Mission: Lifeline EMS Recognition Guide

This Mission: Lifeline EMS Recognition Guide was developed to provide information about Mission: Lifeline EMS Recognition processes and criteria. If you have any questions, please email David Travis at david.travis@heart.org.
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Glossary
What is Mission: Lifeline® EMS Recognition?
Mission: Lifeline® Emergency Medical System (EMS) Recognition is the newest platform added to the Mission: Lifeline recognition program. It seeks to acknowledge the work, training and commitment by EMS agencies and Medical First Responders (MFRs) to improve the overall quality of care for the STEMI patient, by directly influencing the STEMI System of Care. This year, voluntary reporting measures have been added which include EMS care of stroke patients and cardiac arrest victims as well.

What role does the Emergency Medical System team play in Mission: Lifeline?
Emergency Medical System providers are vital to the overall success of Mission: Lifeline STEMI Systems of Care. MFR's and EMS agencies with education in the assessment and early identification of the STEMI patient, early access to 12 lead ECG machines with implemented protocols derived from ACC/AHA STEMI Guidelines, are agents that are driving significant improvements in the care of STEMI patients. The correct tools and training allow pre-hospital providers to rapidly identify the STEMI, promptly notify the destination center and trigger an early response from the awaiting hospital personnel. Communication and collaboration among pre-hospital and hospital providers are the essence of Mission: Lifeline.

What are the recognition levels that can be awarded and the volume requirements for each?

• **BRONZE***: At least 1 calendar quarter achieving a minimum of 75% compliance for each required measure.
  - **Volume**: There must be at least 2 STEMI patients in one calendar quarter meeting achievement criteria and at least 4 STEMI patients in the calendar year.

• **SILVER***: Aggregated annual score achieving a minimum of 75% compliance for each required measure.
  - **Volume**: at least 8 patients in the 2016 calendar year.

• **GOLD***: 2 consecutive calendar years achieving a Silver award
  - **Volume**: at least 8 STEMI patients in 2016 calendar year + SILVER achievement in 2016.

*Plus designations for each award level are possible for agencies reporting on and achieving the new Plus Measure (e.g. Bronze Plus).

Note: Agencies unable to achieve the volume requirement for Bronze with 2016 data may use data from 2015 if those patients have not been used in a previous application.

What are the Mission: Lifeline EMS Recognition **Achievement** measures that will be reviewed for compliance?
1. Percentage of patients with non-traumatic chest pain ≥ 35 years old, treated and transported by EMS who received a prehospital 12 lead ECG

2. Percentage of STEMI patients transported to a STEMI Receiving Center, with pre-hospital First Medical Contact (FMC) to Device (PCI) ≤ 90 Minutes

3. Percentage of STEMI patients transported to a STEMI Referring Center, with Arrival (to Referring Center) to Fibrinolytic Therapy administered in ≤ 30 Minutes (Door to Needle)

Agencies are required to submit their data based on transport destination as cited below:

| Agencies with STEMI patients transported to STEMI Receiving Centers only | Reporting Measures #1 and #2 required |
| Agencies with STEMI patients transported to STEMI Referring Centers only | Reporting Measures #1 and #3 required |
| Agencies with STEMI patients transported to both STEMI Receiving Centers and STEMI Referring Centers | Reporting Measures #1, #2, and #3 required |

How does the “Plus” Measure affect award status?
Agencies that meet achievement levels for an award and that also report on and achieve 75% compliance with the optional Plus measure, will be qualified for a Plus designation on their award (example: Gold Plus).

Mission: Lifeline EMS Measures Explained

**Measure 1:** Percent of non-traumatic chest pain patients, treated and transported by EMS who are 35 years of age and over that receive a pre-hospital 12 Lead ECG

The pathway to early recognition of an STEMI begins with 12 Lead ECG acquisition. This measure looks at the total number of patients treated AND transported AND with a complaint of non-traumatic chest pain, who received a 12 lead ECG in the field.

early suspicion → early acquisition → early identification → early notification → early intervention

**Inclusion Criteria:** Patients with non-traumatic chest pain, 35 years of age or over, and transported

**Denominator** = Total number of patients that meet the above inclusion criteria

**Numerator** = Total number of patients in the denominator that received a pre-hospital 12 lead ECG
Measure 2: Percentage of STEMI patients transported to a STEMI Receiving Center, with FMC to Device Activation/Primary PCI in ≤ 90 Minutes

Inclusion Criteria: Patients 18 years of age or over, with an STEMI noted on pre-hospital ECG, transported to an STEMI Receiving Center AND Primary PCI was performed

Denominator = Total number of patients that meet the above inclusion criteria

Numerator = Total number of patients in the denominator where the total time from FMC to Device Activation/Primary PCI was achieved in 90 minutes or less

Outlier Volume = the total number of patients included in the denominator volume, where the total time from FMC to Device Activation/Primary PCI was GREATER than 90 minutes. This volume is not used in any of the achievement percentage calculations but is included in the application so applicants may consider any possible acceptable exclusions that may be applied to this population.

Exclusions: Of the patients reported in the Outlier Volume, can one or more of the following allowable exclusions be applied to the patient(s)?

• Delay caused by patient or family providing consent for treatment and transport (prehospital/in-hospital)
• Delay caused by patient experiencing cardiac arrest and the need for intubation (prehospital/in-hospital)
• Delay caused by initial and/or subsequent ECGs being negative for STEMI (prehospital/in-hospital)
• Delay caused by the patient also being a trauma victim or having other time-sensitive comorbid condition requiring priority care. (prehospital/in-hospital)
• Delay caused by difficulty in accessing femoral or radial artery (in the cath lab)
• Delay caused by difficulty in crossing the coronary lesion (in the cath lab)

Exclusion Tips:

• In reporting exclusions, only report one exclusion per patient, not the total number of exclusions applied to the patient if they have more than one exclusion.
• Exclusions must be documented in the patient record.
• Exclusion event may have occurred at any time between FMC and device activation.
• Communication and follow-up with the receiving center must be made to identify if an allowable exclusion occurred in the cath lab.

Applying the exclusions: When a volume of patients experiencing one or more of the allowable exclusions is reported, that exclusion volume is subtracted from the original denominator. The adjusted denominator will automatically be used in the achievement percentage calculation.

Achievement % = \( \frac{\text{Numerator}}{\text{Adjusted Denominator}} \times 100 \)
Measure 3: Percentage of STEMI patients transported to a STEMI Referring Center, with Arrival (to STEMI Referring Center) to Fibrinolytic Administration in \( \leq 30 \) minutes.

The pathway to early reperfusion of the STEMI patient begins with early 12 Lead ECG acquisition. This measure looks at the STEMI patients transported by the EMS agency to the STEMI referring center and the percentage of those of who received lytic therapy within the recommended time of 30 minutes or less. Pre-hospital providers directly impact achieving this goal. Early suspicion of a possible STEMI patient → initial acquisition of the 12 lead ECG → early notification to the referring center → timely lytic administration.

Inclusion Criteria: Patients 18 years of age or over, with an STEMI noted on pre-hospital ECG, transported to an STEMI Referral Center AND Fibrinolytic Therapy was administered
Denominator = Total number of patients that meet the above inclusion criteria
Numerator= Total number of patients in the denominator where the total time from arrival to the STEMI Referring Center and the time of Fibrinolytic Therapy Administration was achieved in 30 minutes or less.

Outlier Volume = a total number of patients included in the denominator volume, where the total time from arrival to the STEMI Referring Center and the time of Fibrinolytic Therapy Administration was GREATER than 30 minutes. This volume is not used in any of the achievement percentage calculations but is included in the application so applicants may consider any possible acceptable exclusions that may be applied to this population.

Exclusions: Of the patients reported in the Outlier Volume, can one or more of the following allowable exclusions be applied to the patient(s)?
- Delay caused by patient or family providing consent for treatment and transport (prehospital/in hospital)
- Delay caused by patient experiencing cardiac arrest and the need for intubation (prehospital/in hospital)
- Delay caused by initial and/or subsequent ECGs being negative for STEMI (prehospital/in-hospital)
- Delay caused by the patient also being a trauma victim or having other time-sensitive comorbid condition requiring priority care. (prehospital/in hospital)

Exclusion Tips:
- In reporting exclusions, only report one exclusion per patient, not the number of exclusions applied to the patient if there are more than one.
- Exclusions must be documented in the patient record.
- Exclusion event may have occurred at any time between FMC and Arrival to the Referral Center

Applying the exclusions: When a volume of patients experiencing one or more of the allowable exclusions is reported, that exclusion volume is subtracted from the original denominator. The adjusted denominator will automatically be used in the achievement percentage calculation.
Achievement % = \frac{\text{Numerator}}{\text{Adjusted Denominator}} \times 100

NEW PLUS MEASURE (Optional):

Plus Measure 1.
Percentage of 12 lead ECGs performed on patients in the field with an initial complaint of non-traumatic chest pain ≥ 35 years (who were transported), within 10 minutes of EMS (12 lead capable) arrival to the patient.

Inclusion Criteria: Patients with non-traumatic chest pain, 35 years of age or over, and transported by EMS

Denominator: Total number of patients that meet the above inclusion criteria

Numerator: Total number of patients in the denominator who received a prehospital 12 lead ECG within 10 minutes of EMS arrival

Plus Achievement % = \frac{\text{Numerator}}{\text{Denominator}} \times 100

OPTIONAL REPORTING MEASURES 2017

Note- Submission of reporting measures data is OPTIONAL. Submitting reporting measure data is not required to achieve recognition nor will any reporting measure data be considered when determining eligibility for recognition. Because some reporting measures may become required achievement measures in the future program years, agencies may wish to begin developing their collection processes for them sooner than later.

Reporting Measure 1:
The percentage of hospital notifications or 12 lead transmissions suggesting an STEMI Alert (or CCL activation) that are performed within 10 minutes of the first STEMI positive 12 lead ECG in the field

Inclusion Criteria: Patients assessed and transported by EMS, who had an STEMI positive ECG.
Denominator: Total number of patients that meet the above inclusion criteria.

Numerator: Total number of patients in the denominator for whom a successful hospital notification of STEMI or successful transmission of the 12 lead ECG occurred within 10 minutes of the first STEMI positive ECG.

**Reporting Measure 2:**
Percentage of patients with suspected stroke for whom EMS provided advance notification to the receiving hospital

**Inclusion Criteria:** Patients assessed and transported by EMS, who had an EMS impression of suspected stroke.

Denominator: Total number of patients that meet the above inclusion criteria

Numerator: Total number of patients in the denominator for whom an advance notification of a stroke was provided to the destination hospital.

**Reporting Measure 3:**
Percentage of patients with suspected stroke (new onset) evaluated by EMS, who had an EMS documented Last Known Well (LKW) time.

**Inclusion Criteria:** Patients assessed and transported by EMS, who had an EMS impression of suspected stroke.

Denominator: Total number of patients that meet the above inclusion criteria

Numerator: Total number of patients in the denominator for whom EMS documented the Last Known Well (LKW) time.

**Reporting Measure 4:**
Percentage of adult OHCA patients with sustained ROSC maintained to arrival at the emergency department who had a 12 lead ECG performed.

**Inclusion Criteria:** Adult patients with Out of Hospital Cardiac Arrest (OHCA) with a Return of Spontaneous Circulation (ROSC) maintained to arrival at the emergency department.
Denominator: Total number of patients that meet the above inclusion criteria

Numerator: Total number of patients in the denominator for whom EMS performed a 12 lead ECG.

Reporting Measure 5:
Percentage of adult OHCA patients with sustained ROSC maintained to arrival at the emergency department who were transported to a PCI-capable hospital.

Inclusion Criteria: Adult patients with Out of Hospital Cardiac Arrest (OHCA) with a Return of Spontaneous Circulation (ROSC) maintained to arrival at the emergency department

Denominator: Total number of patients that meet the above inclusion criteria.

Numerator: Total number of patients in the denominator transported to a hospital capable of percutaneous coronary intervention (PCI).

Reporting Measure 6:
- Percentage of 12 lead ECGs performed on patients in the field with an initial complaint of Acute Coronary Syndrome (ACS) symptoms:
  - Inclusion Criteria: Patients with symptoms consistent with Acute Coronary Syndrome (ACS) who are 35 years of age or over, and transported by EMS. ACS symptoms include:
    - Chest pain, discomfort, pressure, tightness or fullness
    - Pain or discomfort in one or both arms, the jaw, neck, back or stomach
    - Shortness of breath
    - Dizziness or lightheadedness
    - Nausea
    - Diaphoresis

Denominator: Total number of patients that meet the above inclusion criteria

Numerator: Total number of patients in the denominator who received a prehospital 12 lead ECG.

Reporting Measure 7:
Percentage of STEMI patients initially transported to a referring (non-PCI) hospital who were later transported to a STEMI Receiving Center with an EMS FMC to PCI time ≤ 120 minutes.
**Inclusion Criteria:** Percentage of STEMI patients initially transported to a referring (non-PCI) hospital who were later transported to a STEMI Receiving Center capable of PCI.

**Denominator:** Total number of patients that meet the above inclusion criteria

**Numerator:** Total number of patients in the denominator with an FMC time by EMS** to Device Activation/Primary PCI in ≤ 120 Minutes

**Reporting Measure 8:**
Percentage of patients with non-traumatic chest pain ≥ 35 years, treated and transported by EMS who received aspirin either by EMS administration, Dispatch instruction, or patient self-administration.

**Inclusion Criteria:** Patients with non-traumatic chest pain, 35 years of age or over, and transported by EMS

**Denominator:** Total number of patients that meet the above inclusion criteria

**Numerator:** Total number of patients in the denominator who received aspirin either by self-administration, dispatch assisted instruction, or EMS provider administration, that was documented in the EMS report.

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**What application options are available for 2017?**

1. **Individual Application (Stand Alone)**
   a. EMS agency meets the volume requirement, acquires the 12 Lead ECG **AND** provides transport of the STEMI patient

2. **Individual Application with Team option**
   a. EMS agency that transports is the “primary applicant”. 
b. The EMS transport agency opts to include and list the Medical Frist Responder (MFR) agencies/departments that assist with calls that involve a possible STEMI patient, regardless of the assisting department’s ability to acquire a 12 Lead ECG, the level of certification or the MFR’s ability to transport.

c. The EMS transport agency meets the volume requirement, has the capability to acquire the 12 Lead ECG AND provides transport of the STEMI patient.

d. Application asks for the primary applicant to provide contact information for their ambulance service as well as minimal contact information for each Medical First Responder included as a team member.

3. Joint Application
The joint application is for the pre-hospital providers that provide treatment and transport of the STEMI patient in collaboration with a second agency. One agency may acquire the 12 Lead ECG and the second agency provides the transport. There are numerous possibilities for the Joint Application option.
   a. The pre-hospital providers meet the volume requirement with patients that are treated together
   b. One of the two joint applicants must meet the %ECG criteria on all patients, 35 years or older, with non-traumatic chest pain
   c. If an agency meets the volume criteria with 2 or more partnering agencies, one joint application may be submitted for each combination when each one meets the volume requirement.
   d. If an agency meets the volume criteria with a partnering agency AND meets an additional volume criteria as an individual applicant, the agency may apply via both options. (Concerning volume, an STEMI patient can only fall into one application)

What data should be collected to prepare for the recognition application?
Pre-hospital data and follow-up data from the destination centers is required for Mission: Lifeline® EMS Recognition application submission. The following data elements are necessary to be collected by each agency for the achievement measures:

EMS Data
- Number of patients 35 years or over with non-traumatic chest pain AND who were transported, and the number of those who received a 12 lead ECG

- Time of First Medical Contact on STEMI patients 18 and older. First Medical Contact (FMC) is broadly defined as the time of eye to eye contact between STEMI patient and caregiver. For Mission: Lifeline EMS Recognition - First Medical Contact (FMC) is the time of eye to eye contact between STEMI patient and the first caregiver. (Medical First Responder, physician at a clinic, or EMS personnel). When the Medical First Responder or physician at a clinic is the first caregiver at the patient’s side, and their time of initial contact with the patient is known, the eye to eye contact time between the patient and that first caregiver is preferred. For the patient to be included in the Mission: Lifeline EMS Recognition program, there must
Follow Up with the Hospitals on STEMI patients

- Time of fibrinolytic administration (patients transported to an STEMI Referring Center)
- Time of device activation/Primary PCI (Patients transported to an STEMI Receiving Center)
- STEMI patients that experience at least one allowable delay documented as occurring in the Emergency Department or the cath lab

Suggested Pre-Hospital Data to routinely collect and review:

- Sign and Symptom Onset to 911 Call
- 911 Call to Ambulance Dispatch
- Ambulance Dispatch – Ambulance en-route
- Ambulance en-route – Ambulance arrival
- Ambulance arrival – FMC
- FMC to 12 Lead ECG Acquisition
- 12 Lead ECG Acquisition to Hospital Notification
- Hospital Notification – Hospital Arrival

What data should be collected for the new Plus measure?

For the new Plus measure, agencies will report on the percentage of 12 lead ECGs performed on patients in the field with an initial complaint of non-traumatic chest pain ≥ 35 years, within 10 minutes of EMS (12 lead capable) arrival to the patient when these patients were transported. Agencies will need to review and collect the times of EMS arrival on non-traumatic chest pain calls for patients 35 or older (who were transported) and the times that the 12 lead ECG was acquired.

How does the pre-hospital provider connect with the destination hospital to collect follow-up data?

The FMC to Device Activation/Primary PCI <90 minutes and Arrival at Referring Center to Fibrinolytic Administration < 30 minutes measures require follow-up with the destination hospitals. Many hospitals are collecting robust data specific to the STEMI population and are engaging a multidisciplinary team to identify process improvements and successes. More EMS agencies than ever are active members of the destination centers’ multidisciplinary teams. If there is interest in participating with such a multidisciplinary team, contact the hospital’s STEMI and/or outreach coordinator to learn how to become involved with this effort.
EMS agencies request/accomplish receiving follow up on the STEMI patients at three different periods once the patient is delivered to the destination center.

- **Immediate feedback** – The ED physician and/or cardiologist may be able to provide immediate feedback to the ambulance crew upon arrival after reviewing the pre-hospital 12 lead ECG and seeing the patient.
- **24/48 hours feedback** – The ACC/AHA Guidelines suggest the destination hospital provide feedback to EMS agencies within 24-48 hours of the patient’s arrival to the facility.
- **Monthly/Quarterly** – Another form of feedback is participation in monthly/quarterly multidisciplinary STEMI review committee meetings.

The Mission: Lifeline Hospital Recognition Program relies on data collected from STEMI Receiving and Referring Centers through their participation in the largest national AMI data registry, ACTION Registry®-GWTG™.

**Organizing the Data Summary for Mission: Lifeline EMS Recognition Application Submission**

EMS agencies are advised to collect and organize data before beginning the online recognition application. Each agency should become familiar with the data elements that pertain to the Mission: Lifeline EMS Recognition criteria and develop a system to engage the medical first responders, any co-applicants and the destination hospitals in follow-up. The American Heart Association has tools available to aid in data collection and the follow-up process with the destination hospitals. These tools will help agencies prepare for the actual web-based application submission.

The tools are will be available via the following link: [www.heart.org/emsrecognition](http://www.heart.org/emsrecognition).

- EMS/Hospital Data Worksheet
- PDF versions of the actual online application (which can be printed out and filled out prior if desired)
- Mission Lifeline EMS Recognition Criteria 2017
- Mission: Lifeline EMS Recognition FAQ 2017
- Mission: Lifeline EMS Recognition Guide 2017

**Completing the Mission: Lifeline EMS Recognition Application**

- The data submission period is January 1 to March 31, 2017
- Data is submitted by completing the online Mission: Lifeline EMS Recognition Application
- The data is submitted for the four quarters of calendar year 2016
- Agencies not able to meet minimum volume requirements for Bronze with calendar year 2016 data, may report on quarters from 2015 (starting with Q4 2015) as long as none of these patients has been included in a previous Mission: Lifeline EMS Recognition application which resulted in an award.
**Mission: Lifeline EMS Recognition Announcement**

EMS agencies achieving 2017 Mission: Lifeline EMS Recognition will be notified of the achievement no later than June 1, 2017. The notifications will be made directly by AHA staff and made to the point of contact for the EMS agency or agencies identified in the application. (EMS agencies that complete the team option will be responsible for notifying all team member medical first responding agencies/departments that are included in the application.)

**Mission: Lifeline EMS Recognition Glossary of Terms**

**Mission: Lifeline®**: The American Heart Association’s national initiative to advance the systems of care for patients with Acute Coronary Syndrome (ACS), ST segment elevation myocardial infarction (STEMI), Out of Hospital Cardiac Arrest (OHCA) and stroke. The overarching goal of the initiative is to reduce mortality and morbidity for ACS, STEMI, OHCA, and stroke patients and to improve the overall quality of care. For more information: www.heart.org/missionlifeline

- 2007 The Emergency Services and Emergency Department Perspective
- 2007 The Primary PCI Perspective
- 2009 Focused Update: ACC/AHA STEMI Guideline Update
- 2012 A Report from the AHA's Mission: Lifeline
- 2011 ACCF/AHA/SCAI PCI Guidelines
- 2013 AHA/ASA Guidelines for Early Management of Ischemic Stroke
- 2013 AHA/ASA Interactions within Stroke Systems of Care
- 2015 AHA/ASA Guidelines for CPR and Emergency Cardiac Care
- 2016 ACC/AHA Guidelines for Management of Patients with STEMI

**Quality**: The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.

**Healthcare Quality Improvement**: The process of maintaining what is good about the existing health care system while focusing on the areas that need improvement. Improving the quality of care and reducing medical errors are top priorities.

**Healthcare Process Improvement**: A group of healthcare professionals coming together (Multidisciplinary team) to identify a process goal, identify the steps needed to create change, identify how the team will know when the change becomes an improvement through implementation of the Plan, Do, Study, Act (PDSA) cycle.

**Multidisciplinary Team**: Diverse group of healthcare professionals, such as ED physicians, cardiologists, nurses, cath lab, ED, and radiology leadership, pharmacists, dieticians, health educators, administration and may include EMS leadership, collaborating to provide effective and efficient care to patients.
Numerator: Part of a fraction above the line, it is the number of occurrences (the count) of an item, element or selection that meet the criteria.

Denominator: Part of a fraction below the line, it is the total number of treatment opportunities among all eligible patients.

Inclusion Criteria: A set of conditions that must be met for the patient record to be incorporated in a specific measure.

Exclusion Criteria: A set of standards used to determine whether a patient record is not included in a specific measure.

Destination Hospital: The Hospital the patient was transported to. This will either be an STEMI Receiving Center or an STEMI Referral Center.

Ambulance Agency: For EMS recognition, an EMS Agency is defined as personnel who respond to the medical emergency in an official capacity as a part of an organized medical response AND are designated to treat and transport the patient to the hospital.

EMS Agency: For EMS recognition, an EMS Agency is defined as personnel who respond to the medical emergency in an official capacity as a part of an organized medical response AND are designated to treat and/or transport the patient to the hospital.

EMS Agency ID: For Mission: Lifeline EMS Recognition, the EMS Agency ID is the state-assigned provider number for the Emergency Medical Service responding (transporting) agency. Only ONE recognition application submission per State ID number is allowed.

Data Summary/ EMS Recognition Application Submission: Official submission for the summary of data based on the Mission: Lifeline EMS Recognition Criteria. This is a web-based process; no individual patient level data is requested or required.

Application Submission Period: The period, beginning January 1, 2017, through the Data Submission Deadline, March 31, 2017, where the data summary submission form will be open for Ambulance agencies to submit the data summaries required for MISSION: LIFELINE EMS Recognition.

Application Submission Deadline: The absolute latest Date/Time the recognition application can occur to be eligible for Mission: Lifeline EMS Recognition review. (23:59.59 EST March 31, 2017, for 2017 awards)

Data/Application Review Period: The period after the application submission deadline through May 15, 2017, when the recognition applications will be reviewed by AHA National Center Mission: Lifeline staff, for recognition achievement.

STEMI (ST Elevated Myocardial Infarction): A Myocardial infarction where a 12 Lead ECG shows ST-segment elevation, usually associated with a recently closed coronary artery. Patients suffering this type of myocardial infarction are more likely to survive if their coronary artery is opened within 12 hours of onset.
Pre-Hospital 12 Lead ECG: A recorded tracing of the electrical activity of the heart using a 12 Lead ECG monitor in the pre-hospital environment.

Reperfusion: The restoration of blood flow to an organ or tissue that has had its blood supply cut off, as after a myocardial infarction.

PCI (Percutaneous Coronary Intervention): A procedure used to open or widen narrowed or blocked blood vessels supplying the heart. Usually, the blood vessels are accessed through the skin over the leg (femoral) or arm (radial or brachial) arteries. A thin catheter is advanced over a soft-tipped guide-wire through the arterial tree to the base of the heart where the coronary arteries arise. A smaller guidewire is then advanced into the coronary artery and across the blockage, followed by balloon dilation catheters, stents, and other artery-opening devices as needed. This includes balloon angioplasty (PTCA), stenting, rotational atherectomy, or laser intervention.

Device Activation Time: A data element field in the ACTION Registry-GWTG forms. First Device Activation can be documented as

- Time of the first balloon inflation
- If no balloon was inflated, the documented time the first stent was deployed
- The time of the first treatment of lesion (thrombectomy aspiration device, laser, rotational atherectomy).

Fibrinolysis: The breakdown of fibrin, usually by the enzymatic action of plasmin. Fibrin is a protein necessary for blood clotting that forms a web-like mesh that traps red blood cells and platelets thus holds clots together. In the case of myocardial infarction, the administration of drugs that facilitate fibrin breakdown is referred to as “fibrinolysis.”

Fibrinolytic: An agent used to facilitate fibrin breakdown.

Fibrinolytic Administration Time: Time the destination hospital administers either the first bolus of a fibrinolytic or the beginning of the thrombolytic infusion. (May reference Seq3 8023 in ACTION Registry-GWTG Data entry)

FMC (First Medical Contact): This Mission: Lifeline EMS Recognition measure utilizes the time of pre-hospital “First Medical Contact”. First Medical Contact (FMC) is broadly defined as the time of eye to eye contact between STEMI patient and caregiver. For Mission: Lifeline EMS Recognition - First Medical Contact (FMC) is the time of eye to eye contact between STEMI patient and the first caregiver. (Medical First Responder, Physician at a clinic, or EMS personnel). When the Medical First Responder or physician at a clinic is the first caregiver at the patient’s side, and their time of initial contact with the patient is known, the eye to eye contact time between the patient and that first caregiver is preferred. For the patient to be included in the Mission: Lifeline EMS Recognition program, there must have been a prehospital 12 lead performed, but not necessarily by the first caregiver. Note: the time used for the new Plus measure is the arrival time of EMS.

FMC (First Medical Contact) to Device Activation/Primary PCI: The time elapsed from the first medical contact to the first inflation of the PCI balloon or first device activation.
Arrival (to referring center) to Fibrinolytic Administration: The time elapsed from emergency department registration arrival to the initial infusion of fibrinolytic medication.

FMC to PCI Device Activation/Primary PCI equal to or < 90 Minutes Numerator: Of the number of patients identified in the denominator the number of patients that were transported directly to a STEMI Receiving Center from the field, and have a documented STEMI via pre-hospital ECG and meet Time of FMC to reperfusion < 90 Minutes, where Primary PCI was performed.

FMC to Device Activation/Primary PCI equal to or <90 Minutes Denominator: The total number of patients transported directly to the STEMI Receiving Center who had an STEMI noted on a prehospital 12 lead ECG and who had a Primary PCI performed (after allowable exclusions are applied) within 90 minutes.

Arrival (to referring center) to Fibrinolytic Administration equal to or <30 Minutes Numerator: Of the number of patients identified in the denominator, the number of patients who are transported to a STEMI Referring Center from the field, and have a documented STEMI via pre-hospital 12 lead ECG and met time of arrival to fibrinolytic therapy administration < 30 Minutes.

Arrival (to referring center) to Fibrinolytic Administration equal to or <30 Minutes Denominator: The total number of patients transported to the STEMI Referring Center, and have a STEMI noted on a pre-hospital 12 lead ECG, where Fibrinolytic therapy was administered, after allowable exclusions are applied.

Percent of Patients 35 years of age or over who receive 12 Lead ECG Denominator: The total number of (EMS) pre-hospital patients, over 35 years of age, with a complaint of non-traumatic chest pain who are transported.

Percent Patients 35 years of age or over who receive 12 Lead ECG Numerator: The number of (EMS) pre-hospital patients over 35 years of age, with a complaint of non-traumatic chest pain who were transported and had a 12 lead ECG performed.

Difficult Access (Delay): Documented in the inpatient medical record, this is a delay due to difficulty in femoral or radial arterial access needed to perform the PCI procedure.

Consent (Delay): Documented in the pre-hospital and/or inpatient medical record, this is a delay due to the patient or family not giving immediate consent for PCI treatment.

Arrest Intubation (Delay): Documented in the pre-hospital and/or inpatient medical record, this is due to the need for emergent intubation and/or cardiac arrest care that occurs between the time of FMC and Primary PCI.

Difficult Lesion (Delay): Documented in the inpatient medical record, this is a delay that is due to difficulty in crossing the identified lesion.

ACTION Registry®-GWTG™: ACTION Registry®-GWTG™ is risk-adjusted, outcomes-based, quality improvement program that focuses exclusively on high-risk STEMI/NSTEMI patients.
ACC/AHA Clinical Guidelines recommendations in their facilities, and provides invaluable tools to assist them in achieving their goal of quality improvement. Participating in this program helps hospitals improve their adherence to ACC/AHA Clinical Guidelines recommendations as they satisfy the data collection and reporting requirement of regulatory and contracting organizations. The registry’s real-time quarterly reports will support efforts to reduce procedural complications, identify areas of excellence and opportunities for improvement, and document the results of QI efforts. For more information go to www.NCDR.com.