California Emergency Medical Services System

Core Quality Measures

Instruction Manual

Emergency Medical Services Authority

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Additional information about the Core Quality Measures Project is accessible via the California Emergency Medical Services Authority website at https://emsa.ca.gov/ems-core-quality-measures-project/.

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PROJECT BACKGROUND

The California Emergency Medical Services (EMS) System Core Quality Measures Project was formally established by the Emergency Medical Services Authority (EMSA) in 2012 with grant funding from the California Health Care Foundation. EMSA engaged with EMS organizations, stakeholders, and partners from government to develop quality measures for statewide EMS evaluation and performance improvement. The Core Quality Measures Project are currently based on the 2023 National EMS Quality Alliance (NEMSQA) measure specifications. California has adopted and refined nine NEMSQA measures for statewide use, six of which are currently in the testing phase.

The four current measures are:

- TRA-2: Transport of Trauma Patients to a Trauma Center
- HYP-1: Treatment Administered for Hypoglycemia
- STR-1: Prehospital Screening for Suspected Stroke Patients
- PED-3: Respiratory Assessment for Pediatric Patients

The six test measures are:

- TRA-3: Documentation of GCS, SBP, and RR for Trauma Patients
- PED-4: Documentation of Estimated Weight in Kilograms for Pediatric Patients Receiving Weight-based Medication
- AIR-1A: Successful First Pass Advanced Airway in Non-Cardiac Arrest Patients
- AIR-1B: Successful First Pass Advanced Airway in Cardiac Arrest Patients
- AIR-2: Waveform Capnography Airway Device
- AIR-3: BVM or SGA for Pediatric Patients

The Core Quality Measures Project supports continuous quality improvement efforts and data-driven actions by EMS systems across California. Local EMS agencies (LEMSAs) and EMS providers may use the measures to review their performance and compare results to similar regions. Ultimately, the project highlights EMS systems that are working to improve patient care and opportunities for further evaluation and improvement.

WHAT ARE CORE QUALITY MEASURES?

DEFINITION

Core quality measures are a set of standardized performance measures intended to examine an EMS system or the treatment of an identified patient condition. Performance measures are tools that define data, communicate information about current activities or processes, establish a consensus, and inspire discussion and action based on the results. The measures are the key tools to evaluate the quality of EMS performance, and motivate change and improvement within the system. The measures drive practice, protocols, spending, and behaviors across healthcare. Measures may reflect the performance of EMS systems; arrival at the scene in a timely manner; timely, focused patient assessment; delivery of time-sensitive prehospital treatment and care for patients with certain medical conditions; and transport of patients to the most appropriate medical facility.

PURPOSE

The primary purpose of the measures is to facilitate EMS system evaluation and quality improvement of patient care. This is achieved by increasing the accessibility and reliability of prehospital data for public, policy, academic, and research purposes. EMS professionals may utilize the measures to assist with quality assurance and continuous quality improvement activities in their region. Further, the measures serve as a mechanism to support EMSA's assessment of the effectiveness of emergency medical services and provide useful quality improvement information. The data will become even more useful through further development of compatible data systems, standardized data collection regimes at various levels of the EMS system, and increased participation and coordination by LEMSAs, providers, and hospitals.

MEASURE DEVELOPMENT PROCESS

METHODOLOGY

The measure specifications included in this manual were drafted by a workgroup consisting of EMSA and LEMSA representatives, referred to as the Core Quality Measures Workgroup. The workgroup meets and corresponds throughout the year to discuss specifications and develop the measures appropriately. The process for developing the measures includes discussion, research, specification (or re-specification), and testing. EMSA publishes the revised manual and requests core quality measures data from LEMSAs. Data is extracted from the prehospital care reports utilizing the instructions in this manual and aggregated by the LEMSAs. The results are reported to EMSA on an annual basis and presented in the Core Quality Measures Report. EMSA allows time for the data to be compiled before it posts quality data for a given period (i.e., data collected in 2022 is aggregated, reviewed, and subsequently reported in 2023), so there is a delay between when data is collected by LEMSAs and when it becomes available for publication.

ANNUAL MAINTENANCE

The measures adopted in the Core Quality Measures Project are reviewed on a continuous basis, with a focus on meaningful patient populations and interventions to ensure value to the EMS community. The dynamic nature of the project leads to collaboration between EMSA and various EMS stakeholders. EMSA established the Core Quality Measures Workgroup by engaging members from various LEMSAs to assist in the ongoing review and development process of the measures. EMSA compiles the recommendations from the workgroup and incorporates pertinent changes into this manual.

Adjustments to the measures are made to clarify the measures' intent and more accurately report EMS performance in the field. Any measure(s) may be retired from the measure set for a variety of reasons, such as feasibility issues, changes in clinical processes or procedures, barriers to data interoperability, or achievement of the previously agreed upon end point or level of performance. Retired measures may be re-specified and approved for inclusion in future years.

As additional core quality measures are developed and adopted, EMSA will strive to provide LEMSAs with ample notice to ensure that the appropriate data systems are established in each local region for proper data collection and reporting.

TABLE 1: MEASURE CHANGE LOG

The measure specifications in this manual were revised from the 2024 reporting year for the 2025 reporting year. A summary of the changes is provided in the table below as a quick reference tool. Please refer to the measure specifications (pages 15-60) for the complete criteria.

Measure ID	Updated Denominator Inclusion Criteria	Updated Numerator Inclusion Criteria	Updated Denominator Exclusion Criteria	Updated Numerator Exclusion Criteria
TRA-2	Added: • eInjury.04 Trauma Triage Criteria (Moderate Risk for Serious Injury) = 2904023 Other EMS Judgement	Same as denominator.	None	None
HYP-1	None	None	None	None
STR-1	None	None	None	None
PED-3	None	Updated: • eVitals.16 End Tidal Carbon Dioxide (ETCO2) = Logical and Present [min 5 – max 760]	None	None
TRA-3	Added: • eInjury.04 Trauma Triage Criteria (Moderate Risk for Serious Injury) = 2904023 Other EMS Judgement	Same as denominator.	None	None
PED-4	Updated exclusion criteria by removing excluded medications	Same as denominator.	Updated exclusion criteria by removing excluded medications	Same as denominator.

	and adding included medications that are weight-based.		and adding included medications that are weight-based.	
AIR-1	Separated measure into two populations: Non-cardiac arrest patients (AIR-1A) and cardiac arrest patients (AIR-1B). Removed from P1 and P2: • eProcedures.03 Procedure = 386509000 Airway management Removed from P3: • eProcedures.03 Procedure = 232685002 Insertion of tracheostomy tube	Added: • eSituation.11 Provider's Primary Impression Removed from P1 and P2: • eProcedures.03 Procedure = 386509000 Airway management Removed from P3: • eProcedures.03 Procedure = 232685002 Insertion of tracheostomy tube	Updated definition of cardiac arrest patients to: • Non-cardiac arrest patients = No, ***or*** Yes, After EMS Arrival • Cardiac arrest patients = Yes, Prior to EMS Arrival	Same as denominator.
AIR-2	Removed: • eProcedures.03 Procedure = 232663008 Airway procedure 232685002 Insertion of tracheostomy tube (procedure) 232686001 Insertion of tracheal T-tube (procedure) 386509000 Airway management	Updated logical operators from "OR" to "AND" for eAirway.04 and eVitals.16 bracket.	None	None
AIR-3	None		None	None

Below is change log for National Emergency Medical Services Information System (NEMSIS) v3.5.1 updates:

Data Element	Change	Old	New
eDisposition.30	Update enumeration value documentations	Old: Enumeration value: 4230005; Documentation: Transport by Another EMS Unit Enumeration value: 4230007; Documentation: Transport by Another EMS Unit, with a Member of This Crew	New: Enumeration value: 4230005; Documentation: Transport by Another EMS Unit/Agency Enumeration value: 4230007; Documentation: Transport by Another EMS Unit/Agency, with a Member of This Crew
ePatient.15	Add attribute, change definition	Old definition: "The patient's age (either calculated from date of birth or best approximation)"	New definition: "The patient's age (either calculated from date of birth or best approximation) at the time of the incident"
eResponse.05	Correct comment	Old: Values for "911 Response (Scene)", "Intercept", and "Mutual Aid" have been relabeled to start with "Emergency Response" to more easily identify these options. "Interfacility Transport" was relabeled to "Hospital-to-Hospital Transfer" to be more accurate; options for "Sending Hospital Staff" and "Critical or Specialty Care" were added to better track resource utilization at local and state levels and support reimbursement levels. "Medical Transport" was relabeled to "Other Medical Needs Transport" to cover any other medical transports such as transports to and from dialysis, doctor appointments, return home, or nursing homes. Values added to consolidate types of service previously captured in "Primary Role of Unit" and eDisposition.12 as found	New: Values for "911 Response (Scene)", "Intercept", and "Mutual Aid" have been relabeled to start with "Emergency Response" to more easily identify these options. "Interfacility Transport" was relabeled to "Hospital-to-Hospital Transfer" to be more accurate; "Medical Transport" was relabeled to "Other Routine Medical Transport" to cover any other medical transports such as transports to and from dialysis, doctor appointments, return home, or nursing homes. Values added to consolidate types of service previously captured in "Primary Role of Unit" and eDisposition.12 as found in V3.4.0. Additional values added to reflect emerging service types.

		in V3.4.0. Additional values added to reflect emerging service types.	
eSituation.11 eSituation.12	Update regex pattern	Old: "(R[0-6][0-9](\.[0-9]{1,4})? | (R73\.9) | (R99)) | ([A-QSTZ][0-9][0-9A-Z])((\.[0-9A-Z]{1,4})?)"	New: "(R[0-6][0-9](\.[0-9]{1,4})? | (R73\.9) | (R99)) | ([A-QSTUZ][0-9][0-9A-Z])((\.[0-9A-Z]{1,4})?)"
eVitals.29	Update name	Old Name: Stroke Scale Score	New Name: Stroke Scale Result

ESSENTIAL DATA ELEMENTS

The table below lists all data elements found in this instruction manual using the most current version of NEMSIS, Version 3.5.0 in compliance with Health and Safety Code 1797.227. Each data element plays a vital role in EMSA's ability to collect and report on the Core Quality Measures Project. LEMSAs and EMS providers should ensure that these data elements are appropriately captured and populated in every patient care record. To achieve this, providers should collect and submit data to the LEMSA utilizing a NEMSIS compliant software vendor. Providers should include fields identified in the NEMSIS standard as mandatory, required, recommended and optional, and the California Emergency Medical Services Information System (CEMSIS) approved value lists. Descriptive values should be used in the compliant submission of data to the LEMSA with minimal use of not and null values and limited only to situations where no other value is appropriate for documentation of a given situation. Additional information about CEMSIS can be viewed on EMSA's website at https://emsa.ca.gov/cemsis/.

Data Element Name	**Data Element Number**
Airway Device Placement Confirmation Method	eAirway.04
Cardiac Arrest	eArrest.01
Destination/Transferred To, Code	eDisposition.02
Hospital Capability	eDisposition.23
Transportation Disposition	eDisposition.30
Estimated Body Weight in Kilograms	eExam.01
Length Based Tape Measure	eExam.02
Trauma Triage Criteria (High Risk for Serious Injury)	eInjury.03
Trauma Triage Criteria (Moderate Risk for Serious Injury)	eInjury.04
Medication Administered	eMedications.03
Medication Dosage	eMedications.05
Age	ePatient.15
Age Units	ePatient.16
Date/Time Procedure Performed	eProcedures.01
Procedure Performed Prior to this Unit's EMS Care	eProcedures.02
Procedure	eProcedures.03
Number of Procedure Attempts	eProcedures.05
Procedure Successful	eProcedures.06
Type of Service Requested	eResponse.05
Unit Transport and Equipment Capability	eResponse.07
Additional Response Mode Descriptors	eResponse.24

Provider's Primary Impression	eSituation.11
Provider's Secondary Impressions	eSituation.12
SBP (Systolic Blood Pressure)	eVitals.06
Pulse Oximetry	eVitals.12
Respiratory Rate	eVitals.14
End Tidal Carbon Dioxide (ETCO2)	eVitals.16
Blood Glucose Level	eVitals.18
Glasgow Coma Score – Motor	eVitals.21
Total Glasgow Coma Score	eVitals.23
Stroke Scale Result	eVitals.29

INSTRUCTIONS FOR EXECUTING CORE QUALITY MEASURE REPORTS

The following pages contain specification sheets for each measure. Consistency is key to comparing the reported results at the statewide and nationwide levels. EMSA requests that all LEMSAs utilize this same approach (a single specification/query for the entire state). Only data elements and codes found in this document should be used to calculate each indicator. Execute each measure exactly as specified. Do not use custom elements or fields specific to a local jurisdiction or an EMS provider unless otherwise directed.

EMSA may allow LEMSAs the option to report additional data for the measures using custom specifications and rationale. For example, if a LEMSA has a preferred method for executing a report that differs from the measure specifications in this manual, the LEMSA may submit a separate reporting spreadsheet to EMSA at the time of reporting qualifying data for the annual Core Quality Measures Report. This will allow EMSA to improve understanding of regional variations and the impact on performance measurement. Reports executed outside of the measure specifications described in this manual should not replace them.

CURRENT CORE QUALITY MEASURES

TRA-2: Transport of Trauma Patients to a Trauma Center

PED-3: Respiratory Assessment for Pediatric Patients

HYP-1: Treatment Administered for Hypoglycemia

STR-1: Prehospital Screening for Suspected Stroke Patients

TRANSPORT OF TRAUMA PATIENTS TO A TRAUMA CENTER

Measure Set	Trauma
Measure ID #	TRA-2
Measure Name	Transport of Trauma Patients to a Trauma Center
Measure Description	Percentage of patients originating from a 911 response who met trauma triage criteria for the red criteria (Injury Patterns and Mental Status and Vital Signs) or the yellow criteria (Mechanism of Injury and EMS Judgment) in the 2021 ACS National Guideline for the Field Triage of Injured Patients and were transported to a trauma center.
Type of Measure	Process
Reporting Value & Unit	Percentage (%)
Denominator Statement (Population)	Number of patients originating from a 911 response who met trauma triage criteria for the red criteria (Injury Patterns and Mental Status and Vital Signs) or the yellow criteria (Mechanism of Injury and EMS Judgment) in the 2021 ACS National Guideline for the Field Triage of Injured Patients. **Population 1**: Patients less than 14 years of age. **Population 2**: Patients greater than or equal to 14 years of age.
Denominator Exclusion Criteria	None
Numerator Statement (Subpopulation)	Number of patients originating from a 911 response who met trauma triage criteria for the red criteria (Injury Patterns and Mental Status and Vital Signs) or the yellow criteria (Mechanism of Injury and EMS Judgment) in the 2021 ACS National Guideline for the Field Triage of Injured Patients and were transported to a trauma center. **Population 1**: Patients less than 14 years of age. **Population 2**: Patients greater than or equal to 14 years of age.
Numerator Exclusion Criteria	None
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore, the indicator expressed numerically is N/D = %
Example of Final Reporting Value (Number & Unit)	95%
Measure Interpretation	For this measure, a higher value typically indicates better quality.
Sampling	No

Aggregation	Yes
Blinded	Yes
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and prehospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
NEMSQA Measure	Trauma-04: Trauma Patients Transported to Trauma Center

TRA-2 Measure Criteria

Population 1: Patients < 14 years of age	**Population 2**: Patients ≥ 14 years of age
• **((**ePatient.15 Age < 14 and ePatient.16 Age Units = 2516009 Years**)** *OR* **(**ePatient.15 Age = Not Null *AND* ePatient.16 Age Units = 2516001 Days 2516003 Hours 2516005 Minutes 2516007 Months**))**	• **(**ePatient.15 Age ≥ 14 and ePatient.16 Age Units = 2516009 Years**)**

Apply denominator and numerator to both populations

DENOMINATOR CRITERIA:

- eResponse.05 Type of Service Requested =
  2205001 Emergency Response (Primary Response Area)
  2205003 Emergency Response (Intercept)
  2205009 Emergency Response (Mutual Aid)

AND

- eDisposition.30 Transport Disposition =
  4230001 Transport by This EMS Unit (This Crew Only)
  4230003 Transport by this EMS Unit, with a Member of a Another Crew
  4230005 Transport by Another EMS Unit
  4230007 Transport by Another EMS Unit, with a Member of this Crew

AND

- eResponse.07 Unit Transport and Equipment Capability =
  2207011 Air Transport – Helicopter
  2207013 Air Transport – Fixed Wing
  2207015 Ground Transport (ALS Equipped)
  2207017 Ground Transport (BLS Equipped)
  2207019 Ground Transport (Critical Care Equipped)

AND

- **(**eInjury.03 Trauma Triage Criteria (High Risk for Serious Injury) =
  2903001 Amputation proximal to wrist or ankle
  2903003 Crushed, degloved, mangled, or pulseless extremity
  2903005 Chest wall instability, deformity, or suspected flail chest
  2903007 Glasgow Coma Score ≤13
  2903009 Skull deformity, suspected skull fracture

2903011 Paralysis
2903013 Suspected pelvic fractures
2903015 Penetrating injuries to head, neck, torso, and proximal extremities
2903017 Respiratory Rate <10 or >29 breaths per minute (<20 in infants aged <1 year) or need for ventilatory support
2903019 Systolic Blood Pressure <90 mmHg
2903021 Suspected fracture of two or more proximal long bones
2903023 Active bleeding requiring a tourniquet or wound packing with continuous pressure
2903025 Age >= 10 years: HR > SBP
2903027 Age >= 65 years: SBP < 110 mmHg
2903029 Age 0-9 years: SBP < 70mm Hg + (2 x age in years)
2903031 Age 10-64 years: SBP < 90 mmHg
2903033 Respiratory distress or need for respiratory support
2903035 Room-air pulse oximetry < 90%
2903037 RR < 10 or > 29 breaths/min
2903039 Suspected spinal injury with new motor or sensory loss
2903041 Unable to follow commands (motor GCS < 6)

OR

eInjury.04 Trauma Triage Criteria (Moderate Risk for Serious Injury) =
2904001 Pedestrian/bicycle rider thrown, run over, or with significant impact
2904003 Fall Adults: > 20 ft. (one story is equal to 10 ft.)
2904005 Fall Children: > 10 ft. or 2-3 times the height of the child
2904007 Auto Crash: Death in passenger compartment
2904009 Auto Crash: Partial or complete ejection
2904011 Auto Crash: Significant intrusion (including roof): >12 inches occupant site; >18 inches any site; need for extrication
2904013 Auto Crash: Vehicle telemetry data consistent with severe injury
2904015 Motorcycle Crash > 20 MPH
2904023 Other EMS Judgement
2904029 Auto Crash: Child (age 0-9 years) unrestrained or in unsecured child safety seat
2904031 Fall from height > 10 feet (all ages)
2904035 Rider separated from transport vehicle with significant impact (e.g., motorcycle, ATV, horse, etc.)**)**

NUMERATOR CRITERIA:

- *Denominator Criteria*

AND

- **(**eDisposition.23 Hospital Capability =
9908021 Trauma Center Level 1
9908023 Trauma Center Level 2
9908025 Trauma Center Level 3

9908027 Trauma Center Level 4

OR

eDisposition.02 Destination/Transferred To, Code =
[Insert all destination/transferred to codes from the Trauma Center List that apply to your LEMSA. The Trauma Center List is provided in Appendix A on page #58-60.]**)**

Count by patients treated rather than by number of responses.

TREATMENT ADMINISTERED FOR HYPOGLYCEMIA

Measure Set	Hypoglycemia
Measure ID #	HYP-1
Measure Name	Treatment Administered for Hypoglycemia
Measure Description	Percentage of patients originating from a 911 response that received treatment to correct their hypoglycemia.
Type of Measure	Process
Reporting Value & Unit	Percentage (%)
Denominator Statement (Population)	Number of patients originating from a 911 response who had a blood glucose level indicating hypoglycemia. **Population 1**: Patients less than 14 years of age. **Population 2**: Patients greater than or equal to 14 years of age.
Denominator Exclusion Criteria	None
Numerator Statement (Subpopulation)	Number of patients originating from a 911 response who had a blood glucose level indicating hypoglycemia and received treatment to correct the hypoglycemia. **Population 1**: Patients less than 14 years of age. **Population 2**: Patients greater than or equal to 14 years of age.
Numerator Exclusion Criteria	None
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore, the indicator expressed numerically is N/D = %
Example of Final Reporting Value (Number & Unit)	95%
Measure Interpretation	For this measure, a higher value indicates better quality.
Sampling	No
Aggregation	Yes
Blinded	Yes
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and prehospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
NEMSQA Measure	Hypoglycemia-01: Treatment Administered for Hypoglycemia

HYP-1 Measure Criteria

Population 1: Patients < 14 years of age	**Population 2**: Patients ≥ 14 years of age
• **((**ePatient.15 Age < 14 and ePatient.16 Age Units = 2516009 Years**)** *OR* **(**ePatient.15 Age = Not Null *AND* ePatient.16 Age Units = 2516001 Days 2516003 Hours 2516005 Minutes 2516007 Months**))**	• **(**ePatient.15 Age ≥ 14 and ePatient.16 Age Units = 2516009 Years**)**

Apply denominator and numerator to both populations

DENOMINATOR CRITERIA:

- eResponse.05 Type of Service Requested =
  2205001 Emergency Response (Primary Response Area)
  2205003 Emergency Response (Intercept)
  2205009 Emergency Response (Mutual Aid)

AND

- eVitals.18 Blood Glucose Level < 60

NUMERATOR CRITERIA:

- *Denominator Criteria*

AND

- **((**eMedications.03 Medication Administered =
  4832 Glucagon
  4850 Glucose
  92972 Insta-Glucose
  151823 GlucaGen
  237648 Dextrose (D10)
  237653 Glucose 500 MG/ML Injectable Solution
  244098 Glucose 100 MG/ML / Sodium Chloride 4.5 MG/ML Injection
  244099 Dextrose 10% / Sodium Chloride 0.9% Injectable Solution
  260258 Glucose 250 MG/ML Injectable Solution
  309778 Glucose 50 MG/ML Injectable Solution
  317630 Glucose 100 MG/ML

349944 Dextrose/Oral Glucose
372326 Glucose Chewable Tablet
376937 Glucose Injectable Solution
377980 Glucose Oral Gel
791870 Glucagon Prefilled Syringe
1165819 Glucose Injectable Product
1165822 Glucose Oral Liquid Product
1165823 Glucose Oral Product
1794567 Glucose Injection
1795477 500 ML glucose 100 MG/ML Injection
1795480 250 ML glucose 100 MG/ML Injection
1795610 250 ML Glucose 50 MG/ML Injection
"Contains any dextrose"

OR

eMedications.03 Medication Administered =
8801001 Contraindication Noted
8801003 Denied By Order
8801007 Medication Allergy
8801009 Medication Already Taken
8801019 Refused
8801023 Unable to Complete
8801027 Order Criteria Not Met**)**

OR

(eProcedures.03 Procedure =
225285007 Giving oral fluid
710925007 Provision of food

OR

eProcedures.03 Procedure =
8801001 Contraindication Noted
8801003 Denied By Order
8801019 Refused
8801023 Unable to Complete
8801027 Order Criteria Not Met**))**

Count by patients treated rather than by number of responses.

PREHOSPITAL SCREENING FOR SUSPECTED STROKE PATIENTS

Measure Set	Stroke
Measure ID #	STR-1
Measure Name	Prehospital Screening for Suspected Stroke Patients
Measure Description	Percentage of suspected stroke patients originating from a 911 response that received a prehospital stroke assessment.
Type of Measure	Process
Reporting Value & Unit	Percentage (%)
Denominator Statement (Population)	Number of patients originating from a 911 response who had a primary or secondary impression of stroke.
Denominator Exclusion Criteria	None
Numerator Statement (Subpopulation)	Number of patients originating from a 911 response who had a primary or secondary impression of stroke and received a documented stroke assessment during the response.
Numerator Exclusion Criteria	None
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore, the indicator expressed numerically is N/D = %
Example of Final Reporting Value (Number & Unit)	95%
Sampling	No
Measure Value Interpretation	For this measure, a higher value indicates better quality.
Aggregation	Yes
Blinded	Yes
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and prehospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
NEMSQA Measure	Stroke-01: Suspected Stroke Receiving Prehospital Stroke Assessment

STR-1 Measure Criteria

Population: Patients of all ages

DENOMINATOR CRITERIA:

- eResponse.05 Type of Service Requested =
  2205001 Emergency Response (Primary Response Area)
  2205003 Emergency Response (Intercept)
  2205009 Emergency Response (Mutual Aid)

AND

- **(**eSituation.11 Provider's Primary Impression =
  I63.9 Stroke/CVA/TIA

OR

eSituation.12 Provider's Secondary Impressions =
I63.9 Stroke/CVA/TIA**)**

NUMERATOR CRITERIA:

- *Denominator Criteria*

AND

- **(**eVitals.29 Stroke Scale Result =
  3329001 Negative
  3329003 Non-Conclusive
  3329005 Positive

OR

eVitals.29 Stroke Scale Result =
8801019 Refused
8801023 Unable to Complete**)**

Count by patients treated rather than by number of responses.

RESPIRATORY ASSESSMENT FOR PEDIATRIC PATIENTS

Measure Set	Pediatric
Measure ID #	PED-3
Measure Name	Respiratory Assessment for Pediatric Patients
Measure Description	Percentage of pediatric patients originating from a 911 response that had a primary or secondary impression of respiratory distress and received a documented respiratory assessment.
Type of Measure	Process
Reporting Value & Unit	Percentage (%)
Denominator Statement (Population)	Number of pediatric patients who had a primary or secondary impression of respiratory distress originating from a 911 response.
Denominator Exclusion Criteria	None
Numerator Statement (Subpopulation)	Number of pediatric patients originating from a 911 response who had a primary or secondary impression of respiratory distress and received a documented respiratory assessment during the response.
Numerator Exclusion Criteria	None
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore, the indicator expressed numerically is N/D = %
Example of Final Reporting Value (Number & Unit)	95%
Measure Value Interpretation	For this measure, a higher value indicates better quality.
Sampling	No
Aggregation	Yes
Blinded	Yes
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and prehospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
NEMSQA Measure	Respiratory-01: Respiratory Assessment

PED-3 Measure Criteria

Population: Patients < 14 years of age

DENOMINATOR CRITERIA:

- eResponse.05 Type of Service Requested =
  2205001 Emergency Response (Primary Response Area)
  2205003 Emergency Response (Intercept)
  2205009 Emergency Response (Mutual Aid)

AND

- **((**ePatient.15 Age < 14 and
  ePatient.16 Age Units = 2516009 Years**)**

OR

(ePatient.15 Age = Not Null

AND

ePatient.16 Age Units =
2516001 Days
2516003 Hours
2516005 Minutes
2516007 Months**))**

AND

- **(**eSituation.11 Provider's Primary Impression =
  J80 Respiratory Distress/Other
  J98.01 Respiratory Distress/Bronchospasm

OR

eSituation.12 Provider's Secondary Impressions =
J80 Respiratory Distress/Other
J98.01 Respiratory Distress/Bronchospasm**)**

NUMERATOR CRITERIA:

- *Denominator Criteria*

AND

- **(**eVitals.14 Respiratory Rate =
  Logical and Present [min 0 - max 300]

OR

eVitals.14 Respiratory Rate =
8801005 Exam Finding Not Present
8801019 Refused
8801023 Unable to Complete**)**

AND

- **(**eVitals.12 Pulse Oximetry =
  Logical and Present [min 0 - max 100]

OR

eVitals.12 Pulse Oximetry =
8801005 Exam Finding Not Present
8801019 Refused
8801023 Unable to Complete

OR

eVitals.16 End Tidal Carbon Dioxide (ETCO2) =
Logical and Present [min 5 - max 760]

OR

eVitals.16 End Tidal Carbon Dioxide (ETCO2) =
8801019 Refused
8801023 Unable to Complete**)**

Count by patients treated rather than by number of responses.

TEST CORE QUALITY MEASURES

TRA-3: Documentation of GCS, SBP, and RR for Trauma Patients

PED-4: Documentation of Estimated Weight in Kilograms for Pediatric Patients Receiving Weight-based Medication

AIR-1A: Successful First Pass Advanced Airway in Non-Cardiac Arrest Patients

AIR-1B: Successful First Pass Advanced Airway in Cardiac Arrest Patients

AIR-2: Waveform Capnography Airway Device Confirmation

AIR-3: BVM or SGA for Pediatric Patients

*Data will be collected for these measures for testing purposes, however results will not be published in the annual report.

DOCUMENTATION OF GCS, SBP, AND RR FOR TRAUMA PATIENTS

Measure Set	Trauma
Measure ID #	TRA-3
Measure Name	Documentation of GCS, SBP, and RR for Trauma Patients
Measure Description	Percentage of EMS transports originating from a 911 response for patients who met trauma triage criteria for the red criteria (Injury Patterns and Mental Status and Vital Signs) or the yellow criteria (Mechanism of Injury) in the 2021 ACS National Guideline for the Field Triage of Injured Patients during which Glasgow Coma Scale, systolic blood pressure, and respiratory rate were documented.
Type of Measure	Process
Reporting Value & Unit	Percentage (%)
Denominator Statement (Population)	Number of EMS transports originating from a 911 response who met trauma triage criteria for the red criteria (Injury Patterns and Mental Status and Vital Signs) or the yellow criteria (Mechanism of Injury and EMS Judgement) in the 2021 ACS National Guideline for the Field Triage of Injured Patients for: **Population 1**: Patients less than 14 years of age. **Population 2**: Patients greater than or equal to 14 years of age.
Denominator Exclusion Criteria	None
Numerator Statement (Subpopulation)	Number of EMS transports originating from a 911 response who met trauma triage criteria for the red criteria (Injury Patterns and Mental Status and Vital Signs) or the yellow criteria (Mechanism of Injury and EMS Judgement) in the 2021 ACS National Guideline for the Field Triage of Injured Patients during which Glasgow Coma Scale, systolic blood pressure, and respiratory rate were documented for: **Population 1**: Patients less than 14 years of age. **Population 2**: Patients greater than or equal to 14 years of age.
Numerator Exclusion Criteria	None
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore, the indicator expressed numerically is N/D = %
Example of Final Reporting Value (Number & Unit)	90%
Measure Interpretation	For this measure, a higher value generally indicates better quality.

Sampling	No
Aggregation	Yes
Blinded	Yes
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and prehospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
NEMSQA Measure	Trauma-08: Documentation of GCS, SBP, and Respiratory Rate

TRA-3 Measure Criteria

Population 1: Patients < 14 years of age	**Population 2**: Patients ≥ 14 years of age
• **((**ePatient.15 Age < 14 and ePatient.16 Age Units = 2516009 Years**)** *OR* **(**ePatient.15 Age = Not Null *AND* ePatient.16 Age Units = 2516001 Days 2516003 Hours 2516005 Minutes 2516007 Months**))**	• **(**ePatient.15 Age ≥ 14 and ePatient.16 Age Units = 2516009 Years**)**

Apply denominator and numerator to both populations

DENOMINATOR CRITERIA:

- eResponse.05 Type of Service Requested =
  2205001 Emergency Response (Primary Response Area)
  2205003 Emergency Response (Intercept)
  2205009 Emergency Response (Mutual Aid)

AND

- eDisposition.30 Transport Disposition =
  4230001 Transport by This EMS Unit (This Crew Only)
  4230003 Transport by this EMS Unit, with a Member of a Another Crew
  4230005 Transport by Another EMS Unit
  4230007 Transport by Another EMS Unit, with a Member of this Crew

AND

- eResponse.07 Unit Transport and Equipment Capability =
  2207011 Air Transport – Helicopter
  2207013 Air Transport – Fixed Wing
  2207015 Ground Transport (ALS Equipped)
  2207017 Ground Transport (BLS Equipped)
  2207019 Ground Transport (Critical Care Equipped)

AND

- **(**eInjury.03 Trauma Triage Criteria (High Risk for Serious Injury) =
  2903001 Amputation proximal to wrist or ankle
  2903003 Crushed, degloved, mangled, or pulseless extremity

2903005 Chest wall instability, deformity, or suspected flail chest
2903007 Glasgow Coma Score ≤13
2903009 Skull deformity, suspected skull fracture
2903011 Paralysis
2903013 Suspected pelvic fractures
2903015 Penetrating injuries to head, neck, torso, and proximal extremities
2903017 Respiratory Rate <10 or >29 breaths per minute (<20 in infants aged <1 year) or need for ventilatory support
2903019 Systolic Blood Pressure <90 mmHg
2903021 Suspected fracture of two or more proximal long bones
2903023 Active bleeding requiring a tourniquet or wound packing with continuous pressure
2903025 Age >= 10 years: HR > SBP
2903027 Age >= 65 years: SBP < 110 mmHg
2903029 Age 0-9 years: SBP < 70mm Hg + (2 x age in years)
2903031 Age 10-64 years: SBP < 90 mmHg
2903033 Respiratory distress or need for respiratory support
2903035 Room-air pulse oximetry < 90%
2903037 RR < 10 or > 29 breaths/min
2903039 Suspected spinal injury with new motor or sensory loss
2903041 Unable to follow commands (motor GCS < 6)

OR

eInjury.04 Trauma Triage Criteria (Moderate Risk for Serious Injury) =
2904001 Pedestrian/bicycle rider thrown, run over, or with significant impact
2904003 Fall Adults: > 20 ft. (one story is equal to 10 ft.)
2904005 Fall Children: > 10 ft. or 2-3 times the height of the child
2904007 Auto Crash: Death in passenger compartment
2904009 Auto Crash: Partial or complete ejection
2904011 Auto Crash: Significant intrusion (including roof): >12 inches occupant site; >18 inches any site; need for extrication
2904013 Auto Crash: Vehicle telemetry data consistent with severe injury
2904015 Motorcycle Crash > 20 MPH
2904023 Other EMS Judgement
2904029 Auto Crash: Child (age 0-9 years) unrestrained or in unsecured child safety seat
2904031 Fall from height > 10 feet (all ages)
2904035 Rider separated from transport vehicle with significant impact (e.g., motorcycle, ATV, horse, etc.)**)**

NUMERATOR CRITERIA:

- *Denominator Criteria*

AND

- eVitals.14 Respiratory Rate is not in Null
  7701001 Not Applicable
  7701003 Not Recorded
  8801005 Exam Finding Not Present
  8801019 Refused
  8801023 Unable to Complete

AND

- eVitals.06 SBP (Systolic Blood Pressure) is not in Null
  7701001 Not Applicable
  7701003 Not Recorded
  8801005 Exam Finding Not Present

AND

- **(**eVitals.23 Total Glasgow Coma Score is not in Null
  7701001 Not Applicable
  7701003 Not Recorded
  7701005 Not Reporting
  8801019 Refused
  8801023 Unable to Complete

OR

eVitals.21 Glasgow Coma Score – Motor is not in Null
7701001 Not Applicable
7701003 Not Recorded
8801019 Refused
8801023 Unable to Complete**)**

Count by patients treated rather than by number of responses.

DOCUMENTATION OF ESTIMATED WEIGHT IN KILOGRAMS FOR PEDIATRIC PATIENTS RECEIVING WEIGHT-BASED MEDICATION

Measure Set	Pediatric
Measure ID #	PED-4
Measure Name	Documentation of Estimated Weight in Kilograms for Pediatric Patients Receiving Weight-based Medication
Measure Description	Percentage of pediatric patients originating from a 911 response who received a weight-based medication and had a weight value in kilograms or length-based weight estimate documented during the response.
Type of Measure	Process
Reporting Value & Unit	Percentage (%)
Denominator Statement (Population)	Number of pediatric patients originating from a 911 response who received a medication.
Denominator Exclusion Statement	911 responses for pediatric patients who received non-weight-based medications (e.g., inhaled, topical).
Numerator Statement (Subpopulation)	Number of pediatric patients originating from a 911 response who received a medication and had a weight value in kilograms or length-based weight estimate documented during the response.
Numerator Exclusion Statement	911 responses for pediatric patients who received non-weight-based medications (e.g., inhaled, topical).
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore, the indicator expressed numerically is N/D = %
Example of Final Reporting Value (Number & Unit)	90%
Measure Value Interpretation	For this measure, a higher value generally indicates better quality.
Sampling	No
Aggregation	Yes
Blinded	Yes
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and prehospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
NEMSQA Measure	Pediatrics-03b: Documentation of Estimated Weight in Kilograms

PED-4 Measure Criteria

Population: Patients < 14 years of age

DENOMINATOR CRITERIA:

- eResponse.05 Type of Service Requested =
  2205001 Emergency Response (Primary Response Area)
  2205003 Emergency Response (Intercept)
  2205009 Emergency Response (Mutual Aid)

AND

- **((**ePatient.15 Age < 14 and
  ePatient.16 Age Units = 2516009 Years**)**

OR

(ePatient.15 Age = Not Null

AND

ePatient.16 Age Units =
2516001 Days
2516003 Hours
2516005 Minutes
2516007 Months**))**

AND

- **((**eMedications.03 Medication Administered =
  161 Acetaminophen
  272 Activated Charcoal
  296 Adenosine
  703 Amiodarone
  3322 Diazepam
  3498 Diphenhydramine
  3992 Epinephrine
  4337 Fentanyl
  4832 Glucagon
  5640 Ibuprofen
  5856 Insulin
  6130 Ketamine
  6960 Midazolam
  7052 Morphine
  10691 Tranexamic Acid
  26225 Ondansetron (Zofran)
  30236 Morphine Sulfate
  35827 Ketorolac
  61381 Olanzapine

66981 Zofran (Ondansetron)
94517 Midazolam Injectable Solution [Versed]
202472 Valium
203457 Benadryl
215616 Benadryl Allergy
238720 Tranexamic Acid 1000 MG per 10 ML Injectable Solution
307668 APAP 160 MG per 5 ML Oral Suspension
310132 Epinephrine 500 MCG per 0.5 ML Injectable Solution
311702 Midazolam 5 MG/ML (as midazolam hydrochloride) Injectable Solution
315263 Acetaminophen 325 MG
316072 Ibuprofen 100 MG
317361 Epinephrine 0.1 MG/ML
328264 Fentanyl 0.05 MG/ML
328316 Epinephrine 1 MG/ML
330467 Ketamine 10 MG/ML
330468 Ketamine 50 MG/ML
330545 Epinephrine 0.01 MG/ML
363077 Ketorolac Injectable Solution [Toradol]
437215 Acetaminophen / Adiphenine Oral Tablet
483017 APAP 1000 MG per 100 ML Injectable Solution
568115 Midazolam 1 MG/ML [Versed]
687078 Acetaminophen / Aspirin
727345 Epinephrine 0.3 MG per 0.3 ML Prefilled Syringe
727759 Fentanyl (as fentanyl citrate) 100 MCG per 2 ML Prefilled Syringe
757199 Diphenhydramine / Ephedrine Oral Solution
828555 Tylenol 32 MG/ML Oral Suspension
860093 Ketorolac Tromethamine 15 MG/ML [Toradol]
1041527 Ofirmev
1041530 Ofirmev 10 MG/ML Injectable Solution
1375913 Epinephrine 0.01 MG/ML Injectable Solution
1660014 Epinephrine 1 MG per 1 ML Injection
1735057 2 ML Sublimaze 0.05 MG/ML Injection

OR

- **(**eMedications.03 Medication Administered = 313002 Saline

AND

- eMedications.05 Medication Dosage > 10 **))**

NUMERATOR CRITERIA:

- *Denominator Criteria*

AND

- **(**eExam.01 Estimated Body Weight in Kilograms = Not Null

OR

eExam.02 Length Based Tape Measure = Not Null**)**

Count by patients treated rather than by number of responses.

NOTE: eMediations.06 is not recommended for use at this time due to incomplete or inaccurate field documentation.

SUCCESSFUL FIRST PASS ADVANCED AIRWAY IN NON-CARDIAC ARREST PATIENTS

Measure Set	Airway
Measure ID #	AIR-1A
Measure Name	Successful First Pass Advanced Airway in Non-Cardiac Arrest Patients
Measure Description	Percentage of patients originating from a 911 response for the following populations: **Population 1:** Patients less than 14 years of age that received a successful first pass supraglottic airway device (SAD). **Population 2:** Patients greater than or equal to 14 years of age that received a SAD. **Population 3:** Patients greater than or equal to 14 years of age that received a successful first pass endotracheal intubation.
Type of Measure	Outcome
Reporting Value & Unit	Percentage (%)
Denominator Statement (Population)	**Population 1:** Patients less than 14 years of age that received a SAD. **Population 2:** Patients greater than or equal to 14 years of age that received a SAD. **Population 3:** Patients greater than or equal to 14 years of age that received an endotracheal intubation.
Denominator Exclusion Statement	**Populations 1**: EMS responses for patients less than 24 hours of age. **Populations 1-3**: Patients in cardiac arrest prior to EMS arrival. Airway procedures performed prior to the arrival of EMS unit.
Numerator Statement (Subpopulation)	Number of patients originating from a 911 response that received a successful first attempt airway placement.
Numerator Exclusion Statement	**Populations 1**: EMS responses for patients less than 24 hours of age. **Populations 1-3**: Patients in cardiac arrest prior to EMS arrival. Airway procedures performed prior to the arrival of EMS unit.
Numerator Exclusion Criteria	Same as denominator exclusion criteria.

Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore, the indicator expressed numerically is N/D = %
Example of Final Reporting Value (Number & Unit)	90%
Measure Value Interpretation	For this measure, a higher value generally indicates better quality.
Sampling	No
Aggregation	Yes
Blinded	Yes
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and prehospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
NEMSQA Measure	Airway-01: Successful First Advanced Airway Placement without Hypotension or Hypoxia

<table>
<tr><th colspan="3">AIR-1A Measure Criteria</th></tr>
<tr><td>Population 1:
Patients < 14 years of age (SAD)</td><td>Population 2:
Patients ≥ 14 years of age (SAD)</td><td>Population 3:
Patients ≥ 14 years of age (ET tube)</td></tr>
<tr><td>• ((1 < ePatient.15 Age < 14 and ePatient.16 Age Units = 2516009 Years)
OR
(ePatient.15 Age = Not Null
AND
ePatient.16 Age Units =
2516001 Days
2516003 Hours
2516005 Minutes
2516007 Months))</td><td>• (ePatient.15 Age ≥ 14 and ePatient.16 Age Units = 2516009 Years)</td><td>• (ePatient.15 Age ≥ 14 and ePatient.16 Age Units = 2516009 Years)</td></tr>
<tr><td colspan="2">**Apply denominator and numerator to only P1 and P2**

<u>DENOMINATOR CRITERIA:</u>

• eResponse.05 Type of Service Requested =
2205001 Emergency Response (Primary Response Area)
2205003 Emergency Response (Intercept)
2205009 Emergency Response (Mutual Aid)

AND
• (eProcedures.03 Procedure =
257369004 Airway – king (perilaryngeal)
424979004 Laryngeal mask airway insertion
427753009 Insertion of esophageal tracheal double lumen supraglottic airway
429375002 Esophageal tracheal double lumen supraglottic airway device (physical object)
429705000 Intubation, combitube
713535007 Supraglottic airway (procedure)
450611000124100 Supraglottic airway, single lumen (i.e. King)
AND
eProcedures.02 Procedure Performed Prior to this Unit's EMS Care =</td><td>**Apply denominator and numerator to only P3**

<u>DENOMINATOR CRITERIA:</u>

• eResponse.05 Type of Service Requested =
2205001 Emergency Response (Primary Response Area)
2205003 Emergency Response (Intercept)
2205009 Emergency Response (Mutual Aid)

AND
• (eProcedures.03 Procedure =
112798008 Insertion of endotracheal tube
16883004 Endotracheal intubation, emergency procedure
182682004 Emergency laryngeal intubation
232674004 Orotracheal intubation</td></tr>
</table>

9923001 "No" *AND* eArrest.01 Cardiac Arrest = 3001001 No 3001005 Yes, After EMS Arrival *AND* eSituation.11 Provider's Primary Impression = Abdominal Pain/Problems (GI/GU) (R10.84) Airway Obstruction (T71.9) ALOC - (Not Hypoglycemia or Seizure) (R41.82) ALTE (BRUE) (R68.13) Burn (T30.0) Cardiac Arrest -Non-traumatic (I46.9) Cardiac Dysrhythmia (I49.9) Chest Pain - Not Cardiac (R07.89) Chest Pain - STEMI (I21.3) Chest Pain - Suspected Cardiac (I20.9) Dizziness/Vertigo (R42) General Weakness (R53.1) Headache - Non-traumatic (R51) Hyperglycemia (E13.65) Hyperthermia - Environmental (Heatstroke and sunstroke) (T67.0) Hypoglycemia (E13.64) Lower GI Bleeding (K92.1) Nausea/Vomiting (R11.2) Newborn (Z38.2) No Medical Complaint (Z00.00) Non-Traumatic Body Pain (G89.1) Not Recorded Obvious Death (R99) Overdose/Poisoning/Ingestion (F19) Palpitations (R00.2) Respiratory Arrest / Respiratory Failure (J96.9) Respiratory Distress/Bronchospasm (J98.01) Respiratory Distress/Other (J80) Respiratory Distress/Pulm Edema/CHF (J81.0) Seizure - Post (G40.909) Severe agitation with altered mental status (R41.0) Shock/Hypotension (I95.9) Stroke / CVA / TIA (I63.9) Submersion/Drowning (T75.1XXA) Syncope/Near Syncope (R55) Traumatic Injury (T14.90)	232678001 Orotracheal fiberoptic intubation 2326700089 Nasotracheal intubation 232682004 Nasotracheal fiberoptic intubation 232680007 Nasal intubation awake 241689008 Intubation, Rapid Sequence Intubation (RSI) 304341005 Awake intubation 429161001 Insertion of endotracheal tube using laryngoscope 450601000124103 Intubation, orotracheal AND eProcedures.02 Procedure Performed Prior to this Unit's EMS Care = 9923001 "No" *AND* eArrest.01 Cardiac Arrest = 3001001 No 3001005 Yes, After EMS Arrival *AND* eSituation.11 Provider's Primary Impression = Abdominal Pain/Problems (GI/GU) (R10.84) Airway Obstruction (T71.9) ALOC - (Not Hypoglycemia or Seizure) (R41.82) ALTE (BRUE) (R68.13) Burn (T30.0) Cardiac Arrest -Non-traumatic (I46.9) Cardiac Dysrhythmia (I49.9) Chest Pain - Not Cardiac (R07.89) Chest Pain - STEMI (I21.3) Chest Pain - Suspected Cardiac (I20.9)

Upper GI Bleeding (K92.0)**)** ***NUMERATOR CRITERIA:*** • *Denominator Criteria* *AND* • **(**ePROCEDURES.05 Number of Procedure Attempts = 1 *AND* ePROCEDURES.06 Procedure Successful = 9923003 Yes**)** *AND* *sorted by ePROCEDURES.01 Date/Time Procedure Performed* *Determine first-pass success by sequencing all qualifying airway procedures by eProcedures.01. Only encounters in which the **initial attempt** is successful should be reported in the numerator. Count by patients treated rather than by number of responses.*	Dizziness/Vertigo (R42) General Weakness (R53.1) Headache - Non-traumatic (R51) Hyperglycemia (E13.65) Hyperthermia - Environmental (Heatstroke and sunstroke) (T67.0) Hypoglycemia (E13.64) Lower GI Bleeding (K92.1) Nausea/Vomiting (R11.2) Newborn (Z38.2) No Medical Complaint (Z00.00) Non-Traumatic Body Pain (G89.1) Not Recorded Obvious Death (R99) Overdose/Poisoning/Ingestion (F19) Palpitations (R00.2) Respiratory Arrest / Respiratory Failure (J96.9) Respiratory Distress/Bronchospasm (J98.01) Respiratory Distress/Other (J80) Respiratory Distress/Pulm Edema/CHF (J81.0) Seizure - Post (G40.909) Severe agitation with altered mental status (R41.0) Shock/Hypotension (I95.9) Stroke / CVA / TIA (I63.9) Submersion/Drowning (T75.1XXA) Syncope/Near Syncope (R55) Traumatic Injury (T14.90) Upper GI Bleeding (K92.0)**)** ***NUMERATOR CRITERIA:*** • *Denominator Criteria*

	AND • **(**eProcedures.05 Number of Procedure Attempts = 1 *AND* eProcedures.06 Procedure Successful = 9923003 Yes**)** *AND* *sorted by ePROCEDURES.01 Date/Time Procedure Performed* *Determine first-pass success by sequencing all qualifying airway procedures by eProcedures.01. Only encounters in which the **initial attempt** is successful should be reported in the numerator. Count by patients treated rather than by number of responses.*

SUCCESSFUL FIRST PASS ADVANCED AIRWAY IN CARDIAC ARREST PATIENTS

Measure Set	Airway
Measure ID #	AIR-1B
Measure Name	Successful First Pass Advanced Airway in Cardiac Arrest Patients
Measure Description	Percentage of patients originating from a 911 response for the following populations: **Population 1:** Patients less than 14 years of age that received a successful first pass supraglottic airway device (SAD). **Population 2:** Patients greater than or equal to 14 years of age that received a SAD. **Population 3:** Patients greater than or equal to 14 years of age that received a successful first pass endotracheal intubation.
Type of Measure	Outcome
Reporting Value & Unit	Percentage (%)
Denominator Statement (Population)	**Population 1:** Patients less than 14 years of age that received a SAD. **Population 2:** Patients greater than or equal to 14 years of age that received a SAD. **Population 3:** Patients greater than or equal to 14 years of age that received an endotracheal intubation.
Denominator Exclusion Statement	**Populations 1**: EMS responses for patients less than 24 hours of age. **Populations 1-3**: Patients not in cardiac arrest prior to EMS arrival. Airway procedures performed prior to the arrival of EMS unit.
Numerator Statement (Subpopulation)	Number of patients originating from a 911 response that received a successful first attempt airway placement.
Numerator Exclusion Statement	**Populations 1**: EMS responses for patients less than 24 hours of age. **Populations 1-3**: Patients in cardiac arrest prior to EMS arrival. Airway procedures performed prior to the arrival of EMS unit.
Numerator Exclusion Criteria	Same as denominator exclusion criteria.

Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore, the indicator expressed numerically is N/D = %
Example of Final Reporting Value (Number & Unit)	90%
Measure Value Interpretation	For this measure, a higher value generally indicates better quality.
Sampling	No
Aggregation	Yes
Blinded	Yes
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and prehospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
NEMSQA Measure	Airway-01: Successful First Advanced Airway Placement without Hypotension or Hypoxia

AIR-1B Measure Criteria		
Population 1: Patients < 14 years of age (SAD)	**Population 2**: Patients ≥ 14 years of age (SAD)	**Population 3**: Patients ≥ 14 years of age (ET tube)
• **((**1 < ePatient.15 Age < 14 and ePatient.16 Age Units = 2516009 Years**)** *OR* **(**ePatient.15 Age = Not Null *AND* ePatient.16 Age Units = 2516001 Days 2516003 Hours 2516005 Minutes 2516007 Months**))**	• **(**ePatient.15 Age ≥ 14 and ePatient.16 Age Units = 2516009 Years**)**	• **(**ePatient.15 Age ≥ 14 and ePatient.16 Age Units = 2516009 Years**)**
Apply denominator and numerator to only P1 and P2 ***DENOMINATOR CRITERIA:*** • eResponse.05 Type of Service Requested = 2205001 Emergency Response (Primary Response Area) 2205003 Emergency Response (Intercept) 2205009 Emergency Response (Mutual Aid) *AND* • **(**eProcedures.03 Procedure = 257369004 Airway – king (perilaryngeal) 386509000 Airway management 424979004 Laryngeal mask airway insertion 427753009 Insertion of esophageal tracheal double lumen supraglottic airway 429375002 Esophageal tracheal double lumen supraglottic airway device (physical object) 429705000 Intubation, combitube 713535007 Supraglottic airway (procedure) 450611000124100 Supraglottic airway, single lumen (i.e. King) AND		**Apply denominator and numerator to only P3** ***DENOMINATOR CRITERIA:*** • eResponse.05 Type of Service Requested = 2205001 Emergency Response (Primary Response Area) 2205003 Emergency Response (Intercept) 2205009 Emergency Response (Mutual Aid) *AND* • **(**eProcedures.03 Procedure = 112798008 Insertion of endotracheal tube 16883004 Endotracheal intubation, emergency procedure 182682004 Emergency laryngeal intubation 232674004 Orotracheal intubation

ePROCEDURES.02 Procedure Performed Prior to this Unit's EMS Care = 9923001 "No" *AND* eARREST.01 Cardiac Arrest = 3001003 Yes, Prior to EMS Arrival *AND* eSITUATION.11 Provider's Primary Impression = Abdominal Pain/Problems (GI/GU) (R10.84) Airway Obstruction (T71.9) ALOC - (Not Hypoglycemia or Seizure) (R41.82) ALTE (BRUE) (R68.13) Burn (T30.0) Cardiac Arrest -Non-traumatic (I46.9) Cardiac Dysrhythmia (I49.9) Chest Pain - Not Cardiac (R07.89) Chest Pain - STEMI (I21.3) Chest Pain - Suspected Cardiac (I20.9) Dizziness/Vertigo (R42) General Weakness (R53.1) Headache - Non-traumatic (R51) Hyperglycemia (E13.65) Hyperthermia - Environmental (Heatstroke and sunstroke) (T67.0) Hypoglycemia (E13.64) Lower GI Bleeding (K92.1) Nausea/Vomiting (R11.2) Newborn (Z38.2) No Medical Complaint (Z00.00) Non-Traumatic Body Pain (G89.1) Not Recorded Obvious Death (R99) Overdose/Poisoning/Ingestion (F19) Palpitations (R00.2) Respiratory Arrest / Respiratory Failure (J96.9) Respiratory Distress/Bronchospasm (J98.01) Respiratory Distress/Other (J80) Respiratory Distress/Pulm Edema/CHF (J81.0) Seizure - Post (G40.909) Severe agitation with altered mental status (R41.0) Shock/Hypotension (I95.9) Stroke / CVA / TIA (I63.9) Submersion/Drowning (T75.1XXA) Syncope/Near Syncope (R55)	232678001 Orotracheal fiberoptic intubation 2326700089 Nasotracheal intubation 232682004 Nasotracheal fiberoptic intubation 232680007 Nasal intubation awake 232685002 Insertion of tracheostomy tube 241689008 Intubation, Rapid Sequence Intubation (RSI) 304341005 Awake intubation 429161001 Insertion of endotracheal tube using laryngoscope 450601000124103 Intubation, orotracheal AND ePROCEDURES.02 Procedure Performed Prior to this Unit's EMS Care = 9923001 "No" *AND* eARREST.01 Cardiac Arrest = 3001003 Yes, Prior to EMS Arrival *AND* eSITUATION.11 Provider's Primary Impression = Abdominal Pain/Problems (GI/GU) (R10.84) Airway Obstruction (T71.9) ALOC - (Not Hypoglycemia or Seizure) (R41.82) ALTE (BRUE) (R68.13) Burn (T30.0) Cardiac Arrest -Non-traumatic (I46.9) Cardiac Dysrhythmia (I49.9) Chest Pain - Not Cardiac (R07.89) Chest Pain - STEMI (I21.3)

Traumatic Injury (T14.90) Upper GI Bleeding (K92.0)**)** ***NUMERATOR CRITERIA:*** • *Denominator Criteria* *AND* • **(**eProcedures.05 Number of Procedure Attempts = 1 *AND* eProcedures.06 Procedure Successful = 9923003 Yes**)** *AND* *sorted by eProcedures.01 Date/Time Procedure Performed* *Determine first-pass success by sequencing all qualifying airway procedures by eProcedures.01. Only encounters in which the **initial attempt** is successful should be reported in the numerator. Count by patients treated rather than by number of responses.*	Chest Pain - Suspected Cardiac (I20.9) Dizziness/Vertigo (R42) General Weakness (R53.1) Headache - Non-traumatic (R51) Hyperglycemia (E13.65) Hyperthermia - Environmental (Heatstroke and sunstroke) (T67.0) Hypoglycemia (E13.64) Lower GI Bleeding (K92.1) Nausea/Vomiting (R11.2) Newborn (Z38.2) No Medical Complaint (Z00.00) Non-Traumatic Body Pain (G89.1) Not Recorded Obvious Death (R99) Overdose/Poisoning/Ingestion (F19) Palpitations (R00.2) Respiratory Arrest / Respiratory Failure (J96.9) Respiratory Distress/Bronchospasm (J98.01) Respiratory Distress/Other (J80) Respiratory Distress/Pulm Edema/CHF (J81.0) Seizure - Post (G40.909) Severe agitation with altered mental status (R41.0) Shock/Hypotension (I95.9) Stroke / CVA / TIA (I63.9) Submersion/Drowning (T75.1XXA) Syncope/Near Syncope (R55) Traumatic Injury (T14.90) Upper GI Bleeding (K92.0)**)**

	NUMERATOR CRITERIA: • *Denominator Criteria* *AND* • **(**ePROCEDURES.05 Number of Procedure Attempts = 1 *AND* ePROCEDURES.06 Procedure Successful = 9923003 Yes**)** *AND* *sorted by ePROCEDURES.01 Date/Time Procedure Performed* *Determine first-pass success by sequencing all qualifying airway procedures by eProcedures.01. Only encounters in which the **initial attempt** is successful should be reported in the numerator. Count by patients treated rather than by number of responses.*

WAVEFORM CAPNOGRAPHY AIRWAY DEVICE

Measure Set	Airway
Measure ID #	AIR-2
Measure Name	Waveform Capnography Airway Device
Measure Description	Percentage of patients originating from a 911 response for which a successful advanced airway procedure was performed and waveform capnography was used for tube placement confirmation.
Type of Measure	Process
Reporting Value & Unit	Percentage (%)
Denominator Statement (Population)	Percentage of patients originating from a 911 response for the following populations: **Population 1**: Successful advanced airway procedures for patients less than 14 years of age. **Population 2**: Successful advanced airway procedures for patients greater than or equal to 14 years of age.
Denominator Exclusion Criteria	None
Numerator Statement (Subpopulation)	Percentage of patients originating from a 911 response for the following populations: **Population 1**: Successful advanced airway procedures for patients less than 14 years of age in which waveform capnography was used for tube placement confirmation. **Population 2**: Successful advanced airway procedures for patients greater than or equal to 14 years of age in which waveform capnography was used for tube placement confirmation.
Numerator Exclusion Criteria	None
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore, the indicator expressed numerically is N/D = %
Example of Final Reporting Value (Number & Unit)	90%
Measure Value Interpretation	For this measure, a higher value generally indicates better quality.
Sampling	No
Aggregation	Yes
Blinded	Yes

Data Collection Approach	• Retrospective data sources for required data elements include administrative data and prehospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
NEMSQA Measure	Airway-18: Waveform Capnography Airway Device Monitoring

AIR-2 Measure Criteria

Population 1: Patients < 14 years of age	**Population 2**: Patients ≥ 14 years of age
• **((**ePatient.15 Age < 14 and ePatient.16 Age Units = 2516009 Years**)** *OR* **(**ePatient.15 Age = Not Null *AND* ePatient.16 Age Units = 2516001 Days 2516003 Hours 2516005 Minutes 2516007 Months**))**	• **(**ePatient.15 Age ≥ 14 and ePatient.16 Age Units = 2516009 Years**)**

Apply denominator and numerator to both populations

DENOMINATOR CRITERIA:

- eResponse.05 Type of Service Requested =
  2205001 Emergency Response (Primary Response Area)
  2205003 Emergency Response (Intercept)
  2205009 Emergency Response (Mutual Aid)

AND

- **(**eProcedures.03 Procedure =
  673005 Laryngoscopy, indirect (e.g. video laryngoscopy)
  52765003 Intubation
  112798008 Insertion of endotracheal tube (procedure)
  16883004 Endotracheal intubation, emergency procedure (procedure)
  182682004 Emergency laryngeal intubation (procedure)
  232674004 Orotracheal intubation (procedure)
  232675003 Oral intubation awake
  232677006 Tracheal intubation using rigid bronchoscope (procedure)
  232679009 Nasotracheal intubation
  232679089 Nasotracheal intubation (procedure)
  232680007 Nasal intubation awake (procedure)
  232682004 Nasotracheal fiberoptic intubation (procedure)
  241689008 Intubation, Rapid Sequence Intubation (RSI) (procedure)
  257369004 Airway – King (Perilaryngeal)
  304341005 Awake intubation (procedure)
  386508008 Airway insertion and stabilization
  397874007 Intubation, using exchange catheter
  397982008 Insertion of device into airway
  405640005 Airway device insertion event

418613003 Tracheal intubation through a laryngeal mask airway (procedure)
424979004 Laryngeal mask airway insertion (procedure)
427753009 Insertion of esophageal tracheal double lumen supraglottic airway (procedure)
429161001 Insertion of endotracheal tube using laryngoscope (procedure)
429375002 Esophageal tracheal double lumen supraglottic airway device (physical object)
429705000 Intubation, combitube (procedure)
713535007 Supraglottic airway (procedure)
450601000124103 Intubation, orotracheal (procedure)
450611000124100 Supraglottic airway, single lumen (i.e. King)

AND

- eProcedures.06 Procedure Successful = 9923003 Yes**)**

NUMERATOR CRITERIA:

- *Denominator Criteria*

AND

- **(**eAirway.04 Airway Device Placement Confirmed Method = 4004019 Waveform ETCO2

AND

- (eVitals.16 End Tidal Carbon Dioxide (ETCO2) = Logical and present [min 5 – max 760]

AND

- eVitals.16 End Tidal Carbon Dioxide (ETCO2) = Not Null
  7701001 Not Applicable
  7701003 Not Recorded
  8801019 Refused
  881023 Unable to Complete)**)**

Count by patients treated rather than by number of responses.

BVM OR SGA FOR PEDIATRIC PATIENTS

Measure Set	Airway
Measure ID #	AIR-3
Measure Name	BVM or SGA for Pediatric Patients
Measure Description	Percentage of pediatric patients originating from a 911 response who received assisted ventilation in which either a bag-valve-mask airway alone or a bag-valve-mask with supraglottic airway was used.
Type of Measure	Process
Reporting Value & Unit	Percentage (%)
Denominator Statement (Population)	Number of pediatric patients originating from a 911 response who receive assisted ventilation during the response.
Denominator Exclusion Criteria	None
Numerator Statement (Subpopulation)	Number of pediatric patients originating from a 911 response who receive assisted ventilation in which either a bag-valve-mask airway alone or a bag-valve-mask with supraglottic airway was used during the response. (Pseudocode implemented as endotracheal intubation not used.)
Numerator Exclusion Criteria	None
Indicator Formula Numeric Expression	The formula is to divide (/) the numerator (N) by the denominator (D) and then multiply (x) by 100 to obtain the (%) value the indicator is to report. Therefore, the indicator expressed numerically is N/D = %
Example of Final Reporting Value (Number & Unit)	90%
Measure Value Interpretation	For this measure, a higher value generally indicates better quality.
Sampling	No
Aggregation	Yes
Blinded	Yes
Data Collection Approach	• Retrospective data sources for required data elements include administrative data and prehospital care records. • Variation may exist in the assignment of coding; therefore, coding practices may require evaluation to ensure consistency.
NEMSQA Measure	N/A

AIR-3 Measure Criteria

Population: Patients < 14 years of age

DENOMINATOR CRITERIA:

- eResponse.05 Type of Service Requested =
  2205001 Emergency Response (Primary Response Area)
  2205003 Emergency Response (Intercept)
  2205009 Emergency Response (Mutual Aid)

AND

- **((**ePatient.15 Age < 14 and
  ePatient.16 Age Units = 2516009 Years**)**

OR

(ePatient.15 Age = Not Null

AND

ePatient.16 Age Units =
2516001 Days
2516003 Hours
2516005 Minutes
2516007 Months**))**

AND

- eProcedures.03 Procedure =
  425447009 Bag Valve Mask Ventilation
  257369004 Airway – King (perilaryngeal)
  429375002 Esophageal tracheal double lumen supraglottic airway device (physical object)
  429705000 Intubation, combitube (procedure)
  424979004 Laryngeal mask airway insertion (procedure)
  427753009 Insertion of esophageal tracheal double lumen supraglottic airway (procedure)
  713535007 Supraglottic airway (procedure)
  450611000124100 Supraglottic airway, single lumen (i.e. King)

NUMERATOR CRITERIA:

- eResponse.05 Type of Service Requested =
  2205001 Emergency Response (Primary Response Area)
  2205003 Emergency Response (Intercept)
  2205009 Emergency Response (Mutual Aid)

AND

- **((**ePatient.15 Age < 14

AND

- ePatient.16 Age Units = 2516009 Years**)**

OR

- **(**ePatient.15 Age = Not Null

AND

- ePatient.16 Age Units =
  2516001 Days
  2516003 Hours
  2516005 Minutes
  2516007 Months**))**

AND

- eProcedures.03 Procedure is in
  425447009 Bag Valve Mask Ventilation

Count by patients treated rather than by number of responses.

APPENDIX A: TRAUMA CENTER LIST

LEMSA	County	Destination/ Transferred To Code	Hospital Name
Alameda EMS	Alameda	20005	Highland Alameda County Medical Center
Alameda EMS	Alameda	20112	Sutter Health Eden Medical Center
Alameda EMS	Alameda	20059	UCSF Benioff Children's Hospital Oakland
Central California EMS	Fresno	20085	Community Regional Medical Center
Central California EMS	Tulare	20219	Kaweah Delta Medical Center
Central California EMS	Madera	20061	Valley Children's Hospital
Coastal Valley EMS	Mendocino	20506	Ukiah Valley Medical Center
Coastal Valley EMS	Mendocino	20132	Frank Howard Memorial Hospital
Coastal Valley EMS	Sonoma	20402	Santa Rosa Memorial Hospital
Contra Costa EMS	Contra Costa	20180	John Muir Medical Center, Walnut Creek
El Dorado EMS	El Dorado	20033	Barton Healthcare System
El Dorado EMS	El Dorado	20272	Marshall Medical Center
Inland Counties EMS	San Bernardino	20019	Arrowhead Regional Medical Center
Inland Counties EMS	San Bernardino	20165	Hi-Desert Medical Center
Inland Counties EMS	San Bernardino	20252	Loma Linda University Medical Center
Inland Counties EMS	San Bernardino	20382	San Antonio Regional Hospital
Kern EMS	Kern	20224	Kern Medical Center
Kern EMS	Kern	20372	Ridgecrest Regional Hospital
Los Angeles EMS	Los Angeles	20018	Antelope Valley Hospital
Los Angeles EMS	Los Angeles	20045	California Hospital Medical Center
Los Angeles EMS	Los Angeles	20054	Cedars-Sinai Medical Center
Los Angeles EMS	Los Angeles	20062	Children's Hospital Los Angeles
Los Angeles EMS	Los Angeles	20240	Harbor-UCLA Medical Center
Los Angeles EMS	Los Angeles	20163	Henry Mayo Newhall Hospital
Los Angeles EMS	Los Angeles	20173	Huntington Hospital
Los Angeles EMS	Los Angeles	20255	MemorialCare Long Beach Medical Center
Los Angeles EMS	Los Angeles	20242	Los Angeles County - USC Medical Center
Los Angeles EMS	Los Angeles	20315	Northridge Hospital Medical Center

Los Angeles EMS	Los Angeles	20348	Pomona Valley Hospital Medical Center
Los Angeles EMS	Los Angeles	20354	Providence Holy Cross Medical Center
Los Angeles EMS	Los Angeles	20377	Ronald Reagan UCLA Medical Center
Los Angeles EMS	Los Angeles	20446	St. Francis Medical Center
Los Angeles EMS	Los Angeles	20460	St. Mary Medical Center - Long Beach
Marin EMS	Marin	20269	Marin General Hospital
Monterey EMS	Monterey	20306	Natividad Medical Center
Napa EMS	Napa	20362	Queen of the Valley Medical Center
North Coast EMS	Humboldt	20264	Mad River Community Hospital
North Coast EMS	Humboldt	20454	St. Joseph Medical Center
North Coast EMS	Del Norte	20472	Sutter Coast Hospital
North Coast EMS	Lake	20476	Sutter Lakeside Hospital
Northern California EMS	Lassen	20030	Banner Lassen Hospital
Northern California EMS	Lake	20476	Sutter Lakeside Hospital
Orange EMS	Orange	20063	Children's Hospital Orange County
Orange EMS	Orange	20296	Mission Hospital Regional Medical Center
Orange EMS	Orange	20529	Orange County Global Medical Center
Orange EMS	Orange	20509	UC Irvine Health
Riverside EMS	Riverside	20097	Desert Regional Medical Center
Riverside EMS	Riverside	20114	Eisenhower Medical Center - STEMI Center
Riverside EMS	Riverside	20177	John F. Kennedy Memorial Hospital
Riverside EMS	Riverside	20374	Riverside Community Hospital
Riverside EMS	Riverside	20375	Riverside University Health System
Riverside EMS	Riverside	20442	Southwest Healthcare System - Inland Valley Medical Center
Sacramento EMS	Sacramento	20286	Dignity Health Mercy San Juan Medical Center
Sacramento EMS	Sacramento	20205	Kaiser Permanente South Sacramento
Sacramento EMS	Sacramento	20508	University of California, Davis Medical Center
San Benito	San Benito	20156	Hazel Hawkins Memorial Hospital
San Diego EMS	San Diego	20561	Palomar Medical Center
San Diego EMS	San Diego	20364	Rady Children's Hospital-San Diego
San Diego EMS	San Diego	20406	Scripps Memorial Hospital
San Diego EMS	San Diego	20408	Scripps Mercy Hospital
San Diego EMS	San Diego	20419	Sharp Memorial Hospital

San Diego EMS	San Diego	20510	UC San Diego Medical Center
San Francisco EMS	San Francisco	20386	Zuckerberg San Francisco General Hospital and Trauma Center
San Joaquin EMS	San Joaquin	20391	San Joaquin General Hospital
San Luis Obispo EMS	San Luis Obispo	20431	Sierra Vista Regional Medical Center
Santa Barbara EMS	Santa Barbara	20267	Dignity Health Marian Regional Medical Center
Santa Barbara EMS	Santa Barbara	20369	Santa Barbara Cottage Hospital
Santa Clara EMS	Santa Clara	20368	Regional Medical Center of San Jose
Santa Clara EMS	Santa Clara	20400	Santa Clara Valley Medical Center
Santa Clara EMS	Santa Clara	20465	Stanford Health Care/Lucile Packard Children's Hospital
Sierra-Sacramento EMS	Siskiyou	20285	Dignity Health Mercy Medical Center Mt. Shasta
Sierra-Sacramento EMS	Shasta	20284	Dignity Health Mercy Medical Center Redding
Sierra-Sacramento EMS	Tehama	20445	Dignity Health St. Elizabeth Community Hospital
Sierra-Sacramento EMS	Butte	20122	Enloe Medical Center
Sierra-Sacramento EMS	Siskiyou	20124	Fairchild Medical Center
Sierra-Sacramento EMS	Placer	20486	Tahoe Forest Hospital
Sierra-Sacramento EMS	Tehama	20445	St. Elizabeth Community Hospital
Sierra-Sacramento EMS	Placer	20481	Sutter Roseville Medical Center
Solano EMS	Solano	20193	Kaiser Foundation Hospital - Vacaville
Solano EMS	Solano	20309	North Bay Medical Center
Stanislaus EMS	Stanislaus	20101	Doctors Medical Center Modesto
Stanislaus EMS	Stanislaus	20275	Memorial Medical Center
Ventura EMS	Ventura	20261	Los Robles Hospital & Medical Center
Ventura EMS	Ventura	20516	Ventura County Medical Center