



American Heart Association

EMS Performance Measures

2026



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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.

<h3>Initial Patient Population</h3> <p>Patients aged 18 years and older with a primary or secondary impression of stroke during a 911 response</p>	<p>(</p> <p><u>(ePatient.15 Age</u> is greater than or equal to 18 and <u>ePatient.16 Age Units</u> is 2546009 ("Years"))</p> <p>and</p> <p><u>(eSituation.11 Provider's Primary Impression</u> 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 <u>eSituation.12 Provider's Secondary Impressions</u> 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...")</p> <p>and</p> <p><u>eResponse.05 Type of Service Requested</u> is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid")"))</p>
<h3>Denominator</h3>	
<p>Include:</p> <p>Patients in the initial population</p>	<p>Data Elements for Calculation</p> <p>Equals Initial Population</p>

Exclusions: (Always remove from denominator)	
None	Not Applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
<ul style="list-style-type: none"> • Unable to Complete, Not Applicable, Pertinent Negative or 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	
Pre-arrival alert for stroke initiated during the EMS encounter	eDisposition.24 Destination Team Pre-Arrival Alert or Activation is 4424015 ("Stroke")

Description is derived from the [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 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 last known well was documented.

Initial Patient Population	<p>Patients aged 18 years and older with a primary or secondary impression of stroke during a 911 response</p> <p>(</p> <p>(ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years"))</p> <p>and</p> <p>(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..."))</p> <p>and</p> <p>eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")))</p>
Denominator	
Include:	Data Elements for Calculation

All patients in the initial population who had a stroke screen performed and/or positive score (severity) documented	Equals Initial Population and ((eVitals.30 Stroke Scale Type is not null or 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)	
<ul style="list-style-type: none"> • Unable to Complete, Not Applicable, Pertinent Negative or 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	
Last Known Well documented during the EMS encounter	eSituation.18 Date/Time Last Known Well is not in Null

AHAEMS3.1: Evaluation of Blood Glucose for Patients with Suspected Stroke

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.

<p>Initial Patient Population</p> <p>Patients aged 18 years and older with a primary or secondary impression of stroke during a 911 response</p>	<p>(</p> <p>(ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years"))</p> <p>and</p> <p>(eSituation.11 Provider's Primary Impression matches \ (I60) (I61) (I63) (G45) (G46)/ or eSituation.12 Provider's Secondary Impressions matches \ (I60) (I61) (I63) (G45) (G46)/)</p> <p>and</p> <p>eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area"), 2205003 ("Emergency Response (Intercept"), 2205009 ("Emergency Response (Mutual Aid"))))</p>
<p>Denominator</p>	
<p>Include:</p> <p>All patients in the initial population who had a stroke screen performed and/or positive score (severity) documented</p>	<p>Data Elements for Calculation</p> <p>Same as initial population and</p> <p>(</p> <p>(eVitals.30 Stroke Scale Type is not null or eVitals.29 Stroke Scale Score is in 3329005 ("Positive"))</p> <p>)</p>
<p>Exclusions: (Always remove from denominator)</p> <ul style="list-style-type: none"> • Unable to Complete, Not Applicable, Pertinent Negative or Refused for Stroke Scale or Stroke Scale Score, or 	<p>(</p> <p>(eVitals.30 Stroke Scale Type is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete"))</p> <p>or</p>

<ul style="list-style-type: none"> • Patient unresponsive identified by AVPU [Alert, Verbal, Pain, Unresponsive] scale, or • Patient Glasgow Coma Score ≤ 9, or • Unable to complete or refused blood glucose level 	<p>(eVitals.29 Stroke Scale Score is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete"))</p> <p>or</p> <p>eVitals.23 Total Glasgow Coma Score is less than or equal to 9</p> <p>or</p> <p>eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive")</p> <p>or</p> <p>eVitals.18 Blood Glucose Level in in 7701001 ("Not Applicable"), 8801019 ("Refused") 8801023 ("Unable to Complete")</p> <p>or</p> <p>eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care))</p> <p>or</p> <p>eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care"))</p> <p>)</p>
Exceptions: (Remove from denominator if present and numerator is not met)	
None	NOT APPLICABLE
Numerator	
Blood glucose evaluated during the EMS encounter	eVitals.18 Blood Glucose Level is not in 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)")) and eDisposition.30 Transport Disposition is in (
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	4230001 ("Transport by This EMS Unit (This Crew Only") 4230003 ("Transport by This EMS Unit, with a Member of Another Crew") 423005 ("Transport by Another EMS Unit/Agency") 4230007 ("Transport by Another EMS Unit, with a Member of This Crew"))
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 population and ((eVitals.30 Stroke Scale Type is not null or eVitals.29 Stroke Scale Score is in 3329005 ("Positive")))
Exclusions: (Always remove from denominator)	
<ul style="list-style-type: none"> Patients with a documented Last Known Well of greater than or equal to 24 hours prior to assessment, or Unable to Complete, Not Applicable, Pertinent Negative or 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, or 	(((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"))
Exceptions: (Remove from denominator if present and numerator is not met)	
None	NOT APPLICABLE
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	(<u>ePatient.15 Age</u> is greater than or equal to 18 and <u>ePatient.16 Age Units</u> is 2546009 ("Years")) and <u>eSituation.11 Provider's Primary Impression</u> 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 <u>eSituation.12 Provider's Secondary Impressions</u> 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 <u>eResponse.05 Type of Service Requested</u> 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	and <u>eVitals.04 ECG Type</u> 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)	
<ul style="list-style-type: none"> • Patients in cardiac arrest, or • Patients requiring advanced airway management or non-invasive (CPAP/BiPAP) prior to ECG, or • Patients in shock, respiratory arrest, or with injury, or requiring stabilization, or • Patients who refuse care 	<p>(<u>eArrest.01 Cardiac Arrest</u> 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 $((eAirway.10 Date/Time Decision to Manage the Patient with an Invasive Airway \text{ is not null})$ is before first <u>eVitals.04 ECG Type</u> is in (3304007 ("12 Lead-Left Sided (Normal"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead"))) where <u>eVitals.01 Date/Time Vital Signs Taken</u> is not null sorted by <u>eVitals.01 Date/Time Vital Signs Taken</u>) or <u>Medical Device Type</u> is in (1603037 ("Ventilator Assistance-BiPAP"), 1603039 ("Ventilator Assistance-CPAP")) or <u>eProtocols.01 Protocols Used</u> is in (9914127 ("Medical-Hypotension/Shock (Non-Trauma"), 9914139 ("Medical-Respiratory Distress/Asthma/COPD/Reactive Airway")) or </p>

	<p>or</p> <p><u>eSituation.02 Injury</u> is 9922005 ("Yes")</p> <p>or</p> <p><u>eDisposition.28 Patient Evaluation/Care</u> is in</p> <p>(</p> <p>4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care))</p> <p>or</p> <p><u>eProtocols.01 Protocols Used</u> is 9914189 ("General Refusal of Care")</p> <p>or</p> <p><u>eVitals.04 ECG Type</u> is 8801019 ("Refused")</p> <p>)</p>
Numerator	<p>Patients who had 12-Lead EGG performed within 10 minutes of first medical contact.</p> <p>((</p> <p><u>eVitals.04 ECG Type</u> is in (</p> <p>3304007 ("12 Lead-Left Sided (Normal")>,</p> <p>3304009 ("12 Lead-Right Sided"),</p> <p>3304011 ("15 Lead"),</p> <p>3304013 ("18 Lead"))</p> <p>where</p> <p><u>eVitals.01 Date/Time Vital Signs Taken</u> is not in</p> <p>(Null,</p> <p>7701001 ("Not Applicable")))</p> <p>and</p> <p><u>eTimes.07 Arrived at Patient Date/Time</u> is not in (Null,</p> <p>7701001 ("Not Applicable"))</p> <p>and (</p> <p><u>eVitals.01 Date/Time Vital Signs Taken</u> MINUS <u>eTimes.07 Arrived at Patient Date/Time</u> (> 0 Minutes and <= 10 Minutes))</p> <p>)</p>

AHAEMS6.1: Aspirin Administration for Suspect 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.

<p>Initial Patient Population</p> <p>Patients aged 18 years and older with a primary or secondary impression of a heart attack during a 911 response</p>	<p>(</p> <p>(ePatient.15 Age is greater than or equal to 18 and ePatient.16 Age Units is 2546009 ("Years"))</p> <p>and</p> <p>(eSituation.11 Provider's Primary Impression matches^\s*(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^\s*(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....,")/</p> <p>and</p> <p>eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area"), 2205003 ("Emergency Response (Intercept"), 2205009 ("Emergency Response (Mutual Aid"))))</p>
<p>Denominator</p> <p>Include:</p>	<p>Data Elements for Calculation</p>
<p>Patients in the initial population</p>	<p>Same as Initial Patient Population</p>

Exclusions: (Always remove from denominator)	
None	NOT APPLICABLE
Exceptions: (Remove from denominator if present and numerator is not met)	
<ul style="list-style-type: none"> Patients with a documented allergy or contraindication (e.g., Warfarin or other anticoagulant/antiplatelet medication, liver disease/cirrhosis, etc.) to aspirin, or Medication already taken or administered, or Pertinent Negatives of Refused, Unable to Complete, Medical Allergy 	((or <u>eHistory.06 Medication Allergies</u> is 9924003 ("RXNORM"), 1191 ("Aspirin") or <u>eHistory.06 Medication Allergies</u> is 9924001 ("ICD-10"), T39.015 ("Adverse effect of aspirin")) or <u>(eMedications.03 Medications Administered</u> is 1191 "Aspirin..." and <u>(eMedications.03 Medication Administered</u> is 8801009 ("Medication Already Taken") or <u>eMedications.02 Medication Administered</u> Prior to this Unit's Care is 9923003 ("Yes"))) or (and <u>eMedications.03 Medications Administered</u> is 1191 "Aspirin..." <u>eMedications.03 Medications Administered</u> is in (8801001 ("Contraindication Noted"), 8801007 ("Medication Allergy"), 8801003 ("Refused"))))
Numerator	
Patients who had aspirin administered during the EMS encounter	(<u>eMedications.03 Medication Administered</u> 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 transported from the scene from a 911 request	<p data-bbox="802 612 1279 635">(</p> <p data-bbox="889 530 1279 612">(ePatient.15 Age is greater than or equal to 18 and</p> <p data-bbox="889 627 1279 709">ePatient.16 Age Units is 2546009 ("Years"))</p> <p data-bbox="802 709 1279 732">and</p> <p data-bbox="889 745 1279 1068">(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</p> <p data-bbox="889 1083 1279 1353">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....,")/</p> <p data-bbox="802 1353 1279 1377">and</p> <p data-bbox="889 1391 1279 1662">eResponse.05 Type of Service Requested is in (2205001 ("Emergency Response (Primary Response Area)'), 2205003 ("Emergency Response (Intercept)'), 2205009 ("Emergency Response (Mutual Aid)"))</p> <p data-bbox="802 1662 1279 1685">and</p> <p data-bbox="889 1698 1279 1782">eDisposition.30 Transport Disposition is in (4230001 ("Transport by This EMS Unit (This Crew Only)'),</p>

	4230003 ("Transport by This EMS Unit, with a Member of Another Crew"), 423005 ("Transport by Another EMS Unit/Agency"), 423007 ("Transport by Another EMS Unit, with a Member of This Crew")))
Denominator	
Include:	Data Elements for Calculation
Patients in the Initial Population with a positive 12-Lead ECG for STEMI	
	Initial 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")) 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)	
<ul style="list-style-type: none"> Patients in cardiac arrest, or Patients requiring advanced airway management or non-invasive (CPAP/BiPAP) prior to ECG, or Patients in shock, respiratory arrest, or with injury, or requiring stabilization, or Patients who refuse care, or First ECG performed is not STEMI-positive, 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)

<ul style="list-style-type: none"> • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients) 	<p>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"))))</p> <p>where (eVitals.01 Date/Time Vital Signs Taken is not null)</p> <p>sorted by eVitals.01 Date/Time Vital Signs Taken))</p> <p>or Medical Device Type is in (1603037 ("Ventilator Assistance-BiPAP"), 1603039 ("Ventilator Assistance-CPAP"))</p> <p>or eProtocols.01 Protocols Used is in (9914127 ("Medical-Hypotension/Shock (Non-Trauma"), 9914139 ("Medical-Respiratory Distress/Asthma/COPD/Reactive Airway")))</p> <p>or eSituation.02 Injury is 9922005 ("Yes")</p> <p>or eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care"))</p> <p>or eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care"))</p> <p>or eVitals.04 ECG Type is 8801019 ("Refused")</p> <p>or (</p> <p>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"),</p>
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	<p>9901058 ("STEMI Septal Ischemia")) where and or)</p> <p>eVitals.01 Date/Time Vital Signs Taken is not null sorted by eVitals.01 Date/Time Vital Signs Taken) 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")</p>
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Numerator

Patients who had pre-arrival STEMI notification activated within 10 minutes of STEMI positive ECG.	<p>(</p> <p>eDisposition.25 Date/Time of Destination Prearrival Alert or Activation is not in (Null, 7701001 ("Not Applicable"))</p> <p>And</p> <p>eVitals.VitalsGroup exists where (</p> <p>(</p> <p>first (eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead"))</p> <p>and</p> <p>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"))</p>
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where

eVitals.01 Date/Time Vital Signs

Taken is not in (

Null,

7701001 ("Not Applicable"),

7701003 ("Not Recorded"))

)

and

eDisposition.25 Date/Time of

Destination Prearrival Alert or

Activation MINUS eVitals.01 Date/Time

Vital Signs Taken (> 0 Minutes and <=

10 Minutes)

)

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

The percentage of EMS patients \geq 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 transported from the scene from a 911 request	(and 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 \wedge (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 \wedge (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)")) and eDisposition.30 Transport Disposition is in (
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	4230001 ("Transport by This EMS Unit (This Crew Only") 4230003 ("Transport by This EMS Unit, with a Member of Another Crew") 423005 ("Transport by Another EMS Unit/Agency") 4230007 ("Transport by Another EMS Unit, with a Member of This Crew"))
Denominator	
Include:	Data Elements for Calculation
Patients in the Initial Patient Population with a positive STEMI ECG and transported to a PCI Capable Hospital	
	<p>Initial Patient Population and (</p> <p>eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal") 3304009 ("12 Lead-Right Sided") 3304011 ("15 Lead") 3304013 ("18 Lead"))</p> <p>and</p> <p>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"))</p> <p>where</p> <p>eVitals.01 Date/Time Vital Signs Taken is not in (Null, 7701001 ("Not Applicable"))</p> <p>and</p> <p>eDisposition.23 Hospital Capability is 9908031 ("Cardiac-STEMI/PCI Capable") 9908033 ("Cardiac-STEMI/PCI Capable (24/7)"))</p>
Exclusions: (Always remove from denominator)	
None	NOT APPLICABLE
Exceptions: (Remove from denominator if present and numerator is not met)	
<ul style="list-style-type: none"> Patients in cardiac arrest, or Patients requiring advanced airway management or non-invasive (CPAP/BiPAP) prior to ECG, or 	(eArrest.01 Cardiac Arrest is in (3001003 ("Yes, Prior to Any EMS Arrival (includes EMS & Medical First Responders")),

<ul style="list-style-type: none"> • Patients in shock, respiratory arrest, or with injury, or requiring stabilization, or • 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), or • Documented non-system response transport delay (i.e., crowd, distance, diversion, HazMat, route obstruction, safety, traffic, Weather, or patient condition change) 	<p>3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")</p> <p>or</p> <p>((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"))))</p> <p>where (eVitals.01 Date/Time Vital Signs Taken is not null sorted by eVitals.01 Date/Time Vital Signs Taken))</p> <p>or</p> <p>Medical Device Type is in (1603037 ("Ventilator Assistance-BiPAP"), 1603039 ("Ventilator Assistance-CPAP"))</p> <p>or</p> <p>eProtocols.01 Protocols Used is in (9914127 ("Medical-Hypotension/Shock (Non-Trauma"), 9914139 ("Medical-Respiratory Distress/Asthma/COPD/Reactive Airway")))</p> <p>or</p> <p>eSituation.02 Injury is 9922005 ("Yes")</p> <p>or</p> <p>eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care"))</p> <p>or</p> <p>eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care"))</p> <p>or</p> <p>eVitals.04 ECG Type is 8801019 ("Refused")</p> <p>or (</p>
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	<p>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"))</p> <p>where</p> <p>eVitals.01 Date/Time Vital Signs Taken is not null</p> <p>and</p> <p>sorted by eVitals.01 Date/Time Vital Signs Taken)</p> <p>or</p> <p>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")</p> <p>or</p> <p>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"))</p> <p>)</p>
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Numerator

<p>Patients who received primary PCI within 90 minutes of EMS First Medical Contact, or</p> <p>Who had an EMS transport time of greater than or equal to 45 minutes AND</p> <p>Who received a primary PCI within 120 minutes of EMS First Medical Contact</p>	<p>(</p> <p>eTimes.07 Arrived at Patient Date/Time is not in (Null, 7701001 ("Not Applicable"))</p> <p>and</p> <p>eTimes.09 Unit Left Scene Date/Time is</p>
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not in (Null,
7701001 ("Not Applicable"))
and
eTimes.11 Patient Arrived at Destination Date/Time is not in (
Null,
7701001 ("Not Applicable"))
and
(
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))
))
)

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 transported from the scene from a 911 request	(and <u>ePatient.15 Age</u> is greater than or equal to 18 and <u>ePatient.16 Age Units</u> is 2546009 ("Years") and <u>eSituation.11 Provider's Primary Impression</u> matches \wedge (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 <u>eSituation.12 Provider's Secondary Impressions</u> matches \wedge (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 <u>eResponse.05 Type of Service Requested</u> is in (2205001 ("Emergency Response (Primary Response Area)"), 2205003 ("Emergency Response (Intercept)"), 2205009 ("Emergency Response (Mutual Aid)")) and <u>eDisposition.30 Transport Disposition</u> is in (

	4230001 ("Transport by This EMS Unit (This Crew Only") 4230003 ("Transport by This EMS Unit, with a Member of Another Crew") 423005 ("Transport by Another EMS Unit/Agency") 4230007 ("Transport by Another EMS Unit, with a Member of This Crew"))
Denominator	
Include:	Data Elements for Calculation
Patients in the Initial Population with a prehospital STEMI positive ECG who were directly transported to a non-PCI capable hospital	
	Initial Population and <u>eVitals.04 ECG Type</u> is in (3304007 ("12 Lead-Left Sided (Normal") 3304009 ("12 Lead-Right Sided") 3304011 ("15 Lead") 3304013 ("18 Lead")) and <u>eVitals.03 Cardiac Rhythm/Electrocardiography (ECG)</u> is in (9901051 ("STEMI Anterior Ischemia") 9901053 ("STEMI Inferior Ischemia") 9901055 ("STEMI Lateral Ischemia") 9901057 ("STEMI Posterior Ischemia") 9901058 ("STEMI Septal Ischemia")) where <u>eVitals.01 Date/Time Vital Signs Taken</u> is not in (Null, 7701001 ("Not Applicable")) and <u>eDisposition.23 Hospital Capability</u> 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)	
<ul style="list-style-type: none"> Patients in cardiac arrest, or Patients requiring advanced airway management or non-invasive (CPAP/BiPAP) prior to ECG, or 	(<u>eArrest.01 Cardiac Arrest</u> is in (3001003 ("Yes, Prior to Any EMS Arrival (includes EMS & Medical First Responders")),)

<ul style="list-style-type: none"> • Patients in shock, respiratory arrest, or with injury, or requiring stabilization, or • 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), or • Documented non-system response transport delay (i.e., crowd, distance, diversion, HazMat, route obstruction, safety, traffic, Weather, or patient condition change) 	<p>3001005 ("Yes, After Any EMS Arrival (includes Transport EMS & Medical First Responders)")</p> <p>or</p> <p>((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"))))</p> <p>where (eVitals.01 Date/Time Vital Signs Taken is not null sorted by eVitals.01 Date/Time Vital Signs Taken))</p> <p>or</p> <p>Medical Device Type is in (1603037 ("Ventilator Assistance-BiPAP"), 1603039 ("Ventilator Assistance-CPAP"))</p> <p>or</p> <p>eProtocols.01 Protocols Used is in (9914127 ("Medical-Hypotension/Shock (Non-Trauma"), 9914139 ("Medical-Respiratory Distress/Asthma/COPD/Reactive Airway"))</p> <p>or</p> <p>eSituation.02 Injury is 9922005 ("Yes")</p> <p>or</p> <p>eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care"))</p> <p>or</p> <p>eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care"))</p> <p>or</p> <p>eVitals.04 ECG Type is 8801019 ("Refused")</p> <p>or (</p>
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	<p>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"))</p> <p>where</p> <p>eVitals.01 Date/Time Vital Signs Taken is not null</p> <p>and</p> <p>sorted by eVitals.01 Date/Time Vital Signs Taken)</p> <p>or</p> <p>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")</p> <p>or</p> <p>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"))</p> <p>)</p>
Numerator	<p>Patients who received thrombolytics within 60 minutes of EMS first medical contact, or</p> <p>Who had an EMS transport time of greater than or equal to 45 minutes AND received thrombolytics within 75 minutes of EMS First Medical Contact</p> <p>(</p> <p>eTimes.07 Arrived at Patient Date/Time is not in (Null, 7701001 ("Not Applicable"))</p> <p>and</p> <p>eTimes.09 Unit Left Scene Date/Time is</p>

	<p>not in (Null, 7701001 ("Not Applicable"))</p> <p>and</p> <p><u>eTimes.11 Patient Arrived at Destination Date/Time</u> is not in (Null, 7701001 ("Not Applicable"))</p> <p>and</p> <p>(</p> <p><u>eOutcome.12 Hospital Procedures</u> is (</p> <p>3E03017 "Introduction of Other Thrombolytic into Peripheral Vein, Open Approach...,"</p> <p>3E03317 "Introduction of Other Thrombolytic into peripheral Vein, Percutaneous Approach...,"</p> <p>3E04017 "Introduction of Other Thrombolytic into Central Vein, Open Approach...,"</p> <p>3E04317 "Introduction of Other Thrombolytic into Central Vein, Percutaneous Approach...")</p> <p>and</p> <p><u>eOutcome.20 Date/Time Hospital Procedure Performed</u> is not in (Null, 7701001 ("Not Applicable"))</p> <p>and ((</p> <p><u>eOutcome.20 Date/Time Hospital Procedure Performed</u> MINUS <u>eTimes.07 Arrived at Patient Date/Time</u> (> 0 Minutes and <= 60 Minutes))</p> <p>or ((</p> <p><u>eTimes.11 Patient Arrived at Destination</u> MINUS <u>eTimes.09 Unit Left Scene Date/Time</u> (>=45 Minutes))</p> <p>and (</p> <p><u>eOutcome.20 Date/Time Hospital Procedure Performed</u> MINUS <u>eTimes.07 Arrived at Patient Date/Time</u> (> 0 Minutes and <= 75 Minutes))))</p> <p>)</p>
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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 to the destination hospital or freestanding emergency department from the scene from a 911 request	<p>(</p> <p><u>(ePatient.15 Age</u> is greater than or equal to 18</p> <p>and</p> <p><u>ePatient.16 Age Units</u> is 2546009 ("Years"))</p> <p>and</p> <p><u>(eSituation.11 Provider's Primary Impression</u></p> <p>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...")</p> <p>or</p> <p><u>eSituation.12 Provider's Secondary Impressions</u></p> <p>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...")</p> <p>and</p> <p><u>eDisposition.30 Transport Disposition</u> is in (</p> <p>4230001 ("Transport by This EMS Unit (This Crew Only"),</p> <p>4230003 ("Transport by This EMS Unit, with a Member of Another Crew"),</p> <p>423005 ("Transport by Another EMS Unit/Agency").</p>

	<p>and</p> <p>4230007 ("Transport by Another EMS Unit, with a Member of This Crew")</p> <p><u>eResponse.05 Type of Service Requested</u> is in (</p> <p>2205001 ("Emergency Response (Primary Response Area")",</p> <p>2205003 ("Emergency Response (Intercept")",</p> <p>2205009 ("Emergency Response (Mutual Aid")")</p> <p>)</p>
Denominator	
Include:	Data Elements for Calculation
<p>Patients in the Initial Population who</p> <ul style="list-style-type: none"> • were transported to hospital or freestanding emergency department, • received thrombolytics, and • had stroke screen performed and/or positive score (severity) documented 	<p>Initial Population</p> <p>and</p> <p><u>eDisposition.21 Type of Destination</u> is in (</p> <p>4221003 ("Hospital – Emergency Department"),</p> <p>4221023 ("Freestanding Emergency Department"))</p> <p>and</p> <p><u>eOutcome.09 Emergency Department Procedures</u> is (</p> <p>3E03017 "Introduction of Other Thrombolytic into Peripheral Vein, Open Approach...,"</p> <p>3E03317 "Introduction of Other Thrombolytic into peripheral Vein, Percutaneous Approach...,"</p> <p>3E04017 "Introduction of Other Thrombolytic into Central Vein, Open Approach...,"</p> <p>3E04317 "Introduction of Other Thrombolytic into Central Vein, Percutaneous Approach...")</p> <p>and</p> <p>(</p> <p><u>(eVitals.30 Stroke Scale Type</u> is not null or</p> <p><u>eVitals.29 Stroke Scale Score</u> is in 3329005 ("Positive")</p> <p>)</p>
Exclusions: (Always remove from denominator)	
None	NOT APPLICABLE
Exceptions: (Remove from denominator if present and numerator is not met)	

<ul style="list-style-type: none"> • 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 	<p>((eSituation.18 Date/Time Last Known Well is greater than or equal to 24 hours before</p> <p>eVitals.01 Date/Time Vital Signs Taken) where</p> <p>(eSituation.18 Date/Time Last Known Well is not null and</p> <p>eVitals.01 Date/Time Vital Signs Taken is not null))</p> <p>or</p> <p>eVitals.23 Total Glasgow Coma Score is less than or equal to 9</p> <p>or</p> <p>eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive")</p> <p>or</p> <p><u>eResponse.10 Type of Scene Delay</u> 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"))</p> <p>or</p> <p><u>eResponse.11 Type of Transport Delay</u> 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"))</p> <p>or</p> <p>(eVitals.30 Stroke Scale Type is in 7701001 ("Not Applicable"),</p>
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	<p>8801019 ("Refused"), 8801023 ("Unable to Complete")</p> <p>or</p> <p>(eVitals.29 Stroke Scale Score is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete"))</p> <p>or</p> <p>eDisposition.28 Patient Evaluation/Care is in (4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care"))</p> <p>or</p> <p>eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care")</p> <p>or</p> <p>eVitals.04 ECG Type is 8801019 ("Refused"))</p>
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Numerator

<p>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</p>	<p>(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</p>
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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 \(>](#)
[0 Minutes and <= 105 Minutes\)\)\)](#)
)

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.

	<p>and</p> <p>4230007 ("Transport by Another EMS Unit, with a Member of This Crew")</p> <p><u>eResponse.05 Type of Service Requested</u> is in (</p> <p>2205001 ("Emergency Response (Primary Response Area)"),</p> <p>2205003 ("Emergency Response (Intercept)"),</p> <p>2205009 ("Emergency Response (Mutual Aid)")</p> <p>)</p>
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Denominator

Include:	Data Elements for Calculation
<p>Patients in the Initial Population who:</p> <ul style="list-style-type: none"> • were transported to thrombectomy-capable stroke center or comprehensive stroke center, • received endovascular therapy, and • had positive stroke score (severity) documented 	<p>Initial Population</p> <p>and</p> <p><u>eDisposition.23 Hospital Capability</u> is in (9908041 ("Stroke-Thrombectomy-Capable Stroke Center (TSC)"), 9908043 ("Stroke-Comprehensive Stroke Center (CSC)")</p> <p>and</p> <p><u>eOutcome.09 Emergency Department Procedures</u> is (</p> <p>03CG3Z7 "Extirpation of matter from intracranial artery using stent retriever, percutaneous approach...,"</p> <p>03CG3ZZ "Extirpation of matter from intracranial artery, percutaneous approach...,"</p> <p>03CP3Z7 "Extirpation of matter from right verbal artery using stent retriever, percutaneous approach...,"</p> <p>03CP3ZZ "Extirpation of matter from right vertebral artery, percutaneous approach...,"</p> <p>03CQ3Z7 "Extirpation of matter from left vertebral artery using stent retriever, percutaneous approach...,"</p> <p>03CQ3ZZ "Extirpation of matter from left vertebral artery, percutaneous approach...,"</p> <p>B31R1ZZ "Fluoroscopy of intracranial arteries using low osmolar contrast...,"</p> <p>B31RYZZ "Fluoroscopy of intracranial arteries using other contrast...")</p> <p>)</p>

	<p>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") ") or eVitals.29 Stroke Scale Score is in 3329005 ("Positive"))</p>
Exclusions: (Always remove from denominator)	
None	NOT APPLICABLE
Exceptions: (Remove from denominator if present and numerator is not met)	
<ul style="list-style-type: none"> 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 	<p>((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))</p> <p>or</p> <p>or</p> <p>or</p> <p>or</p> <p>eVitals.23 Total Glasgow Coma Score is less than or equal to 9</p> <p>eVitals.26 Level of responsiveness (AVPU) is 3326007 ("Unresponsive")</p> <p>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"))</p>

	<p>or</p> <p><u>eResponse.11 Type of Transport Delay</u> is in</p> <p>(</p> <p>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"))</p> <p>or</p> <p>(<u>eVitals.30 Stroke Scale Type</u> is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete"))</p> <p>or</p> <p>(<u>eVitals.29 Stroke Scale Score</u> is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete"))</p> <p>or</p> <p><u>eDisposition.28 Patient Evaluation/Care</u> is in</p> <p>(</p> <p>4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care"))</p> <p>or</p> <p><u>eProtocols.01 Protocols Used</u> is 9914189 ("General Refusal of Care")</p> <p>or</p> <p><u>eVitals.04 ECG Type</u> is 8801019 ("Refused")</p> <p>)</p>
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Numerator

<p>Patients who received endovascular within 120 minutes of EMS first medical contact, or</p> <p>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</p>	<p>(</p> <p><u>eTimes.07 Arrived at Patient Date/Time</u> is not in</p> <p>(</p> <p>Null, 7701001 ("Not Applicable"))</p> <p>and</p> <p><u>eTimes.09 Unit Left Scene Date/Time</u> is not</p>
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<p>contact</p>	<p>in (</p> <p>Null,</p> <p>7701001 ("Not Applicable"))</p> <p>and</p> <p><u>eTimes.11 Patient Arrived at Destination Date/Time</u> is not in (</p> <p>Null,</p> <p>7701001 ("Not Applicable"))</p> <p>and</p> <p>(</p> <p><u>eOutcome.09 Emergency Department Procedures</u> is</p> <p>(</p> <p>03CG3Z7 "Extirpation of matter from intracranial artery using stent retriever, percutaneous approach..."</p> <p>03CG3ZZ "Extirpation of matter from intracranial artery, percutaneous approach..."</p> <p>03CP3Z7 "Extirpation of matter from right vertebral artery using stent retriever, percutaneous approach..."</p> <p>03CP3ZZ "Extirpation of matter from right vertebral artery, percutaneous approach..."</p> <p>03CQ3Z7 "Extirpation of matter from left vertebral artery using stent retriever, percutaneous approach..."</p> <p>03CQ3ZZ "Extirpation of matter from left vertebral artery, percutaneous approach..."</p> <p>B31R1ZZ "Fluoroscopy of intracranial arteries using low osmolar contrast..."</p> <p>B31RYZZ "Fluoroscopy of intracranial arteries using other contrast...")</p> <p>and</p> <p><u>eOutcome.19 Date/Time Emergency Department Procedure Performed</u> is not in</p> <p>(</p> <p>Null,</p> <p>7701001 ("Not Applicable"))</p> <p>and ((</p> <p><u>eOutcome.19 Date/Time Emergency Department Procedure Performed</u></p> <p>MINUS <u>eTimes.07 Arrived at Patient Date/Time</u> (> 0 Minutes and <= 120 Minutes))</p> <p>or ((</p> <p><u>eTimes.11 Patient Arrived at Destination</u></p>
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	<p>MINUS eTimes.09 Unit Left Scene Date/Time (>=45 Minutes))</p> <p>and ((</p> <p> eOutcome.19 Date/Time Emergency Department Procedure Performed MINUS eTimes.07 Arrived at Patient Date/Time (> 0 Minutes and <= 150 Minutes)))))</p>
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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) scan 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 to the destination hospital or freestanding emergency department from the scene from a 911 request	<p>(</p> <p><u>ePatient.15 Age</u> is greater than or equal to 18 and <u>ePatient.16 Age Units</u> is 2546009 ("Years")</p> <p>and</p> <p><u>eSituation.11 Provider's Primary Impression</u> matches$\backslash^ (I60)(I61) (I63) (G45) (G46)/$ ("Nontraumatic subarachnoid hemorrhage...," "Nontraumatic intracerebral hemorrhage...," "Cerebral infarction..." "Transient cerebral ischemic attacks...," or "Vascular syndromes of brain in cerebrovascular diseases...") or <u>eSituation.12 Provider's Secondary Impressions</u> matches$\backslash^ (I60)(I61) (I63) (G45) (G46)/$ ("Nontraumatic subarachnoid hemorrhage...," "Nontraumatic intracerebral hemorrhage...," "Cerebral infarction..." "Transient cerebral ischemic attacks...," or "Vascular syndromes of brain in cerebrovascular diseases...")</p> <p>and</p> <p><u>eDisposition.30 Transport Disposition</u> 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"),</p>
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	<p>and</p> <p>4230007 ("Transport by Another EMS Unit, with a Member of This Crew")</p> <p><u>eResponse.05 Type of Service Requested</u> is in (</p> <p>2205001 ("Emergency Response (Primary Response Area")",</p> <p>2205003 ("Emergency Response (Intercept")",</p> <p>2205009 ("Emergency Response (Mutual Aid")")</p> <p>)</p>
Denominator	
Include:	Data Elements for Calculation
All patients in the initial population who had a stroke screen performed and/or positive score (severity) documented	<p>Same as initial population</p> <p>and</p> <p>(</p> <p><u>eVitals.30 Stroke Scale Type</u> is not null</p> <p>or</p> <p><u>eVitals.29 Stroke Scale Score</u> is in</p> <p>3329005 ("Positive")</p> <p>)</p>
Exclusions: (Always remove from denominator)	
None	Not Applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
<ul style="list-style-type: none"> 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), 	<p>(</p> <p>((<u>eSituation.18 Date/Time Last Known Well</u> is greater than or equal to 24 hours before</p> <p><u>eVitals.01 Date/Time Vital Signs Taken</u>)</p> <p>where</p> <p><u>eSituation.18 Date/Time Last Known Well</u> is not null</p> <p>and</p> <p><u>eVitals.01 Date/Time Vital Signs Taken</u> is not null))</p> <p>or</p> <p><u>eVitals.23 Total Glasgow Coma Score</u> is less than or equal to 9</p> <p>or</p> <p><u>eVitals.26 Level of responsiveness (AVPU)</u> is 3326007 ("Unresponsive")</p> <p>or</p> <p><u>eResponse.10 Type of Scene Delay</u> is in (</p> <p>2210005 ("Crowd"),</p>

<ul style="list-style-type: none"> • Pertinent Negatives of Refused, Unable to Complete or Not Applicable, or • Patients who refused care • 	<p>2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language Barrier") 2210021 ("Patient Access") 2210023 ("Safety-Crew Staging"), 2210025 ("Safety-Patient"), 2210031 ("Triage/Multiple Patients"))</p> <p>or</p> <p>eResponse.11 Type of Transport Delay is in (</p> <p>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"))</p> <p>or</p> <p>(eVitals.30 Stroke Scale Type is in</p> <p>7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete"))</p> <p>or</p> <p>(eVitals.29 Stroke Scale Score is in</p> <p>7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete"))</p> <p>or</p> <p>eDisposition.28 Patient Evaluation/Care is in</p> <p>(</p> <p>4228003 ("Patient Evaluated and Refused Care"), 4228007 ("Patient Refused Evaluation/Care))</p> <p>or</p> <p>eProtocols.01 Protocols Used is 9914189 ("General Refusal of Care")</p> <p>)</p>
Numerator	<p>Patients who received CT within 60 minutes of EMS first medical contact or within 75 (</p> <p>eTimes.07 Arrived at Patient Date/Time</p>

<p>minutes for patient's transport time greater than 45 minutes</p>	<p>is not in (Null,7701001 ("Not Applicable")) and <u>eTimes.09 Unit Left Scene Date/Time</u> is not in (Null, 7701001 ("Not Applicable")) and <u>eTimes.11 Patient Arrived at Destination Date/Time</u> is not in (Null, 7701001 ("Not Applicable")) and ((<u>eOutcome.09 Emergency Department Procedures</u> is (<u>B32R0ZZ</u> Computerized Tomography (CT Scan) of Intracranial Arteries using High Osmolar Contrast <u>B32R1ZZ</u> Computerized Tomography (CT Scan) of Intracranial Arteries using Low Osmolar Contrast <u>B32RYZZ</u> Computerized Tomography (CT Scan) of Intracranial Arteries using Other Contrast <u>B32RZ2Z</u> Computerized Tomography (CT Scan) of Intracranial Arteries using Intravascular <u>B32RZZZ</u> Computerized Tomography (CT Scan) of Intracranial Arteries) and <u>eOutcome.19 Date/Time Emergency Department Procedure Performed</u> is not in (Null, 7701001 ("Not Applicable"))) and (<u>eOutcome.19 Date/Time Emergency Department Procedure Performed</u> <u>MINUS eTimes.07 Arrived at Patient Date/Time</u> (> 0 Minutes and <= 60 Minutes))) OR (<u>eTimes.11 Patient Arrived at Destination Date/Time</u> <u>MINUS eTimes.09 Unit Left</u> </p>
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	<p>and</p> <p><u>Scene Date/Time (> 45 Minutes)</u></p> <p><u>eOutcome.09 Emergency Department Procedures</u> is</p> <p>(</p> <p><u>B32R0ZZ</u> Computerized Tomography (CT Scan) of Intracranial Arteries using High Osmolar Contrast</p> <p><u>B32R1ZZ</u> Computerized Tomography (CT Scan) of Intracranial Arteries using Low Osmolar Contrast</p> <p><u>B32RYZZ</u> Computerized Tomography (CT Scan) of Intracranial Arteries using Other Contrast</p> <p><u>B32RZ2Z</u> Computerized Tomography (CT Scan) of Intracranial Arteries using Intravascular</p> <p><u>B32RZZZ</u> Computerized Tomography (CT Scan) of Intracranial Arteries</p> <p>)</p> <p>and</p> <p><u>eOutcome.19 Date/Time Emergency Department Procedure Performed</u> is not in</p> <p>(</p> <p>Null,</p> <p>7701001 ("Not Applicable"))</p> <p>and (</p> <p><u>eOutcome.19 Date/Time Emergency Department Procedure Performed</u> MINUS <u>eTimes.07 Arrived at Patient Date/Time</u> (> 0 Minutes and <=75 Minutes))</p> <p>)</p>
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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 transported from the scene from a 911 request	<p>(((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 eDisposition.30 Transport Disposition is in (</p> <ul style="list-style-type: none">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"))

	<p>and</p> <p><u>eResponse.05 Type of Service Requested</u> is in (2205001 ("Emergency Response (Primary Response Area")"), 2205003 ("Emergency Response (Intercept")"), 2205009 ("Emergency Response (Mutual Aid")"))</p>
Denominator	
Include:	Data Elements for Calculation
All patients in the initial population who had a stroke screen performed and/or positive score (severity) documented	Same as initial population and ((<u>eVitals.30 Stroke Scale Type</u> is not null or <u>eVitals.29 Stroke Scale Score</u> is in 3329005 ("Positive"))
Exclusions: (Always remove from denominator)	
None	Not Applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
<ul style="list-style-type: none"> • Unable to Complete or Not Applicable or Pertinent Negative or 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, or • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients) 	((<u>eVitals.30 Stroke Scale Type</u> is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or (<u>eVitals.29 Stroke Scale Score</u> is in 7701001 ("Not Applicable"), 8801019 ("Refused"), 8801023 ("Unable to Complete")) or <u>eVitals.23 Total Glasgow Coma Score</u> is less than or equal to 9 or <u>eVitals.26 Level of responsiveness (AVPU)</u> is 3326007 ("Unresponsive") or <u>eResponse.10 Type of Scene Delay</u> 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.) (<u>eTimes.07 Arrived at Patient Date/Time</u> is not in (Null, 7701001 ("Not Applicable")) and <u>eTimes.09 Unit Left Scene Date/Time</u> is not in (Null, 7701001 ("Not Applicable")) and (<u>eTimes.09 Unit Left Scene Date/Time</u> MINUS <u>eTimes.07 Arrived at Patient Date/Time</u> (> 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.

	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 positive STEMI 12-lead ECG performed during the EMS encounter	
	<p>Same as Initial Patient Population and</p> <p>(</p> <p style="padding-left: 20px;">eVitals.04 ECG Type is in (3304007 ("12 Lead-Left Sided (Normal)"), 3304009 ("12 Lead-Right Sided"), 3304011 ("15 Lead"), 3304013 ("18 Lead"))</p> <p>and</p> <p style="padding-left: 20px;">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"))</p> <p>where</p> <p style="padding-left: 20px;">eVitals.01 Date/Time Vital Signs Taken is not in (Null, 7701001 ("Not Applicable"))</p> <p>)</p>
Exclusions: (Always remove from denominator)	
None	Not Applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
<ul style="list-style-type: none"> • Patients in cardiac arrest, or • Patients requiring advanced airway management or non-invasive (CPAP/BiPAP) prior to ECG, or • Patients in shock, respiratory arrest, or with injury, or requiring stabilization, or • Patients who refuse care, or • First ECG performed is not STEMI-positive, or 	<p>(</p> <p style="padding-left: 20px;">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)"))</p> <p>or</p> <p style="padding-left: 20px;">((eAirway.10 Date/Time Decision to Manage the Patient with an Invasive Airway is not null</p>

<ul style="list-style-type: none"> • Documented non-system reasons for scene delay (i.e., crowd, extrication, HazMat, language barrier, patient access, safety, triage/multiple patients 	<p>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 Lateral Ischemia"), 9901057 ("STEMI Posterior Ischemia"), 9901058 ("STEMI Septal Ischemia")))</p>
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	<p>where</p> <p>and</p> <p>or</p> <p>)</p>
	<p><u>eVitals.01 Date/Time Vital Signs Taken</u> is not null</p> <p>sorted by <u>eVitals.01 Date/Time Vital Signs Taken</u>)</p> <p><u>eResponse.10 Type of Scene Delay</u> is in (</p> <p>2210005 ("Crowd"),</p> <p>2210011 ("Extrication"),</p> <p>2210013 ("HazMat"),</p> <p>2210015 ("Language Barrier")</p> <p>2210021 ("Patient Access")</p> <p>2210023 ("Safety-Crew Staging"),</p> <p>2210025 ("Safety-Patient"),</p> <p>2210031 ("Triage/Multiple Patients")</p> <p>)</p>

Numerator	
Patients who had time of less than 15 minutes from arrival at patient on scene to time unit left scene	<p>(</p> <p>and</p> <p>and</p> <p>)</p>

	<p><u>eTimes.07 Arrived at Patient Date/Time</u> is not in (Null,</p> <p>7701001 ("Not Applicable"))</p> <p><u>eTimes.09 Unit Left Scene Date/Time</u> is not in (Null, 7701001 ("Not Applicable"))</p> <p>(<u>eTimes.09 Unit Left Scene Date/Time</u> MINUS <u>eTimes.07 Arrived at Patient Date/Time</u> (> 0 Minutes and <= 15 Minutes))</p> <p>)</p>
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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 population	Equals Initial 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"))
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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	(<u>eSituation.11 Provider's Primary Impression</u> matches \^ (I46) ("Cardiac Arrest")/ or <u>eSituation.12 Provider's Secondary Impressions</u> matches \^ (I46) ("Cardiac Arrest")/ and <u>eArrest.01 Cardiac Arrest</u> 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 <u>eArrest.02 Cardiac Arrest Etiology</u> is 3002001 ("Cardiac (Presumed)") and <u>eResponse.05 Type of Service Requested</u> 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 chest compressions by bystander or EMS	Same as Initial Patient Population and (<u>eArrest.03 Resuscitation Attempted by EMS</u> is 3003005 ("Initiated Chest Compressions") and <u>(eArrest.20 Who First Initiated CPR</u> 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)	
<ul style="list-style-type: none"> • Compressions not attempted as considered futile, DNR orders, signs of circulation, or • 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) 	(<u>eArrest.03 Resuscitation Attempted by EMS</u> is 3003007 ("Not Attempted-Considered Futile"), 3003009 ("Not Attempted-DNR Orders"), 3003011 ("Not Attempted-Signs of Circulation") or <u>eResponse.09 Type of Response Delay</u> 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 <u>eResponse.10 Type of Scene Delay</u> 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.	(<u>eTimes.031 PSAP Call Date/Time</u> is not in (Null, 7701001 ("Not Applicable")) and <u>eArrest.19 Date/Time of Initial CPR</u> is not in (Null, 7701001 ("Not Applicable")) and <u>(eArrest.19 Date/Time of Initial CPR</u>

	<p>MINUS eTimes.031 PSAP Call Date/Time (> 0 Seconds and <= 420 Seconds))</p>
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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	((<u>eSituation.11 Provider's Primary Impression</u> matches \^ (I46) ("Cardiac Arrest")/ or <u>eSituation.12 Provider's Secondary Impressions</u> matches \^ (I46) ("Cardiac Arrest")/ and <u>eArrest.01 Cardiac Arrest</u> 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 <u>eArrest.02 Cardiac Arrest Etiology</u> is 3002001 ("Cardiac (Presumed)") and <u>eResponse.05 Type of Service Requested</u> 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 chest compressions by EMS	Same as Initial Patient Population and ((<u>eArrest.03 Resuscitation Attempted by EMS</u> is 3003005 ("Initiated Chest Compressions") and (<u>eArrest.20 Who First Initiated CPR</u> 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)	
<ul style="list-style-type: none"> • Compressions not attempted as considered futile, DNR orders, signs of circulation, or • 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) 	(<u>eArrest.03 Resuscitation Attempted by EMS</u> is 3003007 ("Not Attempted-Considered Futile"), 3003009 ("Not Attempted-DNR Orders"), 3003011 ("Not Attempted-Signs of Circulation") or <u>eResponse.09 Type of Response Delay</u> 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 <u>eResponse.10 Type of Scene Delay</u> 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 360 seconds of 911 dispatch.	(<u>eTimes.03 Unit Notified by Dispatch Date/Time</u> is not in (Null, 7701001 ("Not Applicable")) and <u>eArrest.19 Date/Time of Initial CPR</u> 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))

)

AHAEMS18.0: 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 population	Equals Initial Population
Exclusions: (Always remove from denominator)	
None	Not Applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
•	
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”))
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AHAEMS19.0: 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 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

	<p>(eArrest.22 Who First Defibrillated the Patient is not in (Null, 7701001 ("Not Applicable")))</p>
Exclusions: (Always remove from denominator)	
None	Not Applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
<ul style="list-style-type: none"> • Compressions not attempted as considered futile, DNR orders, signs of circulation, or • 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) 	<p>(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"))) </p>
Numerator	
Patients who had first initial EMS defibrillation within 480 seconds of PSAP call.	<p>(eTimes.031 PSAP Call Date/Time Date/Time is not in (Null, 7701001 ("Not Applicable")) and)</p>

eProcedures.01 Date/Time Procedure
Performed is not in
(
Null,
7701001 ("Not Applicable"))
and
(eProcedures.01 Date/Time Procedure
Performed MINUS eTimes.031 PSAP
Call Date/Time (> 0 Seconds and <= 480 Seconds))
)

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	((<u>eSituation.11 Provider's Primary Impression</u> matches \^ (I46) ("Cardiac Arrest")/ or <u>eSituation.12 Provider's Secondary Impressions</u> matches \^ (I46) ("Cardiac Arrest")/ and <u>eArrest.01 Cardiac Arrest</u> 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 <u>eArrest.02 Cardiac Arrest Etiology</u> is 3002001 ("Cardiac (Presumed)") and <u>eResponse.05 Type of Service Requested</u> 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 ((<u>eArrest.03 Resuscitation Attempted by EMS</u> is 3003001 ("Attempted Defibrillation") and (<u>eArrest.22 Who First Defibrillated the Patient</u> is 3020007 ("First Responder

	<p>(EMS"'), 3020013 ("EMS Responder (transport EMS"'))</p> <p>)</p>
Exclusions: (Always remove from denominator)	
None	Not Applicable
Exceptions: (Remove from denominator if present and numerator is not met)	
<ul style="list-style-type: none"> • Compressions not attempted as considered futile, DNR orders, signs of circulation, or • 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) 	<p>(</p> <p><u>eArrest.03 Resuscitation Attempted by EMS</u> is 3003007 ("Not Attempted-Considered Futile"), 3003009 ("Not Attempted-DNR Orders"), 3003011 ("Not Attempted-Signs of Circulation")</p> <p>or</p> <p><u>eResponse.09 Type of Response Delay</u> is in (</p> <p>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"))</p> <p>or</p> <p><u>eResponse.10 Type of Scene Delay</u> is in (</p> <p>2210005 ("Crowd"), 2210011 ("Extrication"), 2210013 ("HazMat"), 2210015 ("Language Barrier") 2210021 ("Patient Access") 2210023 ("Safety-Crew Staging"), 2210025 ("Safety-Patient"), 2210031 ("Triage/Multiple Patients"))</p> <p>)</p>
Numerator	
Patients who had first initial EMS defibrillation within 420 seconds of 911 dispatch.	<p>(</p> <p><u>eTimes.03 Unit Notified by Dispatch Date/Time</u> is not in</p> <p>(</p> <p>Null, 7701001 ("Not Applicable"))</p> <p>and</p>

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))
)