LOUISIANA EMERGENCY RESPONSE NETWORK

LERN STEMI Data Collection Requirements

Hospitals Required to Submit STEMI Data to LERN

All hospitals whose CEO attested to meeting STEMI Receiving Center Requirements.

Why?

The primary aim of LERN's STEMI system of care efforts is to develop a comprehensive STEMI system in Louisiana to provide timely access to proven treatments necessary to reduce death. Since inception, participation in state-wide data collection was a requirement of all STEMI Receiving Centers. LERN is now implementing the required data collection process. The data collected by the STEMI Receiving Centers will provide LERN with valuable information that can provide the opportunity to provide direction for improvement, when the need is identified or when assistance is requested. It will also help to validate the state STEMI system of care. Persons who present with STEMI deserve the opportunity to receive time-sensitive treatment. The data collection requirements focus on the time stamps for evaluation and management of STEMI patients.

Inclusion Criteria:

Patients with a principal final/discharge diagnosis of ST elevation myocardial infarction should be included in the data set. This includes patients who are treated first at your hospital or transferred to your hospital from an outside hospital. Only patients who are transferred to your hospital within 24 hours of arrival at outside hospital should be entered.

- Patients with a confirmed diagnosis of STEMI who present to the hospital with signs, symptoms or complaints consistent with acute myocardial infarction (e.g., chest pain, tightness in chest or shortness of breath).
- STEMI should be confirmed by:
  - Troponin I or Troponin T results > the upper limits of normal results OR

    CK-MB peak >4% (if used) OR
  - ECG results of AMI
- Patients treated or evaluated at your hospital for STEMI, even if they later transfer, expire or leave against medical advice.
- Patients directly transported to a nursing unit or cardiac catheterization lab at your hospital for treatment of STEMI.
- Patients with STEMI who refuse treatment or who have Do Not Resuscitate orders.

The ICD-10 codes are:

- I21.01 – I21.09 STEMI of anterior wall
- I21.11 – I21.19 STEMI of inferior wall
- I21.21 – I212.29 STEMI other sites, or
- I21.3 STEMI unspecified site

Cases described above which meet the following exclusion criteria should **NOT** be entered into the LERN data set.

Exclusion Criteria:

- Patients < 18 years of age.
- Patient with acute myocardial infarction who are transferred to your hospital > 24 hours after arrival at first/outside hospital
- Patients presenting to the hospital with signs, symptoms, or complaints that are **not** consistent with AMI who are later diagnosed with AMI. E.g., a patient presents to the ED with ankle injury and is evaluated for possible fracture and is later diagnosed with AMI.
- STEMI patients presenting beyond 12 hours of symptom onset
- Patients with ECG results stated as 'old' or 'suspected MI' without any of the positive cardiac markers listed above.

Data Elements/Dictionary:

1) **Hospital Identifier** (Column B)
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 "ACC" while Our Lady of the Lake Regional Medical Center's identifier may be "ABD". This identifier will be assigned by LERN. Please call Donicia L. Jackson at the LERN office to obtain your identifier (225)756-3440.

2) **Quarter** (Column C)
The quarter of the calendar year in which the data is being reported in the format of Q-YY. Example, Quarter 1, of 2020 should be reported as 1-20. 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., 1-20)
April 1 – June 30	July 31	2- YY (e.g., 2-20)
July 1 – September 30	October 31	3- YY (e.g., 3-20)
October 1 – December 31	January 31	4- YY (e.g., 4-20)

3) **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 the year, followed by 001. For example, if your hospital identifier is CCC, and it is 3rd quarter of 2020, your first patient's Dummy ID should be: CCC-3-20-001. The next patient would be: CCC-3-20-002, and so on.

4) **Date** (Column E)
The date the patient arrived at the hospital. This should be in the format of Month/Date/Year (e.g., January 10, 2020 would be 01/10/20).

5) **EMS First Medical Contact (FMC) for Transfer Patients** (Column F)
This is the time (military time) :

   i. Applies ONLY to transfer patients arriving to the referral (first) hospital by **EMS**.

ii. It is the time EMS first touches the patient.

iii. This is NOT the time of arrival to your facility.

iv. Leave blank if not a transfer patient.

v. If the FMC time is unknown, leave the cell blank.

Guidelines for abstraction:

• When a pre-hospital 12 lead ECG was performed, enter the earliest date and time when EMS personnel capable of performing a 12-lead ECG makes eye to eye contact with the patient.

• When there was no pre-hospital 12 lead ECG performed (for any reason) enter the earliest time of transporting unit/crew's time of eye-to-eye contact with the patient.

It is well established that prompt diagnosis and treatment can reduce mortality, improve prognosis and reduce the duration of hospital stay in patients with ST-elevation myocardial infarction (STEMI). Reperfusion therapy should be started as soon as possible, at the latest 90 min from first medical contact (FMC).

6) **Name of First/Referral Hospital Transferring the Patient** (Column G)

Click on the drop down box and inter the name of the transferring hospital. This column will also accept free text.

7) **Time of ED Arrival at First/Referring Hospital** (Column H)
This is the time (military time) that the patient was first acknowledged as being present at the first hospital.

i. Required for transfer patients only (presenting by EMS or private vehicle).

ii. Leave blank if patient is not a transfer patient.

8) **Lytic Given at First/Referring Hospital?** (Column I)

Click on the drop down box and pick "yes" or "no" related to lytic administration.

- Leave blank if not a transfer patient

9) **Time of ED Departure from First Hospital/Referring Hospital** (Column J)

This is the time (military time) the patient transferred out from the first hospital (time they left via EMS) to the second hospital.

i. Applies ONLY to transfer patients.

ii. Leave blank if not a transfer.

Clinical trials have demonstrated improved outcome for patients with STEMI who are transferred to a primary PCI hospital in a timely manner. Current guidelines recommend that transfer occur immediately with an overall goal of FMC-to-device time of 120 min; this can be best achieved by shortening the time in the first ED and transferring the STEMI patient within DIDO of 30 minutes.

10) **Time of First Medical Contact** This is the time (military time): (Column K)

i. Required for all Non-transfer patients arriving by EMS

ii. It is the time EMS first touches the patient.

iii. Leave blank if not a transfer or if patient arrived by private vehicle.

EMS transport directly to a PCI-capable hospital for primary PCI is the recommended triage strategy for patients with STEMI, with an ideal FMC-to-device time system goal of 90 minutes or less. Primary PCI should be performed in patients with STEMI and ischemic symptoms of less than 12 hours duration.

11) **Time of ED Arrival at Receiving STEMI Center** (Column L)
This is the time (military time) the arrived at your hospital. This is the time (military time):

i. Required for ALL patients – both transfer and non-transfer.

12) **Time of ECG at Receiving Hospital** (Column M)
This is the time (military time) when the ECG was performed at the receiving hospital. The ***goal is 10 minutes*** from the Time of Arrival to the Emergency Department Door. If an ECG was not done or patient goes straight to the cath lab based on the pre-hospital ECG, then leave this blank.
**When abstracting, if the ECG time performed at your hospital is before the hospital arrival time (this could be due to clock synchronization or triage before fully registered, adjust the ECG time to equal the arrival time for the purpose of data entry.*

13) **Subsequent EKG Diagnosed STEMI** (Column N)

If the patient was not a STEMI or STEMI equivalent on pre-hospital or first EKG, and not diagnosed as a STEMI until a subsequent EKG performed, Please enter the time (military time) of this subsequent EKG in this column. *Note this is only if they do not meet above exclusion criteria.

**In the event that a Subsequent EKG is entered into Column N, the following changes in calculations will be made:*

- *Arrival at Receiving Center to Primary PCI (Device Activation) (Column W) will be calculated from Column P minus N rather than Column P minus L.*
- *Time of FMC (non-transferred patients) to Primary PCI (Device Activation)- (Column X) will be calculated from Column P minus N rather than Column P minus K.*
- *Door to Needle Time (Receiving) (Column Y) will be calculated from Column O minus N rather than Column O minus L.*

14) **Time of IV Lytic Administration at Receiving Hospital** (Column O)
This is the time (military time) when IV Lytic infusion began at the Receiving Hospital. If lytic was not given or patient goes straight to the cath lab, then leave this blank.

- If lytic was administered at an outside facility, prior to transfer to your hospital, do **NOT** enter that time in column O.
- This column is only for the time lytic was administered at the Receiving Center (definitive care hospital).

15) **Time to Primary PCI** (Column P)
This is the time (military time) of the time of device activation. Enter the time the guidewire was introduced if the lesion could not be crossed.

For patients that have received lytics but also go to PCI:

"Rescue PCI" in STEMI is done for failed lytics. Coronary angiography with intent to perform revascularization is reasonable for patients with evidence of failed reperfusion or re-occlusion after

fibrinolytic therapy. Angiography can be performed as soon as logistically feasible. This time of PCI should be included in the LERN dataset in Column P.

Coronary angiography is also reasonable before hospital discharge in stable patients with STEMI after *successful* fibrinolytic therapy. Angiography can be performed as soon as logistically feasible, and ideally within 24 hours, but should not be performed within the first 2 to 3 hours after administration of fibrinolytic therapy. ***ELECTIVE PCI*** (later in the day or the next day) after successful lytics should ***NOT*** be included in the initial STEMI event data set.

It will be important to work with your physician/team to document successful lytics, so that the abstractor knows which PCI times should and should not be included for performance improvement processes.

16) **Medical Reason for not Receiving Reperfusion Therapy (PCI or LYTIC THERAPY)** (Column Q)

Choose from the drop down "pick list" on the form: (this column will also accept free text)

- active major bleeding
- acute stroke
- terminal illness/futile culprit artery too small
- no identifiable culprit or spontaneous reperfusion of the infarct artery without an obstructive lesion
- severe CAD necessitating urgent/emergency CABG
- attempted but unsuccessful PCI
- late presentation >12 h after symptom onset
- No reason documented

17) **Reason for PCI delay** (Column R)

Choose from drop down list or type the reason if it is not on the list.

- Difficult vascular access
- Difficulty crossing the culprit lesion
- Cardiac arrest, CPR, and/or need for intubation before PCI
- Patient delays in providing consent for PCI
- Emergent placement of LV support device before PCI
- Other

Aspirin at Arrival or within 24 hours of Arrival (Column S)

Indicate whether Aspirin was administered to the patient within 24 hours of arrival. This includes aspirin administered before or after the first medical contact, but within 24 hours of hospital arrival. Choose No if there is no documentation of aspirin administered; choose Contraindicated if a reason for not administering aspirin is documented by a physician, PA, NP or pharmacist.

Date Submission to LERN

LERN expects to receive quarterly data on all STEMI patients, with a 30-day maximum interval between close of a quarter and receipt of the data.
Email the completed data form quarterly to Donicia.Jackson@la.gov

Date of end of quarter	Date data report is last acceptable
March 31st, 2022	April 30th, 2022
June 30th, 2022	July 30th, 2022
September 30th, 2022	October 31st, 2022
December 31st, 2022	January 31st, 2022

******LERN STEMI 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.******