



## MAEMSA Clinical Performance Measure Definitions

### Cardiac Arrest

#### **CA 01: Percentage of OHCA Cases Correctly Identified by PSAP That Were Recognizable**

**Description:** Percentage of Out of Hospital Cardiac Arrest (OHCA) cases correctly identified by Public Safety Answering Point (PSAP) dispatcher that were recognizable on QI review.

**Numerator:** # telecommunicator recognized OHCA

**Denominator:** #QI-reviewed and EMS confirmed OHCA

**Measure Source:** AHA Mission Lifeline

**Data Source:** ProQA, CAD, ImageTrend

**Note:** MedStar does QI review on 100% of EMS

**Goal:** 95% (AHA)

#### **CA 02: Median time between 9-1-1 call and OHCA recognition**

**Description:** Median amount of time in seconds between 9-1-1 call connected and OHCA recognition.

**Calculation:** Recognition of OHCA noted in ProQA software minus call receipt at MedStar PSAP time

**Measure Source:** AHA Mission Lifeline

**Data Source:** ProQA, CAD

**Goal:** < 90 seconds (AHA)

#### **CA 03: Percentage of Telecommunicator-Recognized OHCA's Receiving T-CPR**

**Description:** Number of telecommunicator-recognized OHCA cases receiving T-CPR / number of QI-reviewed EMS-confirmed OHCA with recognition noted.

**Numerator:** # cases who received T-CPR

**Denominator:** #QI-reviewed and EMS confirmed OHCA and telecommunicator recognition

**Measure Source:** AHA Mission Lifeline

**Data Source:** ProQA, CARES, ImageTrends

**Goal:** 75% (AHA)

#### **CA 04: Median time between 9-1-1 Access to T-CPR hands-on-chest time for OHCA cases**

**Description:** Median amount of time in seconds between 9-1-1 call connected and first chest compression directed by telecommunicator.

**Calculation:** Among dispatch QI-reviewed and EMS confirmed OHCA with telecommunication recognition, the median value of MedStar PSAP call receipt minus time of first compression administered at direction of telecommunicator

**Measure Source:** AHA Mission Lifeline

**Data Source:** ProQA, CARES, ImageTrend

**Goal:** <150 seconds (AHA)

#### **CA 05: Utstein Survival %**

**Description:** Patients experiencing non-traumatic, bystander-witnessed out-of-hospital cardiac arrest (OHCA) presenting with a shockable rhythm that are discharged from the hospital alive.

**Numerator:** #Patients discharged from hospital

**Denominator:** # non-traumatic cardiac arrest of suspected cardiac etiology with an initial shockable rhythm

**Measure Source:** CARES

**Data Source:** ImageTrends, CARES

**Goal:** >30.7% (National CARES Average)

## **Airway Management**

### **Airway 01: First Pass Intubation Success without Hypotension or Hypoxia**

**Description:** The percentage of non-cardiac arrest intubations with first pass success without hypotension (SBP  $\geq 90$ ) or hypoxia ( $\geq 90$ ) during the peri-intubation period (+/- 5 minutes from procedure time).

**Numerator:** Attempts with successful first pass success without hypotension (SBP  $\geq 90$ ) or hypoxia ( $\geq 90$ ) during the peri-intubation period (+/- 5 minutes from procedure time).

**Denominator:** Patients with initial intubation attempt for patients not in cardiac arrest.

**Measure Source:** NEMSQA Airway O1

**Data Source:** Image Trend, Zoll Monitor Files, VL recordings

**Goal:** > National Average (when available)

### **Airway 02: Adequate Oxygen Saturation Achieved Before Intubation Procedure**

**Description:** The percentage of intubation procedures in which adequate patient oxygen levels were achieved and maintained for 3 minutes prior to the intubation procedure.

**Numerator:** # patients with SpO<sub>2</sub>  $\geq 94\%$  for at least 3 continuous, uninterrupted minutes prior to onset of intubation attempt.

**Denominator:** # patients with initial intubation attempt for patients not in cardiac arrest.

**Measure Source:** [NEMSQA Airway O-5](#)

**Data Source:** Image Trend, Zoll Monitor Files, VL recordings

**Goal:**  $\geq$  National Average ([NEMSIS](#) when available)

### **Airway 03: Waveform Capnography Airway Device Monitoring**

**Description:** The percentage of advanced airway procedures in which waveform capnography is used for tube placement confirmation and monitoring

**Numerator:** # of patients who have continuous 4-phase waveform EtCO<sub>2</sub> immediately following and continuously until ED arrival.

**Denominator:** # of patients with invasive airway placement.

**Measure Source:** NEMSQA Airway 18

**Data Source:** Image Trend, Zoll Monitor Files, VL recordings

**Goal:** >National Average (when available)

### **Airway 05: Unrecognized Failed Airway**

**Description:** The percentage of patients for whom EtCO<sub>2</sub> is NOT present at the end of the event AND for whom adjudication did not reveal a plausible explanation (ex. gradual loss of EtCO<sub>2</sub> in cardiac arrest)

**Numerator:** # of patients who do NOT have continuous 4-phase waveform EtCO<sub>2</sub> following invasive airway placement AND throughout care until turnover in the Emergency Department.

**Denominator:** # of patients with invasive airway placement.

**Measure Source:** Internal to FW OMD

**Data Source:** ImageTrend, Zoll Monitor, VL Files

**Goal:** There is no national goal. OMD goal is  $\leq 1\%$ .

## **STEMI**

### **STEMI 02: Aspirin Administration for STEMI**

**Description:** The percentage of EMS patients aged 18 years and older transported from the scene with Aspirin administration for suspected heart attack.

**Numerator:** # of patients who were administered aspirin prior to ED arrival

**Denominator:** # of patients with STEMI as defined by diagnostic 12 lead ECG and symptoms

**Measure Source:** AHA Mission Lifeline - AHAEMS6

**Data Source:** ImageTrend

**Goal:**  $\geq 75\%$  (AHA)

### **STEMI 03: 12-lead ECG Performed Within 10 minutes for STEMI Patients**

**Description:** The percentage of EMS patients aged 18 years and older transported from the scene with chest pain or a suspected MI for whom a 12-Lead ECG was performed  $\leq 10$  minutes of first medical contact.

**Numerator:** # of patients aged 18 years and older with chest pain or a suspected MI transported from the scene from a 911 request with 12-Lead ECG performed within 10 minutes of first medical contact.

**Denominator:** # of patients aged 18 years and older with chest pain or a suspected MI transported from the scene from a 911 request

**Measure Source:** AHA Mission Lifeline - AHAEMS5

**Data Source:** Image Trend

**Goal:**  $\geq 75\%$  (AHA)

### **STEMI 04: STEMI Alert Within 10 Minutes in STEMI Patients**

**Description:** The percentage of EMS patients aged 18 years and older transported from the scene with a STEMI positive ECG for whom pre-arrival notification was activated  $\leq 10$  minutes of positive ECG.

**Numerator:** # of patients aged 18 years and older with chest pain or suspected MI transported from the scene from a 911 request with pre-arrival STEMI notification activated  $\leq 10$  minutes of STEMI positive ECG.

**Denominator:** # of patients aged 18 years and older with chest pain or suspected MI transported from the scene from a 911 request

**Measure Source:** AHA Mission Lifeline – AHAEMS7

**Data Source:** Image Trend

**Goal:**  $\geq 75\%$  (AHA)

## **Stroke**

### **Stroke 01: Evaluation of Blood Glucose for Patients with Suspected Stroke**

**Description:** The percentage of EMS patients aged 18 years and older transported from the scene with suspected stroke for whom blood glucose was evaluated during the EMS encounter.

**Numerator:** Patients aged 18 years and older with suspected stroke transported from the scene from a 911 request with a blood glucose evaluated during the EMS encounter

**Denominator:** Patients aged 18 years and older with suspected stroke transported from the scene from a 911 request

**Measure Source:** AHA Mission Lifeline - AHAEMS3

**Data Source:** Image Trend

**Goal:**  $\geq 75\%$  (AHA)

**Stroke 02: Stroke Screen Performed and Documented**

**Description:** The percentage of EMS patients aged 18 years and older transported from the scene with a suspected stroke for whom a stroke screen was performed and documented during the EMS encounter.

**Numerator:** # of patients aged 18 years and older with a suspected stroke transported from the scene from a 911 request with a stroke screen performed and documented

**Denominator:** # of patients aged 18 years and older with a suspected stroke transported from the scene from a 911 request

**Measure Source:** AHA Mission Lifeline – AHAEMS4

**Data Source:** Image Trend

**Goal:** ≥75% (AHA)

**Stroke 03: Stroke Alert for Suspected Stroke**

**Description:** The percentage of EMS patients aged 18 years and older transported from the scene with a primary or secondary impression of stroke whom a pre-arrival alert for stroke was activated during the EMS encounter.

**Numerator:** # of patients aged 18 years and older with a suspected stroke transported from the scene from a 911 request with pre-arrival alert for stroke initiated during the EMS encounter.

**Denominator:** # of patients aged 18 years and older with a suspected stroke transported from the scene from a 911 request

**Measure Source:** AHA Mission Lifeline – AHAEMS1

**Data Source:** Image Trend

**Goal:** ≥75% (AHA)

**Stroke 04: Documentation of Last Known Well for Patients with Suspected Stroke**

**Description:** The percentage of EMS patients aged 18 years and older transported from the scene with suspected stroke for whom Last Known Well was documented during the EMS encounter.

**Numerator:** # of patients aged 18 years and older with suspected stroke transported from the scene from a 911 request with Last Known Well documented during the EMS encounter

**Denominator:** : # of patients aged 18 years and older with suspected stroke transported from the scene from a 911 request

**Measure Source:** AHA Mission Lifeline – AHAEMS2

**Data Source:** Image Trend

**Goal:** ≥75% (AHA)

**NEMSQA****Asthma 01: Administration of a Beta Agonist for Asthma**

**Description:** The percentage of EMS responses originating from a 911 request for patients with a diagnosis of asthma who had an aerosolized beta agonist administered.

**Numerator:** EMS responses for patients who had an aerosolized beta agonist administered by an EMS professional during the EMS response.

**Denominator:** All EMS responses originating from a 911 request for patients with a primary or secondary impression of asthma exacerbation or acute bronchospasm.

**Measure Source:** NEMSQA Asthma 0-1

**Data Source:** Image Trend

**Goal:** >51% (National Average)

**Hypoglycemia 01: Treatment Administered for Hypoglycemia**

**Description:** The percentage of EMS responses originating from a 911 request for patients with symptomatic hypoglycemia who receive treatment to correct their hypoglycemia.

**Numerator:** EMS responses for patients receiving treatment to correct their hypoglycemia during the EMS response

**Denominator:** All EMS responses originating from a 911 request for patients with a GCS of <15 or an AVPU of <A or patients with a primary or secondary impression of altered mental status and a blood glucose level of <60.

**Measure Source:** NEMSQA Hypoglycemia 0-1

**Data Source:** Image Trend

**Goal:** > 43% (National Average)

**Respiratory 01: Respiratory Assessment**

**Description:** The percentage of EMS responses originating from a 911 request for patients with primary or secondary impression of respiratory distress who had a respiratory assessment.

**Numerator:** EMS responses for patients who received both a SPO2 and respiratory rate measurement during the EMS response

**Denominator:** All EMS responses originating from a 911 request for patients with a primary or secondary impression of respiratory distress. Respiratory distress may include impressions of:

1. Asthma
2. Dyspnea
3. Unspecified Orthopnea
4. Shortness of breath
5. Diagnosis of a respiratory ailment
6. Complaint or condition commonly associated with dyspnea

**Measure Source:** NEMSQA Respiratory 0-1

**Data Source:** Image Trend

**Goal:** >92% (National Average)

**Respiratory 02: Oxygen Administration for Hypoxia**

**Description:** Percentage of EMS responses originating from a 911 request for patients with hypoxia during which oxygen is administered.

**Numerator:** EMS responses during which oxygen is administered

**Denominator:** EMS responses originating from a 911 request for patients with hypoxia

**Measure Source:** NEMSQA Respiratory 0-2

**Data Source:** Image Trend

**Goal:** >49% (National Average)

**Seizure 02: Patients with Status Epilepticus Receiving Intervention**

**Description:** The percentage of EMS responses originating from a 911 request for patients with status epilepticus who received benzodiazepine during the EMS response.

**Numerator:** EMS responses for patients who received benzodiazepine aimed at terminating their status seizure during the EMS response. Benzodiazepines may include diazepam, lorazepam, or midazolam

**Denominator:** All EMS responses originating from a 911 request for patients with a primary or secondary impression of status epilepticus.

**Measure Source:** NEMSQA Seizure 0-2

**Data Source:** Image Trend

**Goal:** >28% (National Average)

#### **Syncope-01: ECG Performed for Syncope Patients**

**Description:** Percentage of EMS responses originating from a 911 request for patients with syncope during which a 12-lead (or greater) ECG is performed.

**Numerator:** EMS Responses during which a 12 lead (or greater) is performed

**Denominator:** EMS Responses originating from a 911 request for patients with syncope

**Measure Source:** NEMSQA Syncope-01

**Data Source:** Image Trend

**Goal:** >29% (National Average)

#### **TBI-01: Clinical Assessments for Patients with Traumatic Brain Injury**

**Description:** Percentage of EMS transports originating from a 911 request for patients with suspected traumatic brain injury during which oxygen level, ETCO<sub>2</sub>, and systolic blood pressure are documented.

**Numerator:** EMS transports during which SPO<sub>2</sub>, ETCO<sub>2</sub>, and systolic blood pressure are documented

**Denominator:** EMS transports originating from a 911 request for patients with a suspected brain injury

**Measure Source:** NEMSQA TBI-01

**Data Source:** Image Trend

**Goal:** >16% (National Average)

#### **Trauma 01: Pain Assessment of Injured Patients**

**Description:** The percentage of EMS responses originating from a 911 request for patients with injury who were assessed for pain.

**Numerator:** EMS transports for patients with any pain scale value documented during the EMS encounter

**Denominator:** All EMS transports originating from a 911 request for patients with injury and a Glasgow Coma Score (GCS) of 15 or an Alert Verbal Painful Unresponsiveness (AVPU)

**Measure Source:** NEMSQA Trauma 0-1

**Data Source:** Image Trend

**Goal:** >69% (National Average)

#### **Trauma 03: Effectiveness of Pain Management for Injured Patients**

**Description:** The percentage of EMS transports originating from a 911 request for patients whose pain score was lowered during the EMS encounter.

**Numerator:** EMS transports for patients with two or more documented pain scores and a final pain score value less than the first documented pain score

**Denominator:** All EMS transports originating from a 911 request for patients with injury and a Glasgow Coma Score (GCS) of 15 or an Alert Verbal Painful Unresponsive (AVPU) of A who had an initial pain score of greater than zero

**Measure Source:** NEMSQA Trauma 0-3

**Data Source:** Image Trend

**Goal:** >18% (National Average)

#### **Trauma-08: Documentation of GCS, SBP, and Respiratory Rate**

**Description:** Percentage of EMS transports originating from a 911 request for patients with trauma during which GCS, systolic blood pressure, and respiratory rate are documented.

**Numerator:** EMS Transports during which GCS, systolic blood pressure, and respiratory rate are documented.

**Denominator:** EMS transports originating from a 911 request for patients with trauma

**Measure Source:** NEMSQA Trauma-08

**Data Source:** Image Trend

**Goal:** >94% (National Average)

**TTR-01: Vital Signs Documented**

**Description:** Percentage of EMS responses originating from a 911 request for patients not transported by EMS during which a basic set of vital signs is documented.

**Numerator:** EMS responses during which a basic set of vital signs (SBP, DBP, heart rate, SPO2, respiratory rate, and GCS or AVPU) is documented

**Denominator:** All EMS responses originating from a 911 request for patients not transported by EMS

**Measure Source:** NEMSQA TTR-01

**Data Source:** Image Trend

**Goal:** >70% (National Average)