

## Suspected Cardiac Chest Pain and ST-Segment Elevation Myocardial Infarction (STEMI) Performance Measures

**EVIDENCE BASED SOURCE:**

Emergency Medical Services Performance Measures: Recommended Attributes and Indicators for System and Service Performance; NHTSA, December 2009. 7 (CC), 8 (CC), and 9 (CC)  
 Evidence-Based Performance Measures for Emergency Medical Services Systems: A Model for Expanded EMS Benchmarking; Myers, et al. Prehospital Emergency Care 2008; 12:141-151.  
 California EMS System Core Quality Measures Data Years 2012/2013; Emergency Medical Service Authority: California Health and Human Services Agency, January 2013.

Performance Measure Name:		Performance Measure Question:	
Acquisition of 12-lead		What is the number and/or percentage of patients with suspected cardiac chest pain or other cardiac symptoms who received a 12-lead for patients 35 years and older?	
DATA FIELDS			
NAME (NEMESIS v2DATA)	INCLUSION CRITERIA	EXCLUSION CRITERIA	Calculation Data
Age (E06_14)		<35 years old	Count of patients <35 years old
Provider primary impression (E09_15)	Suspected cardiac chest pain or other cardiac symptoms		Count of suspected cardiac chest pain or other cardiac symptoms
Provider secondary impression (E09_16)	Suspected cardiac chest pain or other cardiac symptoms		Count of suspected cardiac chest pain or other cardiac symptoms
Procedures performed (E19_03)	12-lead ECG		Count of 12-lead ECG performed
CALCULATIONS			
REPORTING FREQUENCY	Quarterly		
Greater than 20 patients	$(\text{Procedure Performed} - \text{Age}) \div (\text{Provider primary impression} + \text{Provider secondary impression} - \text{Age}) = \text{Percentage of 12-lead acquired}$		
20 patients or less	Ratio – $(\text{Procedure performed} - \text{Age}) / (\text{Provider primary impression} + \text{Provider secondary impression} - \text{Age})$		

Performance Measure Name:		Performance Measure Question:	
Time to 12-lead performed		What is the measure of time from first patient contact to first 12-lead performed for patients with suspected cardiac chest pain or other cardiac symptoms for patients 35 years and older?	
DATA FIELDS			
NAME (NEMESIS v2DATA)	INCLUSION CRITERIA	EXCLUSION CRITERIA	Calculation Data
<i>Data from "Acquisition of 12-lead" will be used for this performance measure; use only patients who were counted in this performance measure</i>			
Arrived at patient date/time (E05_07)			First patient contact time
Date/Time Procedure Performed Successfully (E19_01)	First 12-lead		First 12-lead time
CALCULATIONS			
REPORTING FREQUENCY	Quarterly		
How patient contact time is collected	2 choices – "Hard time stamp" which is documented immediately at time of patient contact or "Soft time stamp" which is documented after the call has ended		
Time to 12-lead	90 <sup>th</sup> percentile of (12-lead time - First patient contact time)		

Performance Measure Name:		Performance Measure Question:	
Aspirin administration		What is the number and/or percentage of patients with suspected cardiac chest pain or other cardiac symptoms for patients between 35 years and 85 years old who received aspirin?	
DATA FIELDS			
NAME (NEMIS v2DATA)	INCLUSION CRITERIA	EXCLUSION CRITERIA	Calculation Data
Age (E06_14)		<35 years and >85 years old	Count of patients <35 years and >85 years old
Provider primary impression (E09_15)	Suspected cardiac chest pain or other cardiac symptoms		Count of suspected cardiac chest pain or other cardiac symptoms
Provider secondary impression (E09_16)	Suspected cardiac chest pain or other cardiac symptoms		Count of suspected cardiac chest pain or other cardiac symptoms
Prior Aid (E09_01)		Aspirin	Count of aspirin given prior to arrival
Medication allergies (E12_08)		Aspirin	Count of aspirin allergies
Medication given (E18_03)	Aspirin		Count of aspirin given
CALCULATIONS			
REPORTING FREQUENCY	Quarterly		
Greater than 20 patients	$(\text{Medication given} - \text{Age}) \div (\text{Provider primary impression} + \text{Provider secondary impression} - \text{Age} - \text{Medication allergies} - \text{Prior Aid}) = \text{Percentage of aspirin administration}$		
20 patients or less	$\text{Ratio} - (\text{Medication given} - \text{Age}) / (\text{Provider primary impression} + \text{Provider secondary impression} - \text{Age} - \text{Medication allergies} - \text{Prior Aid})$		

Performance Measure Name:		Performance Measure Question:	
Patients who met criteria for Cardiac Alert		What is the number patients who met criteria for a Cardiac Alert 35 years to 85 years old?	
DATA FIELDS			
NAME (NEMIS v2DATA)	INCLUSION CRITERIA	EXCLUSION CRITERIA	Calculation Data
Age (E06_14)		<35 years old and >85 years old	Count of patients <35 years old and >85 years old
Provider primary impression (E09_15)	Suspected cardiac chest pain or other cardiac symptoms		Count of suspected cardiac chest pain or other cardiac symptoms
Provider secondary impression (E09_16)	Suspected cardiac chest pain or other cardiac symptoms		Count of suspected cardiac chest pain or other cardiac symptoms
Cardiac rhythm (E14_03)	STEMI ( $\geq 1$ mm ST segment elevation in 2 or more contiguous leads)	Wide complex rhythm	Count of STEMI

CALCULATIONS	
<b>REPORTING FREQUENCY</b>	Quarterly
Patients who met criteria for Cardiac Alert	(STEMI - Age) = Count of patient who met criteria for Cardiac Alert

Performance Measure Name:	Performance Measure Question:
Patients who met criteria for cardiac alert but it was not called	What is the number and/or percentage of patients who met criteria for a Cardiac Alert but it was not called between 35 years and 85 years old?

DATA FIELDS			
NAME (NEMIS v2DATA)	INCLUSION CRITERIA	EXCLUSION CRITERIA	Calculation Data
<i>Data from "Patients who met criteria for Cardiac Alert" will be used for this performance measure</i>			
Specialty Center Activation-STEMI (101.104 Procedures D04_04)	Cardiac Alert activation = "No"		Count of "No" Cardiac Alert activations

CALCULATIONS	
<b>REPORTING FREQUENCY</b>	Quarterly
Greater than 20 patients	Count of "No" Cardiac Alert activation ÷ Patients who met criteria for Cardiac Alert = Percentage of patients who met criteria but it was not called
20 patients or less	Ratio – Count of "No" Cardiac Alert activation / Patients who met criteria for Cardiac Alert

Performance Measure Name:	Performance Measure Question:
Provider accuracy when Cardiac Alert is called	What is the number and/or percentage of Cardiac Alerts called by field providers that were diagnosed as a STEMI by the receiving facility?

DATA FIELDS			
NAME (NEMIS v2DATA)	INCLUSION CRITERIA	EXCLUSION CRITERIA	Calculation Data
Specialty Center Activation-STEMI (101.104 Procedures D04_04)	Cardiac alert activation = "Yes"		Count of cardiac alert activations
Patient outcome (from receiving facility)	Diagnosed STEMI		Count of patient outcome diagnosed as STEMI by receiving facility

CALCULATIONS	
<b>REPORTING FREQUENCY</b>	Quarterly
Greater than 20 patients	Diagnosed STEMI ÷ Cardiac Alert activation = Cardiac Alert accuracy percentage
20 patients or less	Ratio – Diagnosed STEMI / Cardiac Alert activation