

2027 American Heart Association® EMS Performance Measures



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Summary of Changes

Minor edits to performance are highlighted in green

- AHAEMS2.1: Documentation of Last Known Well with Patients with Positive Stroke Screen
 - change denominator “or” to “and” in denominator
- AHAEMS3.1: Glucose Check for Patients with Positive Stroke Screen
 - change “or” to “and” in denominator
- AHAEMS1.1: Pre-Arrival Notification for Positive Stroke Screen
 - change “or” to “and” in denominator
- AHAEMS10.1: EMS FMC to Thrombolytic Administration within 90 minutes for Patients with Stroke
 - change “or” to “and” in denominator
- AHAEMS11.1: EMS FMC to Endovascular Therapy within 120 Minutes for Patients with Stroke
 - change “or” to “and” in denominator
- AHAEMS12.0: EMS FMC to CT within 60 Minutes for Patients with Stroke
 - change “or” to “and” in denominator
- AHAEMS13.0: On-Scene Time to Departure within 15 Minutes for Stroke
 - change “or” to “and” in denominator

Deletions to performance measures are indicated by ~~red strike~~ through

- AHAEMS5.1: 12-Lead ECG Performed within 10 Minutes
 - remove from exceptions Medical Device Type BiPAP and CPAP
- AHAEMS7.1: Pre-Arrival Notification of STEMI within 10 Minutes of Positive ECG
 - remove from exceptions Medical Device Type BiPAP and CPAP
- AHAEMS8.1: EMS FMC to Primary PCI within 90 Minutes for Patients with STEMI
 - remove Medical Device Type BiPAP and CPAP
- AHAEMS9.1: EMS FMC to Thrombolytic Administration within 60 Minutes for Patients with STEMI
 - remove from exceptions Medical Device Type BiPAP and CPAP
- AHAEMS14.0: On-Scene Time to Departure within 15 Minutes for STEMI
 - remove from exceptions Medical Device Type BiPAP and CPAP

Major edits or new performance measures are highlighted in yellow.

- AHAEMS6.2: Aspirin Administration for Suspected Heart Attack

- add to exceptions Unable to Complete, Order Criteria Not Met, Denied by Order and Patient has other associated symptoms that conflict with immediate treatment (e.g., not able to swallow, vomiting, GCS <12, AVPU, etc.)
- AHAEMS18.1: OHCA Patients who Received Bystander Defibrillation
 - add to denominator First Monitored Arrest Rhythm and Cardiac Rhythm
- AHAEMS19.1: OHCA Patients with First (Bystander or EMS) Defibrillation within 480 Seconds of PSAP call
 - add to denominator First Monitored Arrest Rhythm and Cardiac Rhythm (e.g., shockable, VF, PVT)
- AHAEMS20.1: OHCA Patients with First EMS Defibrillation within 420 Seconds of Dispatch
 - add to denominator First Monitored Arrest Rhythm and Cardiac Rhythm (e.g., shockable, VF, PVT)
- AHAEMS21.0: Post Arrest 12-Lead ECG for OHCA (new)
- AHAEMS22.0: OHCA Cerebral Performance Category 1 or 2 (new)
- AHAEMS23.0: Stroke Diagnostic Accuracy (new)
- AHAEMS24.0: STEMI Diagnostic Accuracy (new)
- AHAEMS25.0: STEMI – Hospital or ED Discharge Disposition (new)
- AHAEMS26.0: Stroke – Hospital or ED Discharge Disposition (new)

Mission: Lifeline® EMS Award Measures (required)

AHAEMS4.1: Stroke Screen Performed and Documented

The percentage of EMS responses originating from a 911 request for patients ≥ 18 years old with a suspected stroke for whom a stroke assessment was performed and documented.

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of stroke during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^(I60)(I61)(I63)(G45)(G46)/ ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...") or eSituation.12 Provider's Secondary Impressions matches\^(I60)(I61)(I63)(G45)(G46)/ ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...")) and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)"))))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population	Same as Initial Patient Population
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	

• Unable to Complete or Not Applicable or Pertinent Negative of Refused for Stroke Scale or Stroke Scale Score, or • Patient unresponsive identified by AVPU [Alert, Verbal, Pain, Unresponsive] scale, or • Patient Glasgow Coma Score ≤ 9	((eVitals.30 Stroke Scale Type is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or (eVitals.29 Stroke Scale Score is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or eVitals.23 Total Glasgow Coma Score is less than or equal to 9 or eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive"))
Numerator	
Stroke screen performed and score (identification and/or severity) documented	((eVitals.30 Stroke Scale Type is not Null or eVitals.29 Stroke Scale Score is not Null))

Description is derived from [National EMS Quality Alliance](#) STROKE-01: Percentage of EMS responses originating from a 911 request for patients suffering from a suspected stroke who had a stroke assessment performed during the EMS response.

AHAEMS2.1: Documentation of Last Known Well with Patients with Positive Stroke Screen

The percentage of EMS responses originating from a 911 request for patients ≥ 18 years old with a positive stroke screen for whom last known well was documented.

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of stroke during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^(I60)(I61)(I63)(G45)(G46)/ ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...") or eSituation.12 Provider's Secondary Impressions matches\^(I60)(I61)(I63)(G45)(G46)/ ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...")) and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)"))))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial population who had a stroke screen performed and/or positive score (severity) documented	Same as Initial Patient Population and ((eVitals.30 Stroke Scale Type is not Null

	and eVitals.29 Stroke Scale Score is in 3329005 ("Positive"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
• Unable to Complete or Not Applicable or Pertinent Negative of Refused for Stroke Scale or Stroke Scale Score, or • Patient unresponsive identified by AVPU [Alert, Verbal, Pain, Unresponsive] scale, or • Patient Glasgow Coma Score ≤ 9	((eVitals.30 Stroke Scale Type is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or (eVitals.29 Stroke Scale Score is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or eVitals.23 Total Glasgow Coma Score is less than or equal to 9 or eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive") or eSituation.18 Date/Time Last Known Well is in 7701001 ("Not Applicable"), 8801023 ("Unable to Complete"))
Numerator	
Last Known Well documented during the EMS encounter	eSituation.18 Date/Time Last Known Well is not in Null

AHAEMS3.1: Glucose Check for Patients with Positive Stroke Screen

The percentage of EMS responses originating from a 911 request for patients ≥ 18 years old with a positive stroke screen for whom a blood glucose was evaluated.

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of stroke during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^(I60)(I61)(I63)(G45)(G46)/ ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks...", or "Vascular syndromes of brain in cerebrovascular diseases...") or eSituation.12 Provider's Secondary Impressions matches\^(I60)(I61)(I63)(G45)(G46)/ ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks...", or "Vascular syndromes of brain in cerebrovascular diseases...")) and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)"))))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial population who had a stroke screen performed and/or positive score (severity) documented	Same as Initial Patient Population and ((eVitals.30 Stroke Scale Type is not Null and

	eVitals.29 Stroke Scale Score is in 3329005 ("Positive"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
• Unable to Complete or Not Applicable or Pertinent Negative of Refused for Stroke Scale or Stroke Scale Score, or • Patient unresponsive identified by AVPU [Alert, Verbal, Pain, Unresponsive] scale, or • Patient Glasgow Coma Score $\leq$ 9 • Unable to complete or refused blood glucose level	((eVitals.30 Stroke Scale Type is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or (eVitals.29 Stroke Scale Score is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or eVitals.23 Total Glasgow Coma Score is less than or equal to 9 or eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive") or eVitals.18 Blood Glucose Level is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete") or eDisposition.28 Patient Evaluation/Care is in 4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care)) or eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care"))
Numerator	
Blood glucose evaluated during the EMS encounter	eVitals.18 Blood Glucose Level is not Null

AHAEMS1.1: Pre-Arrival Notification for Positive Stroke Screen

The percentage of EMS responses originating from a 911 request for patients ≥ 18 years old with a positive stroke screen for whom a pre-arrival alert for stroke was activated.

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of stroke transported from the scene from a 911 request	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^ (I60)(I61)(I63)(G45)(G46) ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...")/ or eSituation.12 Provider's Secondary Impressions matches\^ (I60)(I61)(I63)(G45)(G46) ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...")/) and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"),2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial population transported who had a stroke screen performed and/or positive score (severity) documented	Same as Initial Patient Population and ((eVitals.30 Stroke Scale Type is not Null and

	eVitals.29 Stroke Scale Score is in 3329005 ("Positive") and eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)"), 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"), 4230005 ("Transport by Another EMS Unit/Agency"), 4230007 ("Transport by Another EMS Unit, with a Member of This Crew"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
• Patients with a documented Last Known Well of greater than or equal to 24 hours prior to assessment, • Unable to Complete or Not Applicable or Pertinent Negative of Refused for Stroke Scale or Stroke Scale Score, • Patient unresponsive identified by AVPU [Alert, Verbal, Pain, Unresponsive] scale, or • Patient Glasgow Coma Score $\leq$ 9	((eSituation.18 Date/Time Last Known Well is greater than or equal to 24 hours before eVitals.01 Date/Time Vital Signs Taken) where eSituation.18 Date/Time Last Known Well is not Null and eVitals.01 Date/Time Vital Signs Taken is not Null))) or (eVitals.30 Stroke Scale Type is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or (eVitals.29 Stroke Scale Score is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or

	eVitals.23 Total Glasgow Coma Score is less than or equal to 9 or eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive")
Numerator	
Patients who had pre-arrival alert for stroke initiated during the EMS encounter.	eDisposition.24 Destination Team Pre-Arrival Alert or Activation is 4424015 ("Stroke")

AHAEMS5.1: 12-Lead ECG Performed within 10 Minutes

The percentage of EMS responses originating from a 911 request for patients ≥ 18 years old with a suspected heart attack for whom a 12-lead ECG was performed within 10 minutes.

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of a heart attack during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^(I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ or eSituation.12 Provider's Secondary Impressions matches\^(I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial population with a 12-lead ECG performed during the EMS encounter	Same as Initial Patients Population and eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right

	Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
- Patients in cardiac arrest, - Patients requiring advanced airway management or non-invasive ~~(CPAP/BiPAP)~~ prior to ECG, - Patients in shock, respiratory arrest, or with injury, or requiring stabilization, or - Patients who refuse care	((eArrest.01 Cardiac Arrest is in (3001003 ("Yes, Prior to Any EMS Arrival (includes EMS & Medical First Responders)"), 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")) or ((eAirway.10 Date/Time Decision to Manage the Patient with an Invasive Airway is not Null is before first (eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead")))) where (eVitals.01 Date/Time Vital Signs Taken is not Null sorted by eVitals.01 Date/Time Vital Signs Taken)) ~~or~~ ~~Medical Device Type is in (~~ ~~1603037 ("Ventilator Assistance-BiPAP"),~~ ~~1603039 ("Ventilator Assistance-CPAP"))~~ or eProtocols.01 Protocols Used is in (9914127 ("Medical-Hypotension/Shock (Non-Trauma)"), 9914139 ("Medical-Respiratory Distress/Asthma/COPD/Reactive Airway")) or eSituation.02 Injury is 9922005 ("Yes"))

	or eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care")) or eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care")) or eVitals.04 ECG Type is 8801019 ("Refused"))
Numerator	
Patients who had 12-Lead EGG performed within 10 minutes of first medical contact.	((eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead")) where eVitals.01 Date/Time Vital Signs Taken is not in (Null, 7701001 ("Not Applicable")) and eTimes.07 Arrived at Patient Date/Time is not in (Null, 7701001 ("Not Applicable")) and (eVitals.01 Date/Time Vital Signs Taken minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 10 Minutes)))

AHAEMS6.2: Aspirin Administration for Suspected Heart Attack

The percentage of EMS responses originating from a 911 request for patients ≥ 18 years old with a suspected heart attack for whom an aspirin was administered.

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of a heart attack during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^(I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ or eSituation.12 Provider's Secondary Impressions matches\^(I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population	Same as Initial Patient Population
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
Patients with a documented allergy or contraindication (e.g., Warfarin or other anticoagulant/antiplatelet	((eHistory.06 Medication Allergies is 9924003 ("RXNORM"), 1191 ("Aspirin")) or

medication, liver disease/cirrhosis, etc.) to aspirin, • Medication already taken or administered, or • Pertinent Negatives of Refused, Unable to Complete, Medical Allergy, Order Criteria Not Met, Denied by Order • Patient has other associated symptoms that conflict with immediate treatment	eHistory.06 Medication Allergies is 9924001 ("ICD-10"), T39.015 ("Adverse effect of aspirin")) or (eMedications.03 Medications Administered is 1191 "Aspirin..." and (eMedications.03 Medication Administered is 8801009 ("Medication Already Taken") or eMedications.02 Medication Administered Prior to this Unit's Care is 9923003 ("Yes")) or (eMedications.03 Medications Administered is 1191 "Aspirin..." and eMedications.03 Medications Administered is in (8801001 ("Contraindication Noted"), 8801007 ("Medication Allergy"), 8801003 ("Refused") 8801023 ("Unable to Complete") 8801027 ("Order Criteria Not Met") 8802003 ("Denied by Order")) or eSituation.09 Primary Symptom is (R11.0 (Nausea), R11.10 (Vomiting unspecified), R41.82 (Altered mental status, unspecified), R40.4 (Transient alteration of awareness) R40.0 (Somnolence), R55 (Syncope and collapse), R40.20 (Unspecified coma)) or eSituation.10 Other Associated Symptoms is (R11.0 (Nausea), R11.10 (Vomiting unspecified), R41.82 (Altered mental status, unspecified), R40.4 (Transient alteration of awareness), R40.0
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	(Somnolence), R55 (Syncope and collapse), R40.20 (Unspecified coma)) or eVitals.23 Total Glasgow Coma Score is less than or equal to 12 or eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive"))
Numerator	
Patients who had aspirin administered during the EMS encounter	(eMedications.03 Medication Administered is 1191 "Aspirin...")

AHAEMS7.1: Pre-Arrival Notification of STEMI within 10 Minutes of Positive ECG

The percentage of EMS responses originating from a 911 request for patients ≥ 18 years old with a STEMI positive 12-lead ECG for whom a pre-arrival alert for STEMI was activated within 10 minutes.

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of a heart attack during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^(I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ or eSituation.12 Provider's Secondary Impressions matches\^(I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population transported with a positive 12-lead ECG performed during the EMS encounter	Same as Initial Patient Population and

	eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)"), 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"), 4230005 ("Transport by Another EMS Unit/Agency"), 4230007 ("Transport by Another EMS Unit, with a Member of This Crew")) and eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead")) and eVitals.03 Cardiac Rhythm/Electrocardiography (ECG) is in (9901051 ("STEMI Anterior Ischemia"), 9901053 ("STEMI Inferior Ischemia"), 9901055 ("STEMI Lateral Ischemia"), 9901057 ("STEMI Posterior Ischemia"), 9901058 ("STEMI Septal Ischemia")) where eVitals.01 Date/Time Vital Signs Taken is not in (Null, 7701001 ("Not Applicable"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
• Patients in cardiac arrest, • Patients requiring advanced airway management or non-invasive ~~(CPAP/BiPAP)~~ prior to ECG, • Patients in shock, respiratory arrest, or with injury, or requiring stabilization, • Patients who refuse care, or • First ECG performed is not STEMI-positive, or • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients)	((eArrest.01 Cardiac Arrest is in (3001003 ("Yes, Prior to Any EMS Arrival (includes EMS & Medical First Responders)"), 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")) or ((eAirway.10 Date/Time Decision to Manage the Patient with an Invasive Airway is not Null is before first eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead"))

	where (eVitals.01 Date/Time Vital Signs Taken is not Null and sorted by eVitals.01 Date/Time Vital Signs Taken)) ~~or~~ ~~Medical Device Type is in (1603037 ("Ventilator Assistance BiPAP"), 1603039 ("Ventilator Assistance CPAP"))~~ or eProtocols.01 Protocols Used is in (9914127 ("Medical-Hypotension/Shock (Non-Trauma)"), 9914139 ("Medical-Respiratory Distress/Asthma/COPD/Reactive Airway")) or eSituation.02 Injury is 9922005 ("Yes") or eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care")) or eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care")) or eVitals.04 ECG Type is 8801019 ("Refused") or first ((eVitals.03 Cardiac Rhythm/Electrocardiography (ECG) is not in (9901051 ("STEMI Anterior Ischemia"), 9901053
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	("STEMI Inferior Ischemia"), 9901055 ("STEMI Lateral Ischemia"), 9901057 ("STEMI Posterior Ischemia"), 9901058 ("STEMI Septal Ischemia")) where eVitals.01 Date/Time Vital Signs Taken is not Null and sorted by eVitals.01 Date/Time Vital Signs Taken)) or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"), 2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language Barrier"), 2210021 ("Patient Access"), 2210023 ("Safety-Crew Staging"), 2210025 ("Safety-Patient"), 2210031 ("Triage/Multiple Patients"))
Numerator	
Patients who had pre-arrival STEMI notification activated within 10 minutes of STEMI positive ECG.	(eDisposition.25 Date/Time of Destination Prearrival Alert or Activation is not in (Null, 7701001 ("Not Applicable")) where ((first (eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead")) and eVitals.03 Cardiac Rhythm/Electrocardiography (ECG) is in (9901051 ("STEMI Anterior Ischemia"), 9901053 ("STEMI Inferior Ischemia"), 9901055 ("STEMI Lateral Ischemia"), 9901057 ("STEMI Posterior Ischemia"), 9901058 ("STEMI Septal Ischemia")) where eVitals.01 Date/Time Vital Signs Taken is not in (Null, 7701001 ("Not Applicable"), 7701003 ("Not Recorded")) and

	<u>eDisposition.25 Date/Time of Destination</u> <u>Prearrival Alert or Activation</u> minus <u>eVitals.01</u> <u>Date/Time Vital Signs Taken</u> (> 0 Minutes and <= 10 Minutes))
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Mission: Lifeline® EMS Heart Attack System of Care Measures (optional)

AHAEMS8.1: EMS FMC to Primary PCI within 90 Minutes for Patients with STEMI

The percentage of EMS patients >18 years old transported to a PCI capable facility with an EMS first medical contact (FMC) to primary percutaneous coronary intervention (PCI) time of less than or equal to 90 minutes or EMS FMC to primary PCI time of less than or equal to 120 minutes when transport time is greater than or equal to 45 minutes.

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of a heart attack during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^(I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ or eSituation.12 Provider's Secondary Impressions matches\^(I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)"))

Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population with a positive STEMI 12-lead ECG and transported directly to PCI Capable Hospital	Same as Initial Patient Population and eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)"), 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"), 4230005 ("Transport by Another EMS Unit/Agency"), 4230007 ("Transport by Another EMS Unit, with a Member of This Crew")) and (eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead")) and eVitals.03 Cardiac Rhythm/Electrocardiography (ECG) is in (9901051 ("STEMI Anterior Ischemia"), 9901053 ("STEMI Inferior Ischemia"), 9901055 ("STEMI Lateral Ischemia"), 9901057 ("STEMI Posterior Ischemia"), 9901058 ("STEMI Septal Ischemia")) where eVitals.01 Date/Time Vital Signs Taken is not in (Null, 7701001 ("Not Applicable")) and eDisposition.23 Hospital Capability is 9908031 ("Cardiac-STEMI/PCI Capable"), 9908033 ("Cardiac-STEMI/PCI Capable (24/7)))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
- Patients in cardiac arrest, - Patients requiring advanced airway management or non-invasive ~~(CPAP/BiPAP)~~ prior to ECG,	((eArrest.01 Cardiac Arrest is in (3001003 ("Yes, Prior to Any EMS Arrival (includes EMS & Medical First Responders)"), 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)"))

• Patients in shock, respiratory arrest, or with injury, or requiring stabilization, • Patients who refuse care, or • First ECG performed is not STEMI-positive • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients), • Documented non-system response transport delay (i.e., crowd, distance, diversion, HazMat, route obstruction, safety, traffic, Weather, or patient condition change) or	or ((eAirway.10 Date/Time Decision to Manage the Patient with an Invasive Airway is not Null is before first (eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead")))) where (eVitals.01 Date/Time Vital Signs Taken is not Null sorted by eVitals.01 Date/Time Vital Signs Taken)) ~~or~~ ~~Medical Device Type is in (1603037 ("Ventilator Assistance-BiPAP"),1603039 ("Ventilator Assistance-CPAP"))~~ or eProtocols.01 Protocols Used is in (9914127 ("Medical-Hypotension/Shock (Non-Trauma)"), 9914139 ("Medical-Respiratory Distress/Asthma/COPD/Reactive Airway")) or eSituation.02 Injury is 9922005 ("Yes") or eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care)) or
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	eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care")) or eVitals.04 ECG Type is 8801019 ("Refused") or ((first eVitals.03 Cardiac Rhythm/Electrocardiography (ECG) is not in (9901051 ("STEMI Anterior Ischemia"), 9901053 ("STEMI Inferior Ischemia"), 9901055 ("STEMI Lateral Ischemia"), 9901057 ("STEMI Posterior Ischemia"), 9901058 ("STEMI Septal Ischemia")) where eVitals.01 Date/Time Vital Signs Taken is not Null and sorted by eVitals.01 Date/Time Vital Signs Taken)) or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"), 2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language Barrier"), 2210021 ("Patient Access"), 2210023 ("Safety-Crew Staging"), 2210025 ("Safety-Patient"), 2210031 ("Triage/Multiple Patients")) or eResponse.11 Type of Transport Delay is in (2211001 ("Crowd"), 2211005 ("Distance"), 221107 ("Diversion"), 221109 ("HazMat"), 2211017 ("Route Obstruction"), 2211019 ("Safety"), 2211023 ("Traffic"), 2211029 ("Weather"), 2211031 ("Patient Condition Change"))
Numerator	
Patients who received primary PCI within 90 minutes of EMS First Medical Contact or who has an EMS transport time of greater than or equal to 45 minutes and received a primary PCI within 120 minutes of EMS First	eTimes.07 Arrived at Patient Date/Time is not in (Null,7701001 ("Not Applicable")) and

Medical Contact	eTimes.09 Unit Left Scene Date/Time is not in (Null, 7701001 ("Not Applicable")) and eTimes.11 Patient Arrived at Destination Date/Time is not in (Null, 7701001 ("Not Applicable")) and (eOutcome.12 Hospital Procedures is (Reference ICD10PCS codes from PCI code list) and eOutcome.20 Date/Hospital Procedure Performed is not in (Null, 7701001 ("Not Applicable")) and ((eOutcome.20 Date/Time Hospital Procedure Performed minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 90 Minutes)) or ((eTimes.11 Patient Arrived at Destination minus eTimes.09 Unit Left Scene Date/Time (>=45 Minutes)) and (eOutcome.20 Date/Time Hospital Procedure Performed minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 120 Minutes))))
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AHAEMS9.1: EMS FMC to Thrombolytic Administration within 60 Minutes for Patients with STEMI

The percentage of EMS patients ≥ 18 years old transported to a non-PCI capable facility with an EMS first medical contact (FMC) to thrombolytic administration time of less than or equal to 60 minutes or EMS FMC to thrombolytic administration time of less than or equal to 75 minutes when transport time is greater than or equal to 45 minutes

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of a heart attack during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^(I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ or eSituation.12 Provider's Secondary Impressions matches\^(I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population transported with a positive STEMI 12-lead	Same as Initial Patient Population and

ECG and transported to non-PCI Capable Hospital	eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)"), 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"), 4230005 ("Transport by Another EMS Unit/Agency"), 4230007 ("Transport by Another EMS Unit, with a Member of This Crew")) and eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead")) and eVitals.03 Cardiac Rhythm/Electrocardiography (ECG) is in (9901051 ("STEMI Anterior Ischemia"), 9901053 ("STEMI Inferior Ischemia"), 9901055 ("STEMI Lateral Ischemia"), 9901057 ("STEMI Posterior Ischemia"), 9901058 ("STEMI Septal Ischemia")) where eVitals.01 Date/Time Vital Signs Taken is not in (Null, 7701001 ("Not Applicable")) and eDisposition.23 Hospital Capability is in (9908035 ("Cardiac-STEMI/Non-PCI Capable"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
• Patients in cardiac arrest, • Patients requiring advanced airway management or non-invasive ~~(CPAP/BiPAP)~~ prior to ECG, • Patients in shock, respiratory arrest, or with injury, or requiring stabilization, • Patients who refuse care, or • First ECG performed is not STEMI-positive	((eArrest.01 Cardiac Arrest is in (3001003 ("Yes, Prior to Any EMS Arrival (includes EMS & Medical First Responders)"), 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")) or ((eAirway.10 Date/Time Decision to Manage the Patient with an Invasive Airway is not Null

• Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients), • Documented non-system response transport delay (i.e., crowd, distance, diversion, HazMat, route obstruction, safety, traffic, Weather, or patient condition change) or	is before first (eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead")))) where (eVitals.01 Date/Time Vital Signs Taken is not Null sorted by eVitals.01 Date/Time Vital Signs Taken)) ~~or~~ ~~Medical Device Type is in (1603037 ("Ventilator Assistance-BiPAP"),1603039 ("Ventilator Assistance-CPAP"))~~ or eProtocols.01 Protocols Used is in (9914127 ("Medical-Hypotension/Shock (Non-Trauma)"), 9914139 ("Medical-Respiratory Distress/Asthma/COPD/Reactive Airway")) or eSituation.02 Injury is 9922005 ("Yes") or eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care")) or eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care")) or eVitals.04 ECG Type is 8801019 ("Refused")
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	or ((first eVitals.03 Cardiac Rhythm/Electrocardiography (ECG) is not in (9901051 ("STEMI Anterior Ischemia"), 9901053 ("STEMI Inferior Ischemia"), 9901055 ("STEMI Lateral Ischemia"), 9901057 ("STEMI Posterior Ischemia"), 9901058 ("STEMI Septal Ischemia")) where eVitals.01 Date/Time Vital Signs Taken is not Null and sorted by eVitals.01 Date/Time Vital Signs Taken)) or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"), 2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language Barrier"), 2210021 ("Patient Access"), 2210023 ("Safety-Crew Staging"), 2210025 ("Safety-Patient"), 2210031 ("Triage/Multiple Patients")) or eResponse.11 Type of Transport Delay is in (2211001 ("Crowd"), 2211005 ("Distance"), 221107 ("Diversion"), 221109 ("HazMat"), 2211017 ("Route Obstruction"), 2211019 ("Safety"), 2211023 ("Traffic"), 2211029 ("Weather"), 2211031 ("Patient Condition Change"))))
Numerator	
Patients who received thrombolytics within 60 minutes of EMS first medical contact or who has an EMS transport time of greater than or equal to 45 minutes and received thrombolytics within 75 minutes of EMS First Medical Contact	(eTimes.07 Arrived at Patient Date/Time is not in (Null, 7701001 ("Not Applicable")) and eTimes.09 Unit Left Scene Date/Time is not in (Null, 7701001 ("Not Applicable")) and

	eTimes.11 Patient Arrived at Destination Date/Time is not in (Null, 7701001 ("Not Applicable")) and (eOutcome.12 Hospital Procedures is (3E03017 "Introduction of Other Thrombolytic into Peripheral Vein, Open Approach...", 3E03317 "Introduction of Other Thrombolytic into peripheral Vein, Percutaneous Approach...", 3E04017 "Introduction of Other Thrombolytic into Central Vein, Open Approach...", 3E04317 "Introduction of Other Thrombolytic into Central Vein, Percutaneous Approach...")) and eOutcome.20 Date/Time Hospital Procedure Performed is not in (Null, 7701001 ("Not Applicable")) and ((eOutcome.20 Date/Time Hospital Procedure Performed minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 60 Minutes)) or ((eTimes.11 Patient Arrived at Destination minus eTimes.09 Unit Left Scene Date/Time (>=45 Minutes)) and (eOutcome.20 Date/Time Hospital Procedure Performed minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 75 Minutes))))
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Mission: Lifeline[®] EMS Stroke System of Care Measures (optional)

AHAEMS10.1: EMS FMC to Thrombolytic Administration within 90 minutes for Patients with Stroke

The percentage of EMS patients ≥ 18 years old transported to destination hospital or freestanding Emergency Department (ED) with an EMS first medical contact (FMC) to thrombolytic administration time of less than or equal to 90 minutes or EMS FMC to thrombolytic administration time of less than or equal to 105 minutes when transport time is greater than or equal to 45 minutes

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of stroke transported from the scene from a 911 request	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^[I60)(I61))(I63))(G45))(G46) ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...")/ or eSituation.12 Provider's Secondary Impressions matches\^[I60)(I61))(I63))(G45))(G46) ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...")/) and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)"))

Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population who had a stroke screen performed and/or positive score (severity) documented who were transported to hospital or freestanding emergency department received thrombolytics	Same as Initial Patient Population and eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)"), 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"),4230005 ("Transport by Another EMS Unit/Agency"),4230007 ("Transport by Another EMS Unit, with a Member of This Crew")) and ((eVitals.30 Stroke Scale Type is not Null and eVitals.29 Stroke Scale Score is in 3329005 ("Positive")) eDisposition.21 Type of Destination is in (4221003 ("Hospital – Emergency Department"), 4221023 ("Freestanding Emergency Department")) and eOutcome.09 Emergency Department Procedures is (3E03017 "Introduction of Other Thrombolytic into Peripheral Vein, Open Approach...",3E03317 "Introduction of Other Thrombolytic into peripheral Vein, Percutaneous Approach...",3E04017 "Introduction of Other Thrombolytic into Central Vein, Open Approach...",3E04317 "Introduction of Other Thrombolytic into Central Vein, Percutaneous Approach..."))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	

• Patients with a documented Last Known Well of greater than or equal to 24 hours prior to assessment, • Patient Glasgow Coma Score < 9 • Patient unresponsive identified by AVPU [Alert, Verbal, Pain, Unresponsive] scale, • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients), • Documented non-system response transport delay (i.e., crowd, distance, diversion, HazMat, route obstruction, safety, traffic, vehicle crash involving this unit, weather, or patient condition change), • Pertinent Negatives of Refused, Unable to Complete or Not Applicable, OR • Patients who refused care	((eSituation.18 Date/Time Last Known Well is greater than or equal to 24 hours before eVitals.01 Date/Time Vital Signs Taken) where (eSituation.18 Date/Time Last Known Well is not Null and eVitals.01 Date/Time Vital Signs Taken is not Null)) or eVitals.23 Total Glasgow Coma Score is less than or equal to 9 or eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive") or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"),2210011 ("Extrication"),2210013 ("HazMat"),2210015 ("Language Barrier"),2210021 ("Patient Access"),2210023 ("Safety-Crew Staging"),2210025 ("Safety-Patient"),2210031 ("Triage/Multiple Patients")) or eResponse.11 Type of Transport Delay is in (2211001 ("Crowd"),2211005 ("Distance"),221107 ("Diversion"),221109 ("HazMat"),2211017 ("Route Obstruction"),2211019 ("Safety"),2211023 ("Traffic"), 2211025 ("Vehicle Crash Involving this Unit"), 2211029 ("Weather"),2211031 ("Patient Condition Change")) or
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	(eVitals.30 Stroke Scale Type is in 7701001 ("Not Applicable"),8801019 ("Refused"),8801023 ("Unable to Complete")) or (eVitals.29 Stroke Scale Score is in 7701001 ("Not Applicable"),8801019 ("Refused"),8801023 ("Unable to Complete")) or eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care)) or eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care"))
Numerator	
Patients who received thrombolytics within 90 minutes of EMS first medical contact or who had an EMS transport time of greater than or equal to 45 minutes and received thrombolytics within 105 minutes of EMS First Medical Contact	(eTimes.07 Arrived at Patient Date/Time is not in (Null, 7701001 ("Not Applicable")) and (eOutcome.09 Emergency Department Procedures is (3E03017 "Introduction of Other Thrombolytic into Peripheral Vein, Open Approach...",3E03317 "Introduction of Other Thrombolytic into peripheral Vein, Percutaneous Approach...",3E04017 "Introduction of Other Thrombolytic into Central Vein, Open Approach...",3E04317 "Introduction of Other Thrombolytic into Central Vein, Percutaneous Approach...")) and eOutcome.19 Date/Time Emergency Department Procedure Performed is not in (Null,7701001 ("Not Applicable")) and (eOutcome.19 Date/Time Emergency Department Procedure Performed minus

	eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 90 Minutes)) or ((eTimes.11 Patient Arrived at Destination minus eTimes.09 Unit Left Scene Date/Time (>=45 Minutes)) and (eOutcome.19 Date/Time Emergency Department Procedure Performed minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 105 Minutes))))
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AHAEMS11.1: EMS FMC to Endovascular Therapy within 120 Minutes for Patients with Stroke

The percentage of EMS patients ≥ 18 years old transported to a Comprehensive Stroke Center or Thrombectomy Capable Stroke Center with an EMS first medical contact (FMC) to endovascular therapy (EVT) time of less than or equal to 120 minutes or EMS FMC to EVT time of less than or equal to 150 minutes when transport time is greater than or equal to 45 minutes

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of stroke transported from the scene from a 911 request	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^(I60)(I61)(I63)(G45)(G46) ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks...", or "Vascular syndromes of brain in cerebrovascular diseases...")/ or eSituation.12 Provider's Secondary Impressions matches\^(I60)(I61)(I63)(G45)(G46) ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks...", or "Vascular syndromes of brain in cerebrovascular diseases...")/) and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population who had a stroke screen performed and/or positive score (severity) documented who	Same as initial patient population and

were transported to thrombectomy-capable stroke center or comprehensive stroke center received thrombolytics and received endovascular therapy	eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)"), 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"),4230005 ("Transport by Another EMS Unit/Agency"),4230007 ("Transport by Another EMS Unit, with a Member of This Crew")) and ((eVitals.30 Stroke Scale Type is not Null and eVitals.29 Stroke Scale Score is in 3329005 ("Positive")) and (eVital.30 Stroke Scale Type is in (3330007 ("Miami Emergency Neurologic Deficit Exam (MEND)"),3330009 ("NIH Stroke Scale (NIHSS)"), 3330011 ("Other Stroke Scale Type"),3330021 ("Rapid Arterial occlusion Evaluation (RACE)"),3330023 ("Los Angeles Motor Score (LAMS)"),3330025 ("Vision, Aphasia, Neglect (VAN)"),3330027 ("FAST-ED") and eDisposition.23 Hospital Capability is in (9908041 ("Stroke-Thrombectomy-Capable Stroke Center (TSC)"), 9908043 ("Stroke-Comprehensive Stroke Center (CSC)) and eOutcome.12 Hospital Procedures is (03CG3Z7 "Extirpation of matter from intracranial artery using stent retriever, percutaneous approach...",03CG3ZZ "Extirpation of matter from intracranial artery, percutaneous approach...",03CP3Z7 "Extirpation of matter from right verbal artery using stent retriever, percutaneous approach...",03CP3ZZ "Extirpation of matter from right vertebral artery, percutaneous approach...",03CQ3Z7
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	"Extirpation of matter from left vertebral artery using stent retriever, percutaneous approach...", "03CQ3ZZ "Extirpation of matter from left vertebral artery, percutaneous approach...", "B31R1ZZ "Fluoroscopy of intracranial arteries using low osmolar contrast...", "B31RYZZ "Fluoroscopy of intracranial arteries using other contrast..."")
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
• Patients with a documented Last Known Well of greater than or equal to 24 hours prior to assessment, • Patient Glasgow Coma Score < 9 • Patient unresponsive identified by AVPU [Alert, Verbal, Pain, Unresponsive] scale, • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients), • Documented non-system response transport delay (i.e., crowd, distance, diversion, HazMat, route obstruction, safety, traffic, vehicle crash involving this unit, weather, or patient condition change), • Pertinent Negatives of Refused, Unable to Complete or Not Applicable, or • Patients who refused care	((eSituation.18 Date/Time Last Known Well is greater than or equal to 24 hours before eVitals.01 Date/Time Vital Signs Taken) where (eSituation.18 Date/Time Last Known Well is not Null and eVitals.01 Date/Time Vital Signs Taken is not Null)) or eVitals.23 Total Glasgow Coma Score is less than or equal to 9 or eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive") or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"), 2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language Barrier"), 2210021 ("Patient Access"), 2210023 ("Safety-Crew Staging"), 2210025 ("Safety-Patient"), 2210031 ("Triage/Multiple Patients")) or

	eResponse.11 Type of Transport Delay is in (2211001 ("Crowd"),2211005 ("Distance"),221107 ("Diversion"),221109 ("HazMat"),2211017 ("Route Obstruction"),2211019 ("Safety"),2211023 ("Traffic"), 2211025 ("Vehicle Crash Involving this Unit"), 2211029 ("Weather"),2211031 ("Patient Condition Change")) or (eVitals.30 Stroke Scale Type is in 7701001 ("Not Applicable"),8801019 ("Refused"),8801023 ("Unable to Complete")) or (eVitals.29 Stroke Scale Score is in 7701001 ("Not Applicable"),8801019 ("Refused"),8801023 ("Unable to Complete")) or eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care)) or eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care"))
Numerator	
Patients who received endovascular within 120 minutes of EMS first medical contact or Who had an EMS transport time of greater than or equal to 45 minutes and who received endovascular therapy within 150 minutes of EMS first medical contact	(eTimes.07 Arrived at Patient Date/Time is not in (Null,7701001 ("Not Applicable")) and eTimes.09 Unit Left Scene Date/Time is not in (Null, 7701001 ("Not Applicable")) and eTimes.11 Patient Arrived at Destination Date/Time is not in (Null,7701001 ("Not Applicable")) and

	(eOutcome.12 Hospital Procedures is (03CG3Z7 "Extirpation of matter from intracranial artery using stent retriever, percutaneous approach...", "03CG3ZZ "Extirpation of matter from intracranial artery, percutaneous approach...", "03CP3Z7 "Extirpation of matter from right verbal artery using stent retriever, percutaneous approach...", "03CP3ZZ "Extirpation of matter from right vertebral artery, percutaneous approach...", "03CQ3Z7 "Extirpation of matter from left vertebral artery using stent retriever, percutaneous approach...", "03CQ3ZZ "Extirpation of matter from left vertebral artery, percutaneous approach...", "B31R1ZZ "Fluoroscopy of intracranial arteries using low osmolar contrast...", "B31RYZZ "Fluoroscopy of intracranial arteries using other contrast..."")) and eOutcome.20 Date/Time Hospital Procedure Performed is not in (Null, 7701001 ("Not Applicable"))) and ((eOutcome.20 Date/Time Hospital Procedure Performed minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 120 Minutes)) or ((eTimes.11 Patient Arrived at Destination minus eTimes.09 Unit Left Scene Date/Time (>=45 Minutes)) and ((eOutcome.20 Date/Time Hospital Procedure Performed minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 150 Minutes))))))
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AHAEMS12.0: EMS FMC to CT within 60 Minutes for Patients with Stroke

The percentage of EMS patients ≥ 18 years old transported to destination hospital or freestanding Emergency Department (ED) with an EMS first medical contact (FMC) to computed tomography (CT) of less than or equal to 60 minutes or EMS FMC to CT time of less than or equal to 75 minutes when transport time is greater than or equal to 45 minutes

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of stroke transported from the scene from a 911 request	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^ (I60)(I61)(I63)(G45)(G46) ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks...", or "Vascular syndromes of brain in cerebrovascular diseases...")/ or eSituation.12 Provider's Secondary Impressions matches\^ (I60)(I61)(I63)(G45)(G46) ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks...", or "Vascular syndromes of brain in cerebrovascular diseases...")/) and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population who had a stroke screen performed and/or positive score (severity) documented who	Same as Initial Patient Population and

were transported to hospital or freestanding emergency department received computed tomography scan	eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)"), 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"), 4230005 ("Transport by Another EMS Unit/Agency"), 4230007 ("Transport by Another EMS Unit, with a Member of This Crew")) and ((eVitals.30 Stroke Scale Type is not Null and eVitals.29 Stroke Scale Score is in 3329005 ("Positive")) and eDisposition.23 Hospital Capability is in in (4221003 ("Hospital – Emergency Department"), 4221023 ("Freestanding Emergency Department"), 9908041 ("Stroke-Thrombectomy-Capable Stroke Center (TSC)"), 9908043 ("Stroke-Comprehensive Stroke Center (CSC)")) and ((eOutcome.09 Emergency Department Procedures is (B32R0ZZ Computerized Tomography (CT Scan) of Intracranial Arteries using High Osmolar Contrast B32R1ZZ Computerized Tomography (CT Scan) of Intracranial Arteries using Low Osmolar Contrast B32RYZZ Computerized Tomography (CT Scan) of Intracranial Arteries using Other Contrast B32RZ2Z Computerized Tomography (CT Scan) of Intracranial Arteries using Intravascular B32RZZZ Computerized Tomography (CT Scan) of Intracranial Arteries))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
Patients with a documented Last Known Well of greater than or	((eSituation.18 Date/Time Last Known Well is greater than or equal to 24 hours

equal to 24 hours prior to assessment, • Patient Glasgow Coma Score < 9 • Patient unresponsive identified by AVPU [Alert, Verbal, Pain, Unresponsive] scale, • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients), • Documented non-system response transport delay (i.e., crowd, distance, diversion, HazMat, route obstruction, safety, traffic, vehicle crash involving this unit, weather, or patient condition change), • Pertinent Negatives of Refused, Unable to Complete or Not Applicable, or • Patients who refused care	before eVitals.01 Date/Time Vital Signs Taken) where (eSituation.18 Date/Time Last Known Well is not Null and eVitals.01 Date/Time Vital Signs Taken is not Null)) or eVitals.23 Total Glasgow Coma Score is less than or equal to 9 or eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive") or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"),2210011 ("Extrication"),2210013 ("HazMat"),2210015 ("Language Barrier"),2210021 ("Patient Access"),2210023 ("Safety-Crew Staging"),2210025 ("Safety-Patient"),2210031 ("Triage/Multiple Patients")) or eResponse.11 Type of Transport Delay is in (2211001 ("Crowd"),2211005 ("Distance"), 221107 ("Diversion"), 221109 ("HazMat"),2211017 ("Route Obstruction"), 2211019 ("Safety"), 2211023 ("Traffic"), 2211025 ("Vehicle Crash Involving this Unit"), 2211029 ("Weather"), 2211031 ("Patient Condition Change")) or (eVitals.30 Stroke Scale Type is in 7701001 ("Not Applicable"),8801019 ("Refused"),8801023 ("Unable to Complete"))
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	or (eVitals.29 Stroke Scale Score is in 7701001 ("Not Applicable"),8801019 ("Refused"),8801023 ("Unable to Complete")) or eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care")) or eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care"))
Numerator	
Patients who received CT within 60 minutes of EMS first medical contact or within 75 minutes for patient's transport time greater than 45 minutes	(eTimes.07 Arrived at Patient Date/Time is not in (Null,7701001 ("Not Applicable")) and eTimes.09 Unit Left Scene Date/Time is not in (Null, 7701001 ("Not Applicable")) and eTimes.11 Patient Arrived at Destination Date/Time is not in (Null, 7701001 ("Not Applicable")) and ((eOutcome.09 Emergency Department Procedures is (B32R0ZZ Computerized Tomography (CT Scan) of Intracranial Arteries using High Osmolar Contrast B32R1ZZ Computerized Tomography (CT Scan) of Intracranial Arteries using Low Osmolar Contrast B32RYZZ Computerized Tomography (CT Scan) of Intracranial Arteries using Other Contrast B32RZZZ Computerized Tomography (CT Scan) of Intracranial Arteries using Intravascular B32RZZZ Computerized Tomography (CT Scan) of Intracranial Arteries) and

	eOutcome.19 Date/Time Emergency Department Procedure Performed is not in (Null, 7701001 ("Not Applicable")) and (eOutcome.19 Date/Time Emergency Department Procedure Performed minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 60 Minutes))) or (eTimes.11 Patient Arrived at Destination Date/Time minus eTimes.09 Unit Left Scene Date/Time (> 45 Minutes) and eOutcome.09 Emergency Department Procedures is(B32R0ZZ Computerized Tomography (CT Scan) of Intracranial Arteries using High Osmolar Contrast B32R1ZZ Computerized Tomography (CT Scan) of Intracranial Arteries using Low Osmolar Contrast B32RYZZ Computerized Tomography (CT Scan) of Intracranial Arteries using Other Contrast B32RZ2Z Computerized Tomography (CT Scan) of Intracranial Arteries using Intravascular B32RZZZ Computerized Tomography (CT Scan) of Intracranial Arteries) and eOutcome.19 Date/Time Emergency Department Procedure Performed is not in (Null, 7701001 ("Not Applicable")) and (eOutcome.19 Date/Time Emergency Department Procedure Performed minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <=75 Minutes))))
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Mission: Lifeline® EMS Cardiac Arrest System of Care Measures (optional)

AHAEMS16.0: OHCA Patients First (Bystander or EMS) Compression within 420 Seconds of PSAP Call

The percentage of EMS responses originating from a 911 request for patients with out-of-hospital cardiac arrest (OHCA) with time from public safety answering point (PSAP) call to first bystander or EMS compression within 420 seconds

Initial Patient Population	
Patients with a primary or secondary impression of cardiac arrest during 911 response	((eSituation.11 Provider's Primary Impression matches\^ (I46)("Cardiac Arrest")/ or eSituation.12 Provider's Secondary Impressions matches\^ (I46)("Cardiac Arrest")/ and eArrest.01 Cardiac Arrest is in 3001003 ("Yes, Prior to Any EMS Arrival (includes Transport EMS & Medical First Responders)"), 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")) and eArrest.02 Cardiac Arrest Etiology is 3002001 ("Cardiac (Presumed)") and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)"))))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population who received chest compressions by bystander or EMS	Same as Initial Patient Population and

	(eArrest.03 Resuscitation Attempted by EMS is 3003005 ("Initiated Chest Compressions")) and (eArrest.20 Who First Initiated CPR is not in (Null, 7701001 ("Not Applicable")))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
- Compressions not attempted as considered futile, DNR orders, or signs of circulation, - Documented non-system response delay (i.e., directions/unable to locate, distance, HazMat, route obstruction, scene safety, traffic, vehicle crash involving this unit, out of service area), or - Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients)	(eArrest.03 Resuscitation Attempted by EMS is 3003007 ("Not Attempted-Considered Futile"), 3003009 ("Not Attempted-DNR Orders"), 3003011 ("Not Attempted-Signs of Circulation")) or eResponse.09 Type of Response Delay is in (2209003 ("Directions/Unable to Locate"), 2209005 ("Distance"), 2209009 ("HazMat"), 2209017 ("Route Obstruction (e.g., Train)"), 2209019 ("Scene Safety (Not Secure for EMS)"), 2209023 ("Traffic"), 2209025 ("Vehicle Crash Involving this Unit"), 2209035 ("Out of Service Area Response")) or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"), 2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language Barrier"), 2210021 ("Patient Access"), 2210023 ("Safety-Crew Staging"), 2210025 ("Safety-Patient"), 2210031 ("Triage/Multiple Patients"))
Numerator	
Patients who had initial cardiac chest compression within 420 seconds of PSAP call.	(eTimes.01 PSAP Call Date/Time is not in (Null, 7701001 ("Not Applicable")) and eArrest.19 Date/Time of Initial CPR is not in (Null, 7701001 ("Not Applicable")) and (eArrest.19 Date/Time of Initial CPR minus eTimes.01 PSAP Call Date/Time (> 0 Seconds

	and <= 420 Seconds)))
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AHAEMS15.0: OHCA Patients who Received Bystander CPR

The percentage of EMS responses originating from a 911 request for patients with out-of-hospital cardiac arrest (OHCA) with bystander cardiopulmonary resuscitation (CPR).

Initial Patient Population	
Patients with a primary or secondary impression of cardiac arrest during 911 response	((eSituation.11 Provider's Primary Impression matches\^(I46)("Cardiac Arrest")/ or eSituation.12 Provider's Secondary Impressions matches\^(I46)("Cardiac Arrest")/ and eArrest.01 Cardiac Arrest is in 3001003 ("Yes, Prior to Any EMS Arrival (includes Transport EMS & Medical First Responders)"), 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)") and eArrest.02 Cardiac Arrest Etiology is 3002001 ("Cardiac (Presumed)") and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"),2205003 ("Emergency Response (Intercept)"),2205009 ("Emergency Response (Mutual Aid)"))))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population	Same as Initial Patient Population
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
None	Not applicable
Numerator	
Patients who received bystander CPR.	(eArrest.20 Who First Initiated CPR is 3020001 ("Bystander"), 3020003 ("Family Member"), 3020005 ("Healthcare Provider (non-911 Responder)"), 3020009 ("First Responder (Law Enforcement)"), 3020011 ("First Responder (non-EMS Fire)"))

AHAEMS18.1: OHCA Patients who Received Bystander Defibrillation

The percentage of EMS responses originating from a 911 request for patients with out-of-hospital cardiac arrest (OHCA) with bystander defibrillation.

Initial Patient Population	
Patients with a primary or secondary impression of cardiac arrest during 911 response	((eSituation.11 Provider's Primary Impression matches\^(I46)("Cardiac Arrest")/ or eSituation.12 Provider's Secondary Impressions matches\^(I46)("Cardiac Arrest")/ and eArrest.01 Cardiac Arrest is in 3001003 ("Yes, Prior to Any EMS Arrival (includes Transport EMS & Medical First Responders)"), 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")) and eArrest.02 Cardiac Arrest Etiology is 3002001 ("Cardiac (Presumed)") and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"),2205003 ("Emergency Response (Intercept)"),2205009 ("Emergency Response (Mutual Aid)")))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population	Same as Initial Patient Population and (eArrest.11 First Monitored Arrest Rhythm of the Patient is in (3011009 ("Unknown AED Shockable Rhythm"), 3011011 ("Ventricular Fibrillation"), 3011013 ("Ventricular Tachycardia-Pulseless")) or eVitals.03 Cardiac Rhythm/ECG is in (9901065 ("Unknown AED Shockable Rhythm"),

	9901067 ("Ventricular Fibrillation"), 9901069 ("Ventricular Tachycardia (With Pulse)"), 9901071 ("Ventricular Tachycardia (Pulseless)"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
None	Not applicable
Numerator	
Patients who received bystander defibrillation.	(eArrest.22 Who First Defibrillated the Patient is 3020001 ("Bystander"), 3020003 ("Family Member"), 3020005 ("Healthcare Provider (non-911 Responder)", 3020009 ("First Response (Law Enforcement)"), 3020011 ("First Responder (non-EMS Fire)"))

Mission: Lifeline® EMS Quality Measures (optional)

AHAEMS13.0: On-Scene Time to Departure within 15 Minutes for Stroke

The percentage of EMS responses originating from a 911 request for patients ≥ 18 years old with a positive stroke screen for whom the time from arrival at patient on scene to time unit left is < 15 minutes.

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of stroke during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^(I60)(I61)(I63)(G45)(G46) ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...")/ or eSituation.12 Provider's Secondary Impressions matches\^(I60)(I61)(I63)(G45)(G46) ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...")/) and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")))
Denominator	
Include:	Data Elements for Calculation

Patients in the initial patient population who had a stroke screen performed and/or positive score (severity) documented who were transported to hospital or freestanding emergency department	Same as Initial Patient Population and eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)"), 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"), 4230005 ("Transport by Another EMS Unit/Agency"), 4230007 ("Transport by Another EMS Unit, with a Member of This Crew")) and ((eVitals.30 Stroke Scale Type is not Null and eVitals.29 Stroke Scale Score is in 3329005 ("Positive"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
• Unable to Complete or Not Applicable or Pertinent Negative of Refused for Stroke Scale or Stroke Scale Score, or • Patient unresponsive identified by AVPU [Alert, Verbal, Pain, Unresponsive] scale, or • Patient Glasgow Coma Score $\leq$ 9 • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients)	((eVitals.30 Stroke Scale Type is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or (eVitals.29 Stroke Scale Score is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or eVitals.23 Total Glasgow Coma Score is less than or equal to 9 or eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive") or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"), 2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language

	Barrier"),2210021 ("Patient Access"), 2210023 ("Safety-Crew Staging"),2210025 ("Safety-Patient"),2210031 ("Triage/Multiple Patients")))
Numerator	
Patients who had time of less than <15 minutes from arrival at patient on scene to time unit left scene.	(eTimes.07 Arrived at Patient Date/Time is not in (Null,7701001 ("Not Applicable")) and eTimes.09 Unit Left Scene Date/Time is not in (Null, 7701001 ("Not Applicable")) and (eTimes.09 Unit Left Scene Date/Time minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 15 Minutes)))

AHAEMS14.0: On-Scene Time to Departure within 15 Minutes for STEMI

The percentage of EMS responses originating from a 911 request for patients ≥ 18 years old with a positive 12-lead ECG for STEMI for whom the arrival at patient on-scene to time unit left scene is < 15 minutes.

Initial Patient Population	
Patients aged 18 years and older with a primary or secondary impression of a heart attack during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression matches\^ (I20.9) (I21.0) (I21.1) (I21.2 (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ or eSituation.12 Provider's Secondary Impressions matches\^ (I20.9) (I21.0) (I21.1) (I21.2 (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population transported with a positive 12-lead ECG for STEMI performed during the EMS encounter	Same as Initial Patient Population and

	eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)"), 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"), 4230005 ("Transport by Another EMS Unit/Agency"), 4230007 ("Transport by Another EMS Unit, with a Member of This Crew")) and eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead")) and eVitals.03 Cardiac Rhythm/Electrocardiography (ECG) is in (9901051 ("STEMI Anterior Ischemia"), 9901053 ("STEMI Inferior Ischemia"), 9901055 ("STEMI Lateral Ischemia"), 9901057 ("STEMI Posterior Ischemia"), 9901058 ("STEMI Septal Ischemia")) where eVitals.01 Date/Time Vital Signs Taken is not in (Null, 7701001 ("Not Applicable"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
• Patients in cardiac arrest, • Patients requiring advanced airway management or non-invasive (CPAP/BiPAP) prior to ECG, • Patients in shock, respiratory arrest, or with injury, or requiring stabilization, • Patients who refuse care, or • First ECG performed is not STEMI-positive, or • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients)	((eArrest.01 Cardiac Arrest is in (3001003 ("Yes, Prior to Any EMS Arrival (includes EMS & Medical First Responders)"), 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")) or ((eAirway.10 Date/Time Decision to Manage the Patient with an Invasive Airway is not Null is before first eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead"))))

	where (eVitals.01 Date/Time Vital Signs Taken is not Null sorted by eVitals.01 Date/Time Vital Signs Taken)) ~~or~~ ~~Medical Device Type is in (1603037 ("Ventilator Assistance-BiPAP"),1603039 ("Ventilator Assistance-CPAP"))~~ or eProtocols.01 Protocols Used is in (9914127 ("Medical-Hypotension/Shock (Non-Trauma)"), 9914139 ("Medical-Respiratory Distress/Asthma/COPD/Reactive Airway")) or eSituation.02 Injury is 9922005 ("Yes") or eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care)) or eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care")) or eVitals.04 ECG Type is 8801019 ("Refused") or ((first eVitals.03 Cardiac Rhythm/Electrocardiography (ECG) is not in (9901051 ("STEMI Anterior Ischemia""), 9901053 ("STEMI Inferior Ischemia""), 9901055 ("STEMI
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	Lateral Ischemia"), 9901057 ("STEMI Posterior Ischemia"), 9901058 ("STEMI Septal Ischemia")) where eVitals.01 Date/Time Vital Signs Taken is not Null and sorted by eVitals.01 Date/Time Vital Signs Taken)) or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"), 2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language Barrier"), 2210021 ("Patient Access"), 2210023 ("Safety-Crew Staging"), 2210025 ("Safety-Patient"), 2210031 ("Triage/Multiple Patients")))
Numerator	
Patients who had time of less than 15 minutes from arrival at patient on scene to time unit left scene	(eTimes.07 Arrived at Patient Date/Time is not in (Null, 7701001 ("Not Applicable")) and eTimes.09 Unit Left Scene Date/Time is not in (Null, 7701001 ("Not Applicable")) and (eTimes.09 Unit Left Scene Date/Time minus eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 15 Minutes)))

AHAEMS17.0: OHCA Patients First EMS Compression within 360 Seconds of Dispatch

The percentage of EMS responses originating from a 911 request for patients with out-of-hospital cardiac arrest (OHCA) with time from dispatch to first EMS compression within 360 seconds.

Initial Patient Population	
Patients with a primary or secondary impression of cardiac arrest during 911 response	((eSituation.11 Provider's Primary Impression matches\^(I46)("Cardiac Arrest")/ or eSituation.12 Provider's Secondary Impressions matches\^(I46)("Cardiac Arrest")/ and eArrest.01 Cardiac Arrest is in 3001003 ("Yes, Prior to Any EMS Arrival (includes Transport EMS & Medical First Responders)", 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")) and eArrest.02 Cardiac Arrest Etiology is 3002001 ("Cardiac (Presumed)") and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)", 2205003 ("Emergency Response (Intercept)", 2205009 ("Emergency Response (Mutual Aid)"))))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population who received initial chest compressions by EMS	Same as Initial Patient Population and eArrest.03 Resuscitation Attempted by EMS is 3003005 ("Initiated Chest Compressions") and

	(eArrest.20 Who First Initiated CPR is 3020007 ("First Responder (EMS)"), 3020013 ("EMS Responder (transport EMS)"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
• Compressions not attempted as considered futile, DNR orders, or signs of circulation, • Documented non-system response delay (i.e., directions/unable to locate, distance, HazMat, route obstruction, scene safety, traffic, vehicle crash involving this unit, out of service area), or • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients)	(eArrest.03 Resuscitation Attempted by EMS is 3003007 ("Not Attempted-Considered Futile"), 3003009 ("Not Attempted-DNR Orders"), 3003011 ("Not Attempted-Signs of Circulation")) or eResponse.09 Type of Response Delay is in (2209003 ("Directions/Unable to Locate"), 2209005 ("Distance"), 2209009 ("HazMat"), 2209017 ("Route Obstruction (e.g., Train)"), 2209019 ("Scene Safety (Not Secure for EMS)"), 2209023 ("Traffic"), 2209025 ("Vehicle Crash Involving this Unit"), 2209035 ("Out of Service Area Response")) or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"), 2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language Barrier") 210021 ("Patient Access"), 2210023 ("Safety-Crew Staging"), 2210025 ("Safety-Patient"), 2210031 ("Triage/Multiple Patients"))
Numerator	
Patients who had initial cardiac chest compression within 360 seconds of 911 dispatch.	(eTimes.03 Unit Notified by Dispatch Date/Time is not in (Null, 7701001 ("Not Applicable")) and eArrest.19 Date/Time of Initial CPR is not in (Null, 7701001 ("Not Applicable")) and (eArrest.19 Date/Time of Initial CPR minus eTimes.03 Unit Notified by Dispatch Date/Time (> 0 Seconds and <= 360 Seconds)))

AHAEMS19.1: OHCA Patients with First (Bystander or EMS) Defibrillation within 480 Seconds of PSAP call

The percentage of EMS responses originating from a 911 request for patients with out-of-hospital cardiac arrest (OHCA) with time from public safety answering point (PSAP) call to first bystander or EMS defibrillation within 480 seconds.

Initial Patient Population	
Patients with a primary or secondary impression of cardiac arrest during 911 response	((eSituation.11 Provider's Primary Impression matches\^(I46)("Cardiac Arrest")/ or eSituation.12 Provider's Secondary Impressions matches\^(I46)("Cardiac Arrest")/ and eArrest.01 Cardiac Arrest is in 3001003 ("Yes, Prior to Any EMS Arrival (includes Transport EMS & Medical First Responders)"), 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")) and eArrest.02 Cardiac Arrest Etiology is 3002001 ("Cardiac (Presumed)") and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"),2205003 ("Emergency Response (Intercept)"),2205009 ("Emergency Response (Mutual Aid)"))))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population who received initial defibrillation by bystander or EMS	Same as Initial Patient Population and eArrest.03 Resuscitation Attempted by EMS is 3003001 ("Attempted Defibrillation") and

	eArrest.22 Who First Defibrillated the Patient is not in (Null, 7701001 ("Not Applicable")) and eArrest.11 First Monitored Arrest Rhythm of the Patient is (3011009 ("Unknown AED Shockable Rhythm"), 3011011 ("Ventricular Fibrillation"), 3011013 ("Ventricular Tachycardia-Pulseless")) or eVitals.03 Cardiac Rhythm/ECG is (9901065 ("Unknown AED Shockable Rhythm"), 9901067 ("Ventricular Fibrillation"), 9901069 ("Ventricular Tachycardia (With Pulse)"), 9901071 ("Ventricular Tachycardia (Pulseless)"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
• Compressions not attempted as considered futile, DNR orders, or signs of circulation, • Documented non-system response delay (i.e., directions/unable to locate, distance, HazMat, route obstruction, scene safety, traffic, vehicle crash involving this unit, out of service area), or • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients)	eArrest.03 Resuscitation Attempted by EMS is 3003007 ("Not Attempted-Considered Futile"), 3003009 ("Not Attempted-DNR Orders"), 3003011 ("Not Attempted-Signs of Circulation") or eResponse.09 Type of Response Delay is in (2209003 ("Directions/Unable to Locate"), 2209005 ("Distance"), 2209009 ("HazMat"), 2209017 ("Route Obstruction (e.g., Train)"), 2209019 ("Scene Safety (Not Secure for EMS)"), 2209023 ("Traffic"), 2209025 ("Vehicle Crash Involving this Unit"), 2209035 ("Out of Service Area Response")) or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"), 2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language Barrier"), 2210021 ("Patient Access"), 2210023 ("Safety-Crew Staging"), 2210025 ("Safety-Patient"), 2210031 ("Triage/Multiple Patients"))
Numerator	

Patients who had first initial EMS defibrillation within 480 seconds of PSAP call.	(eTimes.01 PSAP Call Date/Time is not in (Null, 7701001 ("Not Applicable")) and eProcedures.01 Date/Time Procedure Performed is not in (Null, 7701001 ("Not Applicable")) and (eProcedures.01 Date/Time Procedure Performed minus eTimes.01 PSAP Call Date/Time (> 0 Seconds and <= 480 Seconds)))
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AHAEMS20.0: OHCA Patients with First EMS Defibrillation within 420 Seconds of Dispatch

The percentage of EMS responses originating from a 911 request for patients with out-of-hospital cardiac arrest (OHCA) with time from dispatch to first EMS defibrillation within 420 seconds.

Initial Patient Population	
Patients with a primary or secondary impression of cardiac arrest during 911 response	((eSituation.11 Provider's Primary Impression matches\^(I46)("Cardiac Arrest"))/ or eSituation.12 Provider's Secondary Impressions matches\^(I46)("Cardiac Arrest"))/ and eArrest.01 Cardiac Arrest is in 3001003 ("Yes, Prior to Any EMS Arrival (includes Transport EMS & Medical First Responders)"), 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")) and eArrest.02 Cardiac Arrest Etiology is 3002001 ("Cardiac (Presumed)") and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"),2205003 ("Emergency Response (Intercept)"),2205009 ("Emergency Response (Mutual Aid)"))))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial population who received initial defibrillation by EMS	Same as Initial Patient Population and (eArrest.03 Resuscitation Attempted by EMS is 3003001 ("Attempted Defibrillation")) and

	eArrest.22 Who First Defibrillated the Patient is not in (Null, 7701001 ("Not Applicable")) and eArrest.11 First Monitored Arrest Rhythm of the Patient is (3011009 ("Unknown AED Shockable Rhythm"), 3011011 ("Ventricular Fibrillation"), 3011013 ("Ventricular Tachycardia-Pulseless")) or eVitals.03 Cardiac Rhythm/ECG is (9901065 ("Unknown AED Shockable Rhythm"), 9901067 ("Ventricular Fibrillation"), 9901069 ("Ventricular Tachycardia (With Pulse)"), 9901071 ("Ventricular Tachycardia (Pulseless)"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
• Compressions not attempted as considered futile, DNR orders, or signs of circulation, • Documented non-system response delay (i.e., directions/unable to locate, distance, HazMat, route obstruction, scene safety, traffic, vehicle crash involving this unit, out of service area), or • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients)	eArrest.03 Resuscitation Attempted by EMS is 3003007 ("Not Attempted-Considered Futile"), 3003009 ("Not Attempted-DNR Orders"), 3003011 ("Not Attempted-Signs of Circulation") or eResponse.09 Type of Response Delay is in (2209003 ("Directions/Unable to Locate"), 2209005 ("Distance"), 2209009 ("HazMat"), 2209017 ("Route Obstruction (e.g., Train)"), 2209019 ("Scene Safety (Not Secure for EMS)"), 2209023 ("Traffic"), 2209025 ("Vehicle Crash Involving this Unit"), 2209035 ("Out of Service Area Response")) or eResponse.10 Type of Scene Delay is in (2210005 ("Crowd"), 2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language Barrier"), 2210021 ("Patient Access"), 2210023 ("Safety-Crew Staging"), 2210025 ("Safety-Patient"), 2210031 ("Triage/Multiple Patients"))
Numerator	

Patients who had first initial EMS defibrillation within 420 seconds of 911 dispatch	(eTimes.03 Unit Notified by Dispatch Date/Time is not in (Null, 7701001 ("Not Applicable")) and eProcedures.01 Date/Time Procedure Performed is not in (Null, 7701001 ("Not Applicable")) and (eProcedures.01 Date/Time Procedure Performed minus eTimes.03 Unit Notified by Dispatch Date/Time (> 0 Seconds and <= 420 Seconds)))
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AHAEMS21.0: Post Arrest 12-Lead ECG for OHCA

The percentage of EMS responses originating from a 911 request for patients ≥ 18 years old with an out-of-hospital cardiac arrest for whom a 12-lead ECG was performed post-return of spontaneous circulation

Initial Patient Population	
Patients with a primary or secondary impression of cardiac arrest during 911 response	((eSituation.11 Provider's Primary Impression matches\^(I46)("Cardiac Arrest"))/ or eSituation.12 Provider's Secondary Impressions matches\^(I46)("Cardiac Arrest"))/ and eArrest.01 Cardiac Arrest is in 3001003 ("Yes, Prior to Any EMS Arrival (includes Transport EMS & Medical First Responders)", 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")) and eArrest.02 Cardiac Arrest Etiology is 3002001 ("Cardiac (Presumed)") and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)", 2205003 ("Emergency Response (Intercept)", 2205009 ("Emergency Response (Mutual Aid)"))))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population who had spontaneous circulation returned recorded	Same as Initial Patient Population and eArrest.12 Any Return of Spontaneous Circulation is in (3012005 ("Yes, Prior to Arrival at the ED") or 3012007 ("Yes, Sustained for 20 consecutive minutes"))
Exclusions: (Always remove from denominator)	
Resuscitation not attempted by EMS because considered futile, DNR order, or signs of circulation	eArrest.03 Resuscitation Attempted by EMS is in (3003007 ("Not Attempted – Considered Futile", 3003009 ("Not Attempted – DNR

	Orders”) or 3003011 (“Not Attempted – Signs of Circulation”))
Exceptions: (Remove from denominator if present and numerator is not met)	
• First ECG performed is not STEMI-positive, or • Patients requiring advanced airway management or non-invasive prior to ECG, • Patients in shock, respiratory arrest, or with injury, or requiring stabilization, or • Patients who refuse care	(First (eVitals.03 Cardiac Rhythm/Electrocardiography (ECG) is not in (9901051 (“STEMI Anterior Ischemia”), 9901053 (“STEMI Inferior Ischemia”), 9901055 (“STEMI Lateral Ischemia”), 9901057 (“STEMI Posterior Ischemia”), 9901058 (“STEMI Septal Ischemia”)) where eVitals.01 Date/Time Vital Signs Taken is not Null and sorted by eVitals.01 Date/Time Vital Signs Taken)) or (eArrest.01 Cardiac Arrest is in (3001003 (“Yes, Prior to Any EMS Arrival (includes EMS & Medical First Responders”), 3001005 (“Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders”)) or ((eAirway.10 Date/Time Decision to Manage the Patient with an Invasive Airway is not Null is before first (eVitals.04 ECG Type is in (3304007 (“12 Lead-Left Sided (Normal”),3304009 (“12 Lead-Right Sided”),3304011 (“15 Lead”),3304013 (“18 Lead”)) where eVitals.01 Date/Time Vital Signs Taken is not Null sorted by eVitals.01 Date/Time Vital Signs Taken))

	or eProtocols.01 Protocols Used is in (9914127 ("Medical-Hypotension/Shock (Non-Trauma)"), 9914139 ("Medical-Respiratory Distress/Asthma/COPD/Reactive Airway")) or eSituation.02 Injury is 9922005 ("Yes") or eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care")) or eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care")) or eVitals.04 ECG Type is 8801019 ("Refused"))
Numerator	
Patients who received 12-Lead ECG post-return of spontaneous circulation.	((eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead")) where eVitals.01 Date/Time Vital Signs Taken is not in (Null, 7701001 ("Not Applicable")) and eTimes.07 Arrived at Patient Date/Time is not in (Null, 7701001 ("Not Applicable"))))

AHAEMS22.0: OHCA Cerebral Performance Category 1 or 2

The percentage of patients aged 18 years and older with an out-of-hospital cardiac arrest transported from the scene from a 911 request who had a neurology outcome at discharge of Cerebral Performance Category of 1 or 2

Initial Patient Population	
Patients with a primary or secondary impression of cardiac arrest during 911 response	((eSituation.11 Provider's Primary Impression matches\^(I46)("Cardiac Arrest"))/ or eSituation.12 Provider's Secondary Impressions matches\^(I46)("Cardiac Arrest"))/ and eArrest.01 Cardiac Arrest is in 3001003 ("Yes, Prior to Any EMS Arrival (includes Transport EMS & Medical First Responders)"), 3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")) and eArrest.02 Cardiac Arrest Etiology is 3002001 ("Cardiac (Presumed)") and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"),2205003 ("Emergency Response (Intercept)"),2205009 ("Emergency Response (Mutual Aid)"))))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population transported to hospital	Same as initial patient population and eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)"), 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"),4230005 ("Transport by Another EMS Unit/Agency"),4230007 ("Transport by Another EMS Unit, with a Member of This Crew"))

Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
None	Not applicable
Numerator	
Patients with a neurology outcome at hospital discharge of Cerebral Performance Category of 1 or 2.	(eArrest.13 Neurological Outcome at Hospital Discharge is in (3013001 ("CPC 1 Good Cerebral Performance") or 3013003 ("CPC 2 Moderate Cerebral Disability"))

AHAEMS23.0: Stroke Diagnostic Accuracy (under diagnosis)

The percentage of patients aged 18 years and older transported from the scene from a 911 request who had an emergency department diagnosis of stroke

Initial Patient Population	
Patients aged 18 years and older with no primary or secondary impression of stroke during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression does not match \^(I60)(I61) (I63) (G45) (G46) / ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...")) or (eSituation.12 Provider's Secondary Impressions does not match \^(I60)(I61) (I63) (G45) (G46) / ("Nontraumatic subarachnoid hemorrhage...", "Nontraumatic intracerebral hemorrhage...", "Cerebral infarction..." "Transient cerebral ischemic attacks..." or "Vascular syndromes of brain in cerebrovascular diseases...")) and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)", 2205003 ("Emergency Response (Intercept)", 2205009 ("Emergency Response (Mutual Aid)"))))
Denominator	
Include:	Data Elements for Calculation
All patients in the initial patient population who were transported to hospital	Same as initial patient population and eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)", 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"),4230005

	("Transport by Another EMS Unit/Agency"),4230007 ("Transport by Another EMS Unit, with a Member of This Crew"))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
None	Not applicable
Numerator	
Patients who had an emergency department diagnosis of stroke	<u>(eOutcome.10 Emergency Department Diagnosis is not Null</u> <u>and</u> <u>eOutcome.10 Emergency Department Diagnosis is (Reference ICD10CM codes from stroke code list))</u>

AHAEMS24.0: STEMI Diagnostic Accuracy (under diagnosis)

The percentage of patients aged 18 years and older transported from the scene from a 911 request who had an emergency department diagnosis of STEMI

Initial Patient Population	
Patients aged 18 years and older with no primary or secondary impression of STEMI during a 911 response	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eSituation.11 Provider's Primary Impression does not match ^ (I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ or eSituation.12 Provider's Secondary Impressions does not match ^ (I20.9) (I21.0) (I21.1) (I21.2) (I21.3) (I21.4) (I21.9) (R07.9) ("Angina pectoris, unspecified," "ST elevation (STEMI) myocardial infarction," "Non-ST Elevation myocardial infarction," "Acute myocardial infarction, unspecified," "Chest pain, unspecified....,")/ and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)", 2205003 ("Emergency Response (Intercept)", 2205009 ("Emergency Response (Mutual Aid)"))
Denominator	
Include:	Data Elements for Calculation
All patients in the initial patient population who were transported to hospital	Same as initial patient population and eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)", 4230003 ("Transport by This EMS Unit,

	with a Member of Another Crew”),4230005 (“Transport by Another EMS Unit/Agency”),4230007 (“Transport by Another EMS Unit, with a Member of This Crew”))
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
None	Not applicable
Numerator	
Patients who had an emergency department diagnosis of STEMI	(eOutcome.10 Emergency Department Diagnosis is not Null and eOutcome.10 Emergency Department Diagnosis is (Reference ICD10CM codes from STEMI code list))

AHAEMS25.0: STEMI – Hospital or ED Discharge Disposition

The percentage of patients aged 18 years and older transported from the scene from a 911 request with an ED diagnosis of STEMI who had an ED or hospital disposition of deceased or expired

Initial Patient Population	
Patients aged 18 years and older transported from the scene from a 911 request with an ED diagnosis of STEMI	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)", 2205003 ("Emergency Response (Intercept)", 2205009 ("Emergency Response (Mutual Aid)")) and eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)", 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"),4230005 ("Transport by Another EMS Unit/Agency"),4230007 ("Transport by Another EMS Unit, with a Member of This Crew")) and (eOutcome.10 Emergency Department Diagnosis is not Null and eOutcome.10 Emergency Department Diagnosis is (Reference ICD10CM codes from STEMI code list))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population	Same as initial patient population
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
None	Not applicable
Numerator	

Patients who had an emergency department or hospital disposition of deceased or expired from STEMI	(eOutcome.01 Emergency Department Disposition is Deceased/Expired or eOutcome.02 Hospital Disposition is Deceased/Expired)
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AHAEMS26.0: Stroke – Hospital or ED Discharge Disposition

The percentage of patients aged 18 years and older transported from the scene from a 911 request with an ED diagnosis of stroke who had an ED or hospital disposition of deceased or expired

Initial Patient Population	
Patients aged 18 years and older transported from the scene from a 911 request with an ED diagnosis of stroke	((ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years")) and (eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")))) and eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)"), 4230003 ("Transport by This EMS Unit, with a Member of Another Crew"), 4230005 ("Transport by Another EMS Unit/Agency"), 4230007 ("Transport by Another EMS Unit, with a Member of This Crew")) and (eOutcome.10 Emergency Department Diagnosis is not Null and eOutcome.10 Emergency Department Diagnosis is (Reference ICD10CM codes from Stroke code list))
Denominator	
Include:	Data Elements for Calculation
Patients in the initial patient population	Same as initial patient population
Exclusions: (Always remove from denominator)	
None	Not applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
None	Not applicable

Numerator	
Patients who had an emergency department or hospital disposition of deceased or expired from stroke	<u>(eOutcome.01 Emergency Department Disposition is Deceased/Expired</u> or <u>eOutcome.02 Hospital Disposition is Deceased/Expired)</u>