

# STEMI PI

Metric Numbers & Definition



MISSISSIPPI  
STATE DEPARTMENT OF HEALTH

# First medical contact – device time (%)

37. First medical contact – device time	
Description: Percentage of patients with acute STEMI, or its equivalent, who received primary PCI during the hospital stay with a time from first medical contact (FMC)-to-device time ≤90 minutes	
Numerator	Patients whose time from EMS first medical contact (12197) <i>or</i> arrival (3001) <i>or</i> first ECG positive for STEMI (12278) <u>to</u> first device activation (7845) was ≤90 minutes
Denominator	Patients with pre-admit STEMI (12447) who received immediate PCI for acute STEMI (12326)
Denominator Exclusions	Patients with <u>either</u> of the following: <ul style="list-style-type: none"><li>• Transferred from outside facility (12421)</li><li>• Received thrombolytics (12296) &lt; device activation time (7845)</li></ul>
Denominator Exceptions	<ul style="list-style-type: none"><li>• EMS leave scene (12199) to arrival (3001) is ≥ 45 minutes <i>and</i> time to first device activation time is &gt; 90 minutes</li><li>• Patient centered reason for delay to EMS departure (12419) <u>and</u> time to first device activation time is &gt; 90 minutes</li><li>• Patient centered reason for delay in PCI (7850) <u>and</u> time to first device activation time is &gt; 90 minutes</li><li>• Enrolled in a clinical trial related to reperfusion therapy (12456) <u>and</u> time to first device activation time is &gt; 90 minutes (7845)</li></ul>

**Outlier:** Any quarterly facility metric value less than the US 50th percentile ranking value.

# Median time (min) FMC to device time

11013: Median time (min) FMC to device time	
Numerator	Median time (min) from FMC (12197) to first device activation (7845)
Denominator	STEMI (pre-admit) (12447) Means of transport air or ambulance (12188)
Denominator Exclusions	Transferred from outside facility (12421) FMC is ≥ 24 hrs prior to first device activation (7845) Non-system reason for delay (12419) Patient centered reason for delay in PCI (7850)
Denominator Exceptions	PCI (12325) = No Cath Lab Activated (12333) = No

**Outlier:** *Any quarterly median time greater than 90 minutes.*

METRIC 11019

Median time (min) from hospital arrival to device time (D2B)

11019: Median time (min) from hospital arrival to device time (D2B)	
Numerator	Median time (min) from arrival (3001) to first device activation (7845)
Denominator	STEMI (pre-admit) (12447) PCI (12325) and EMS STEMI alert (12200) or first ECG after arrival is STEMI (12300)
Denominator Exclusions	Transferred from outside facility (12421) Cardiac arrest (4630) Thrombolytics (12295) Patient centered reason for delay (12333)
Denominator Exceptions	None

**Outlier:** Any quarter with median time > 60 minutes.

# In-hospital risk standardized rate of mortality (all AMI pts.) (%)

43. In-hospital risk standardized rate of mortality (all AMI patients)	
Description: The hospital risk standardized rate of mortality for patients with acute myocardial infarctions (AMI).	
Numerator	See risk model technical specifications – pages 36 - 38
Denominator	
Time Period	Four consecutive quarters
Clinical Rationale/ Recommendation	<p>Although death in patients with serious heart disease is not completely unexpected, the rate (adjusted for case mix/patient factors) is sensitive to a number of controllable factors such as decisions surrounding reperfusion, institutional support and overall quality of care.</p> <p>The NCDR™ standardized risk models analyze multiple elements to account for patient risk factors and hospital case mix.</p>

**Outlier:** Any quarterly facility metric value greater than the US 50th percentile ranking value.

# Time To Primary PCI Among Transferred Patients (%)

## v3.1

56. Time to primary PCI among transferred patients	
Description: Percentage of patients with acute STEMI, or its equivalent, whose time from FMC (at or before ED arrival to the STEMI referral facility [e.g., non-PCI-capable facility] to primary PCI at the STEMI receiving facility (PCI-capable facility) was ≤120 minutes	
Numerator	Patients whose time from EMS first medical contact (12197) <i>or</i> arrival at outside facility (12426) <i>or</i> first ECG positive for STEMI (12278) <u>to</u> first device activation (7845) was ≤120 minutes
Denominator	Transfer patients (12421) with pre-admit STEMI (12447) who received immediate PCI for acute STEMI (12326)
Denominator Exclusions	<ul style="list-style-type: none"><li>Received thrombolytics (12296) &lt; hospital arrival (3001)</li><li>STEMI ECG date/time (12278) &gt; transfer date/time (12427)</li></ul>
Denominator Exceptions	<ul style="list-style-type: none"><li>Patient centered reason for delay in PCI (7850) <u>and</u> a time to first device activation time (7845) is &gt; 120 minutes</li><li>Enrolled in a clinical trial related to STEMI and reperfusion therapy (12456) <u>and</u> a time to first device activation time (7845) is &gt; 120 minutes</li><li>Patient centered reason for delay to EMS departure (12419) <u>and</u> time to first device activation time (7845) is &gt; 120 minutes</li><li>Cardiac arrest out of healthcare facility (4630) <u>and</u> a time to first device activation (7845) is &gt; 120 minutes</li><li>Cardiac arrest at transferring healthcare facility (4635) <u>and</u> a time to first device activation (7845) is &gt; 120 minutes</li><li>Transport time from outside facility (12427) to arrival (3001) is &gt;=45 minutes <u>and</u> a time to first device activation time is &gt; 120 minutes</li><li>STEMI ECG date/time (12278) &gt; transfer date/time (12427)</li></ul>
Time Period	Four consecutive quarters

**Outlier:** Any quarterly facility metric value less than the US 50th percentile ranking value.

# Median time (min) from first facility ED arrival to primary PCI (transferred acute STEMI)

11006: Median time (min) from first facility ED arrival to primary PCI (transferred for acute STEMI)	
Numerator	Median time (min) from arrival at outside facility (12426) to first device activation (7845)
Denominator	STEMI (pre-admit) (12447) Transferred from outside facility (12421) PCI for acute STEMI (12326)
Denominator Exclusions	Thrombolytics (12296) administered prior to arrival (3001) Non-system reason for delay in PCI (12419)
Denominator Exceptions	None

**Outlier:** *Any quarterly facility median time greater than 120 minutes.*

Door In Door Out: Median Time In Minutes

11007: Median time (min) door-in door-out (transfer)	
Numerator	Median time (min) from all calculated values  Median time (min) from arrival (12426) to discharge at outside facility (12427)
Denominator	STEMI (pre-admit) (12447) Transferred from outside facility (12421) PCI for acute STEMI (12326)
Denominator Exclusions	Thrombolytics (12296) administered prior to arrival (3001) Non-system reason for delay (12419) Door-in door-out time > 30 min Clinical trial related to reperfusion therapy and/or STEMI
Denominator Exceptions	None

**Outlier:** *N/A, surveillance use only.*



# Median time (min) FMC to pre-hospital ECG

11017: Median time (min) FMC to pre-hospital ECG	
Numerator	Median time (min) from FMC (12197) to pre-hospital ECG (12278)
Denominator	STEMI (pre-admit) (12447) Means of transport air or ambulance (12188)
Denominator Exclusions	FMC (12197) is ≥ 24 hours prior to first ECG (12278) Non-system reason for delay (12419) FMC date/time (12197) is null First ECG (12278) is after arrival (3001)
Denominator Exceptions	None

**Outlier:** *Any quarterly median time greater than 10 minutes.*

# Pts with pre-hospital ECG (%)

11012: Pts with pre-hospital ECG	
Numerator	Patients with a pre-hospital ECG performed (12420)
Denominator	STEMI (pre-admit) (12447) Means of transport air or ambulance (12188)
Denominator Exclusions	Transferred from outside facility (12421) ACS symptoms (12276) after FMC (12197) FMC date/time (12197) is null
Denominator Exceptions	None

**Outlier:** *Any quarterly metric value less than 90%.*

Pts with hospital arrival to ECG ≤ 10 min  
(arriving by self/family) (%)

9009: Pts with hospital arrival to ECG ≤ 10 min (arriving by self/family)	
Numerator	Patients with in-hospital ECG (12286) performed ≤ 10 minutes of arrival (3001)
Denominator	STEMI (pre-admit) (12447) Means of transport self/family (12188)
Denominator Exclusions	Pts with pre-hospital ECG Transferred from outside facility (12421)
Denominator Exceptions	None

**Outlier:** *Any quarterly facility metric value less than 70%.*

# Median time (min) hospital arrival to ECG (arriving by self/family)

9007: Median time (min) hospital arrival to ECG (arriving by self/family)	
Numerator	Median time from arrival (3001) to ECG (12278)
Denominator	STEMI (pre-admit) (12447) Means of transport self/family (12188)
Denominator Exclusions	Pts with pre-hospital ECG Transferred from outside facility (12421)
Denominator Exceptions	None

**Outlier:** *Any quarterly facility median time greater than 10 minutes*