



Bureau of Acute Care Systems

STEMI System of Care

Core Measure Indicators

CY 2021



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) or arrival (3001) or first ECG positive for STEMI (12278) to first device activation (7845) was ≤90 minutes
Denominator	Patients with pre-admit STEMI (12447) who received primary PCI for acute STEMI (12326)
Denominator Exclusions	Patients with either of the following: <ul style="list-style-type: none"> • Transferred from outside facility (12421) • Received thrombolytics (12296) < device activation time (7845)
Denominator Exceptions	<ul style="list-style-type: none"> • EMS FMC (12197) to arrival (3001) is ≥ 45 minutes and time to first device activation time is > 90 minutes • Non-system reason for delay (12419) and time to first device activation time is > 90 minutes • Patient centered reason for delay in PCI (7850) and time to first device activation time is > 90 minutes • Enrolled in a clinical trial related to reperfusion therapy (12456) and time to first device activation time is > 90 minutes

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



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.



In-hospital risk standardized rate of mortality (all AMI patients, excluding cardiac arrest) (%)

44. In-hospital risk standardized rate of mortality (all AMI patients, excluding cardiac arrest)	
Description: The hospital risk standardized rate of mortality for patients with acute myocardial infarctions (AMI), excluding those patients who experienced a cardiac arrest.	
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 (%)

<p>56. Time to primary PCI among transferred patients</p> <p>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</p>	
Numerator	Patients whose time from EMS first medical contact (12197) or arrival at outside facility (12426) or first ECG positive for STEMI (12278) to first device activation (7845) was ≤120 minutes
Denominator	Transfer patients (12421) with pre-admit STEMI (12447) who received primary PCI for acute STEMI (12326)
Denominator Exclusions	Received thrombolytics (12296) < hospital arrival (3001)
Denominator Exceptions	<ul style="list-style-type: none"> • Patient centered reason for delay in PCI (7850) and a time to first device activation time (7845) is > 120 minutes • Enrolled in a clinical trial related to STEMI and reperfusion therapy (12456) and a time to first device activation time (7845) is > 120 minutes • Non-system reason for delay (12419) and time to first device activation time (7845) is > 120 minutes • Cardiac arrest out of healthcare facility (4630) and a time to first device activation (7845) is > 120 minutes • Cardiac arrest at transferring healthcare facility (4635) and a time to first device activation (7845) is > 120 minutes • Transport time from outside facility (12427) to arrival (3001) is >=45 minutes and a time to first device activation time is > 120 minutes • STEMI ECG date/time (12278) > transfer date/time (12427)

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



Therapeutic hypothermia for STEMI patients (%)

<p>52. Therapeutic hypothermia for STEMI patients</p> <p>Description: Percentage of patients with STEMI who become comatose after resuscitated out-of-hospital cardiac arrest (secondary to VF or pulseless VT) and who received therapeutic hypothermia</p>	
Numerator	Patients who had hypothermia induced (12339)
Denominator	Patients with pre-admit STEMI (12447) who had cardiac arrest out of healthcare facility (4630) and were comatose [level of consciousness (12341) is pain, unresponsive or unable to assess]
Denominator Exclusions	<p>Patients with any of the following:</p> <ul style="list-style-type: none"> • Death during hospitalization (10101) <12 hours from arrival (3001) • Comfort measures only (12413) <12 hours from arrival (3001) • Hospice care (12411) <12 hours from arrival (3001) • Transferred to other acute care hospital (10101) <12 hours from arrival (3001) • Transferred from outside facility (12421)
Denominator Exceptions	Medical reason for not receiving hypothermia (12339)

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



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.



STEMI (pre-admit) arrived by EMS (%)

8998: STEMI (pre-admit) arrived by EMS	
Numerator	Means of transport air or ambulance (12188)
Denominator	STEMI (pre-admit) (12447)
Denominator Exclusions	Transferred from outside facility (12421)
Denominator Exceptions	None

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



Median time (min) sx onset to FMC

11022: Median time (min) sx onset to FMC	
Numerator	Median time (min) from ACS symptoms (12276) to FMC (12197)
Denominator	STEMI (pre-admit) (12447) Means of transport air or ambulance (12188)
Denominator Exclusions	Transferred from outside facility (12421) FMC (12197) is null ACS symptoms (12276) after FMC (12197)
Denominator Exceptions	None

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



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%.*



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 \geq 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.*



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 \geq 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.*



Median time (min) sx onset to arrival

11020: Median time (min) sx onset to arrival	
Numerator	Median time (min) from symptoms (12276) to arrival (3001)
Denominator	STEMI (pre-admit) (12447) Means of transport self/family (12188)
Denominator Exclusions	Transferred from outside facility (12421) Symptoms (12276) after FMC (12197) Symptoms (12276) is null
Denominator Exceptions	None

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



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

9009: Pts with hospital arrival to ECG \leq 10 min (arriving by self/family)	
Numerator	Patients with in-hospital ECG (12286) performed \leq 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*



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.



Median time (min) door-in-door-out (transfer)

11007: Median time (min) door-in door-out (transfer)	
Numerator	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: *Any quarterly facility median time greater than 30 minutes.*



Stacked Graph

Door-to-Door-to-Primary PCI

Metric Key 11086: Median time (min) from arrival at transfer facility to transfer out Accreditation CM.M59: STEMI median time (min) arrival at transfer facility to transfer out (DIDO) Description: Median time in minutes from arrival at transfer facility to transfer out (DIDO) for STEMI patients arriving at this facility for primary PCI		Metric Key 11087: Median time (min) arrival at receiving facility to device (D2R transfers) Accreditation CM.M62: STEMI median time (min) arrival at receiving facility to device (D2R transfers) Description: Median time in minutes from arrival at receiving facility to primary PCI reperfusion (D2R) for patients transferred from an acute care facility		Metric Key 11036: Median time (min) from D2D2R Accreditation CM.M60: STEMI median time (min) from arrival at transfer facility to device (D2D2R) Description: Median time in minutes from arrival at transfer facility to primary PCI reperfusion (D2D2R) for STEMI patients	
Numerator	Median time (min) from arrival at outside facility (12326) to transfer (12427)	Numerator	Median time (min) from arrival (3001) to first device activation (7845)	Numerator	Median time (min) from arrival at outside facility (12426) to first device activation (7845) Goal: 120 minutes or less
Denominator	Patients transferred (12427) for STEMI (12360) PCI (12325)	Denominator	Transfer STEMI (12360) Transferred from outside facility (12421) PCI (12325)	Denominator	Transfer STEMI (12360) Transferred from outside facility (12421) PCI (12325)
Denominator Exclusions	Thrombolytics given (12295) Cardiac arrest out of healthcare facility (4630)	Denominator Exclusions	Thrombolytics given (12295) Cardiac arrest out of healthcare facility (4630) Patient centered reason for delay (7850)	Denominator Exclusions	Thrombolytics given (12295) Patient centered reason for delay (7850)
Denominator Exceptions	None	Denominator Exceptions	None	Denominator Exceptions	None

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



Pts with D2D2R ≤ 120 Minutes (%)

<p>Metric Key 11037: Pts with D2D2R ≤ 120 minutes</p> <p>Accreditation CM.M61: STEMI pts with time from arrival at transfer facility to device (D2D2R) ≤ 120 minutes</p> <p>Description: Percent of STEMI patients with a time from arrival at transfer facility to primary PCI reperfusion (D2D2R) of ≤ 120 minutes</p>	
Numerator	Patients from arrival at outside facility (12426) to first device activation (7845) ≤ 120 minutes
Denominator	Transfer STEMI (12360) Transferred from outside facility (12421) PCI (12325) Cath lab activation (12333)
Denominator Exclusions	Thrombolytics given (12295) Patient centered reason for delay (7850)
Denominator Exceptions	None

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