improvement, when the need is identified or when assistance is requested. Persons who present with acute stroke deserve the opportunity to receive time-sensitive treatment with intravenous tissue plasminogen activator (IV tPA), which is the foundation of acute stroke care. LERN Acute Stroke Ready Hospitals must demonstrate the timely administration of IV tPA to eligible patients. Further, Acute Stroke Ready Hospitals must recognize and respond to stroke caused by large vessel occlusion in order to gain access to thrombectomy, when appropriate, via rapid transfer to stroke centers with endovascular capability and other needed resources. The data collection requirements focus on the time stamps for evaluation and management of the stroke patient who presents within the first few hours after onset.

What?

1) **Hospital Identifier** = Column A
   A unique letter code given to each hospital to anonymously distinguish one hospital's data from another's. For example, Baton Rouge General Medical Center's identifier may be "ADC" while Our Lady of the Lake Regional Medical Center's identifier may be "ABD". This identifier will be assigned by LERN.

2) **Quarter** = Column B
   The quarter of the calendar year in which the data is being reported in the format of Q-YY (e.g., quarter 1 of 2019 would be 1-19). Data should be submitted once per quarter.

For patient info:	Submit no later than:	Quarter reported
January 1 – March 31	April 30	1- YY (e.g., 1-19)
April 1 – June 30	July 31	2- YY (e.g., 2-19)
July 1 – September 30	October 31	3- YY (e.g., 3-19)
October 1 – December 31	January 31	4- YY (e.g., 4-19)

3) **Date** = Column C
   The date the patient arrived at the hospital. This should be in the format of Month/Date/Year (e.g., June 10th, 2019 would be 06/10/19).

4) **Patient ID #** = Column D
   This shall be a facility-dependent "Dummy ID" so that identifiers can be eliminated from the transferred dataset to LERN. Please use the Hospital Identifier, followed by the quarter, followed by 001. For example, if your hospital identifier is CCC, and it is the 3rd quarter of 2019, your first patient's Dummy ID should be: CCC-3-19-001. The next patient would be: CCC-3-19-002, and so on. If you click and hold the left mouse button on the bottom right corner of the cell containing CCC-3-19-001 and drag it down, the patient ID #s will automatically populate. **Do not include patients who experienced an in-hospital stroke. This dataset is designed to reflect your Acute Stroke Ready Hospital's capability of rapidly evaluating patients with suspected stroke who present to your Emergency Department.**

5) **Time Last Seen Normal (LSN)** = Column E
   This is the time (military time) that the patient was last known to be at his or her normal neurological condition. This time = the time of onset for:

   i. a person who was awake at onset and can provide his or her own history and

   ii. a person with witnessed onset.

   If the LSN time is known, enter that time in military format (e.g, 1:35pm would be 13:35). If the LSN time is between 3.5 hours and 24 hours, simply enter ">3.5 hours." If the LSN time is >24 hours, enter ">24 hours". If the LSN time is unknown, leave the cell blank.

6) **Time of Arrival to the Emergency Department Door =** Column F
   This is the time (military time) that the patient was first acknowledged as being present at the LERN Acute Stroke Ready Hospital. If the patient arrives by ambulance, this is the time the ambulance arrives at the LERN Acute Stroke Ready Hospital. If the patient arrives by private vehicle or as a walk-in, this is the time stamp on the ED triage form. This timestamp should be documented for all patients who present within the first 24 hours of LSN. This timestamp may be left blank for patients arriving >24 hours from LSN.

*If the interval between LSN and arrival to the ED Door is **MORE THAN 3.5 HOURS**, <u>then data elements in columns G through O are **not** required for reporting.</u> Collecting this data will assist in determining the proportion of patients who present to the hospital within the "window of opportunity". Knowing the true numerator for tPA treatment and denominator for your population informs of your possible "missed opportunities" and will serve as a key metric for community education to improve the proportion of patients who present within the "window of opportunity" for treatment. Data collection for #1-6 applies to all patients admitted with ICD-10 diagnoses codes of I63.xxx (Acute Ischemic Stroke), I60.xx (Subarachnoid Hemorrhage), I61.x (Intracerebral Hemorrhage), or G45.9 (Transient Ischemic Attack). **Columns P through X are mandatory for all patients who arrive within 24 hours of LSN.***

7) **Time of Arrival of Emergency Department MD =** Column G
This is the time (military time) the ED physician first documents a face-to-face encounter with the patient with suspected stroke who presents within the first 3.5 hours after last seen normal. The **goal is <10 minutes** from the Time of Arrival to the Emergency Department Door.

8) **Time of communication with Neurological Expertise** = Column H
This is the time (military time) when a neurological expert is first contacted (in person, by telephone, or by telemedicine) by a physician at the LERN Acute Stroke Ready Hospital to discuss the patient with suspected stroke who presents within the first 3.5 hours after last seen normal. The best practice **goal is <15 minutes** from the Time of Arrival to the Emergency Department Door. A LERN Acute Stroke Ready Hospital may have a neurological expert who prefers to have the CT scan and laboratory findings available prior to the first communication. LERN strongly recommends that LERN Acute Stroke Ready Hospital initiate contact with their neurological expert to inform him or her of the patient with suspected stroke within the first 15 minutes from the Time of Arrival to the Emergency Department Door and document this time. A follow-up communication with the neurological expert can follow when the CT scan +/- laboratory findings are available. If your ED doc has sufficient experience and expertise AND accepts the role of neurological expert for the purposes of determining tPA and thrombectomy eligibility, then the time of ED doc evaluate would be the same as the time of accessing your neurological expertise.

9) **Credentials of Neurological Expertise** = Column I
Please indicate: Neurologist, Vascular Neurologist, Emergency Medicine Physician, or Other. A drop-down box (pick list) is provided on the electronic data collection tool.

10) **Time of CT Performed =** Column J
This is the time (military time) of the time stamp on the baseline CT scan of the head. The **goal is <20 minutes** from the Time of Arrival to the Emergency Department Door in at least 50% of patients who present <3.5 hours from LSN.

11) **Time of CT Interpretation =** Column K
This is the time (military time) when the interpretation of the baseline CT scan of the head becomes available by whomever is responsible for reading it (on-site or off-site radiologist or neurological expert, provided he or she is credentialed for interpretation of neuroimaging at the center). The **goal is <45 minutes** from the Time of Arrival to the Emergency Department Door for patients with suspected stroke who present within the first 3.5 hours after LSN. Each Acute Stroke Ready Hospital defines who is credentialed to interpret the CT scan via internal hospital by-laws.

12) **Time to Labs Complete =** Column L
This is the time (military time) when necessary laboratory values are available for patients with suspected stroke who present within the first 3.5 hours after LSN, which may include platelet count, PT/INR (PTT, when appropriate), and glucose. The **goal is <45 minutes** from the Time of Arrival to the Emergency Department Door. The time documented for labs resulted can be the time of the blood

glucose measurement, if this is the only required test for your patient; however, you should insure that you can obtain necessary additional lab tests for the population of patients who require them in order to determine eligibility for IV alteplase.

NOTE: The American Heart Association/American Stroke Association has issued this statement in the 2013 Guidelines for the Early Management of Patients With Acute Ischemic Stroke: "Although it is desirable to know the results of these tests before giving intravenous recombinant tissue-type plasminogen activator, fibrinolytic therapy should not be delayed while awaiting the results unless:

    i.   there is clinical suspicion of a bleeding abnormality or thrombocytopenia,

    ii.   the patient has received heparin or warfarin, or

    iii.   the patient has received other anticoagulants (direct thrombin inhibitors or direct factor Xa inhibitors)."

13) **Time of tPA Bolus =** Column M
This is the time (military time) when the bolus of tPA is pushed IV in the patient with suspected stroke who presents within the first 3.5 hours after last seen normal. The **goal is <60 minutes** from the Time of Arrival to the Emergency Department Door and represents the "Door-to-Needle time". Every minute, up to 2 million brain cells are destroyed during a large artery occlusive stroke. Systematic improvement in the Door-to-Needle time should be a priority for all LERN Stroke Centers. Feedback reports from the LERN Stroke Medical Director will push for efforts to reduce the median door-to-needle time, in recognition of the new target door-to-needle time of 45min (AHA Target Stroke).

14) **Reason why patient who presents in less than 3.5 hours of last seen normal (LSN) not treated with tPA = **Column N
The LERN Documentation Tool lists the following pick list to facilitate tracking of this metric:

- Symptoms completely resolved

- Hemorrhage on CT scan

- Unable to treat within 4.5 hours of LSN

- Stroke mimic

- Mild deficits which are not disabling

- Ischemic stroke within 3 months

- Severe head trauma within 3 months

- Recent major trauma, not involving the head within 14 days

- Intracranial or intraspinal surgery within 3 months

- Recent major surgery within 14 days

- History of ICH

- Suspicion of SAH

- GI malignancy or GI bleed within 21 day

- Platelets <100K

- INR >1.7

- Elevated PTT

- Full anticoagulation (treatment dose of LMWH, thrombin inhibitor, or factor Xa inhibitor; prophylactic doses of LMWH are not a contraindication)

- Active use of GIIb/IIIa inhibitor

- Other known bleeding diathesis

- Infective endocarditis

- Aortic arch dissection

- Intra-axial intracranial neoplasm

If the BP or glucose could not be controlled in time to treat by 4.5 hours, the option of "unable to treat within 4.5 hours of LSN" would cover these scenarios. Delayed diagnosis is also covered under "unable to treat within 4.5 hours of LSN". Stroke mimic would include seizure.

15) **Reason why tPA administration was delayed =** Column O

Recognizing that at times there are justifiable reasons for delay in tPA administration causing facilities to miss the 60-minute window, the following pick list has been added:

- Hypertension requiring aggressive control with IV medications

- Further dx evaluation to confirm stroke in patient w/ blood glucose <50, seizures, or major metabolic disorders

- Timeline evolved (defined as the estimated time of last seen normal changed such that a patient who was initially thought to be excluded based on time was later determined to be within the window for tPA)

- Other delay in determining eligibility

- Patient/Family Consent

- Delayed diagnosis

- Management of concomitant emergent/acute conditions such as cardiopulmonary arrest, resp failure (requiring intubation)

- Equipment related delay

- Difficult IV Access

The following variables should be completed for all patients who present <24 hours from LSN.

16) **Mode of arrival =** Column P

A drop-down menu allows for selection of private vehicle, ambulance, air ambulance, and unknown.

17) **NIHSS total score =** Column Q

The NIHSS exam should be performed by certified examiners on all patients with suspected stroke based on 2018 AHA Guidelines for the Emergency Management of Patients with Acute Ischemic Stroke. The total score, performed prior to thrombolytic, if given, should be recorded.

18) **Was the patient screened for LVO? =** Column R

A drop-down menu allows for selection of yes, no, or not applicable (not applicable applies only to symptoms resolved, stroke mimic, hemorrhage).

19) **Method of screening patient for LVO. =** Column S

A drop-down menu of check boxes allows for multiple choices including VAN (Visual, Aphasia, Neglect assessment), CT Angiography (CTA), other clinical scale or score (RACE, FAST-ED, CPSS, total NIHSS), and other vascular imaging (MRA, TCD, and/or angiography).

20) **Result of LVO screening. =** Column T

A drop-down menu of choices LVO Positive and LVO Negative.

21) **Time of transfer request. =** Column U

Enter the time of transfer request in military time or n/a if the patient was not transferred. Leave the field blank if the time cannot be determined. If your site does not have a consistent method for source documentation of the time of transfer request, then this is a target for process improvement.

22) **Transfer time =** Column V

Enter the time of transfer request in military time or n/a if the patient was not transferred.

23) **Reason/s for transfer delay =** Column W

A drop-down check box allows for multiple choices for: delay in request patient factor, delay in request facility factor, delay in recognition of LVO, delay in finding accepting center, delay in arrival of interhospital ambulance, other.

24) **Optional field for details of reason/s for transfer delay =** Column X

If additional details are thought to be necessary or add value to understanding your barrier/s to efficient door in-to-door out, this field allows for a free-text description.

Data Submission to LERN

LERN expects to receive quarterly data report including Data Elements 1-6 (Columns A-F) for all patients presenting with suspected stroke and Data Elements 7-12 (Columns G-L) for patients with suspected stroke who presents within the first 3.5 hours after last seen normal. If tPA is given, the time of tPA bolus must be documented in Column M. If tPA is not given for a patient with suspected stroke who presents within the first 3.5 hours after last seen normal, a reason must be documented in Column N. For all patients who present within the first 24 hours of last seen normal, the expanded data elements in Columns P-X must be documented. The maximum interval between close of a quarter and receipt of the data is 30 days. Email the completed data form quarterly to Xiaoping.Nie@la.gov.

Date of end of quarter	Date data report is last acceptable
March 31st, 2019	April 30th, 2019
June 30th, 2019	July 30th, 2019
September 30th, 2019	October 30th, 2019
December 31st, 2019	January 30th, 2020

How much time is involved in the data collection process?

The data collection (if retrospective) would take a maximum of 20 minutes per case, for patients who present within the first 3.5 hours from last seen normal. For cases only requiring Dummy ID, (those presenting >24hrs LSN), time of last seen normal, and time of Arrival to the Emergency Department Door, each case would take a maximum of 5 minutes.

To get a better estimate of your time commitment:

1. Ask one of your hospital coders to pull a list of all patients with stroke diagnosis codes over the last 3 month period. The *ICD-10 diagnoses codes of I63.xxx (Acute Ischemic Stroke), I60.xx (Subarachnoid Hemorrhage), I61.x (Intracerebral Hemorrhage), or G45.9 (Transient Ischemic Attack)*.
2. Get with the Guidelines (GWTG) estimates of % patients presenting within 3 hrs is <25%. Calculate what 25% of all patients with stroke diagnosis codes would represent. This would be an estimate of total quarterly sample size.
3. Divide that # by 3 (3 cases can be collected per hour) => estimated # hours per quarter devoted to the process of data collection.

Who should be responsible for collecting this data?

This will vary and is to be determined by each hospital. Some facilities assign data collection to the following existing employees:

- Stroke director
- Stroke coordinator
- Quality department
- Emergency department nursing director
- Emergency department clinical supervisor
- Emergency department charge nurse

What are your options if you decline participation?

1. Change attestation to LERN Level IV

How can you improve the acquisition of these data elements?

One tip from your LERN Stroke Medical Director is to create a template in the ED medical chart (whether paper or electronic) that includes these timestamp data points and encourage your ED staff (MD and RNs) to document the data points that consume time when collected retrospectively (time last seen normal, time of Arrival of Emergency Department MD, time of communication with Neurological Expertise).

LERN Stroke Data will be accumulated and organized in summary form. LERN will not release any identified data related to a participating hospital. If disseminated, LERN data will be in aggregate form.