

Measure ID	Measure Name	Measure Description	Initial Population	Denominator	Denominator Exclusions	Denominator Exceptions	Numerator	NEMSQA Comments
Airway-01	Successful First Advanced Airway Placement without Hypotension or Hypoxia	<p>Percentage of EMS responses originating from a 911 request for:</p> <ol style="list-style-type: none"> 1. Patients less than 18 years of age who receive a successful advanced airway placement on first attempt without documented hypotension or hypoxia during the peri-intubation period. 2. Patients less than 18 years of age who receive a successful endotracheal intubation placement on first attempt without documented hypotension or hypoxia during the intubation period 3. Patients less than 18 years of age who receive a successful supraglottic intubation placement on first attempt without documented hypotension or hypoxia during the peri-intubation period 4. Patients greater than or equal to 18 years of age who receive a successful advanced airway placement on first attempt without documented 	All EMS responses originating from a 911 request for patients years of age who receive an advanced airway attempt	<ol style="list-style-type: none"> 1. EMS responses in the initial population for patients less than 18 years of age 2. EMS responses for patients less than 18 years of age with an endotracheal intubation attempt 3. EMS responses for patients less than 18 years of age with a supraglottic airway attempt 4. EMS responses in the initial population for patients greater than or equal to 18 years of age 5. EMS responses for patients greater than or equal to 18 years of age with an endotracheal intubation attempt 	<p>Denominator Exclusions for Populations 1-3:</p> <p>EMS responses for patients in cardiac arrest and EMS responses for patients less than 24 hours of age</p> <p>Denominator Exclusions for Populations 4-6:</p> <p>EMS responses for patients in cardiac arrest</p>	None	<p>Numerator Statement for Populations 1-6:</p> <p>EMS responses with successful first attempt airway placement without documented hypotension or hypoxia during the peri-intubation period</p>	

		<p>hypotension or hypoxia during the peri-intubation period.</p> <p>5. Patients greater than or equal to 18 years of age who receive a successful endotracheal intubation placement on first attempt without documented hypotension or hypoxia during the intubation period</p> <p>6. Patients greater than or equal to 18 years of age who receive a successful supraglottic intubation placement on first attempt without documented hypotension or hypoxia during the peri-intubation period</p>		6. EMS responses for patients greater than or equal to 18 years of age with a supraglottic airway attempt				
Airway-05	Adequate Oxygen Saturation Achieved Before Intubation Procedure	Percentage of EMS responses originating from a 911 request for patients less than 18 years of age requiring intubation during which adequate oxygen levels achieved prior to intubation procedure	All EMS responses originating from a 911 request for patients who receive an endotracheal intubation attempt	<p>1. EMS responses in the initial population for patients less than 18 years of age</p> <p>2. EMS responses in the initial population for patients greater than or equal to 18 years of age</p>	Denominator Exclusions for Populations 1-2: EMS responses for patients in cardiac arrest	None	<p>Numerator Statement for Populations 1-2:</p> <p>EMS responses during which adequate oxygen levels achieved prior to the intubation procedure</p>	
Airway-07	ETCO2 Verification of Advanced Airway Placement	Percentage of EMS responses originating from a 911 request for: 1. Patients less than 18 years of age	All EMS responses originating from a 911 request for patients who	1. EMS responses in the initial population for patients less than 18 years of age	None	None	Numerator Statement for Populations 1-6:	

		<p>who receive an advanced airway during which placement is verified with ETCO2.</p> <p>2. Patients less than 18 years of age who receive an endotracheal intubation during which placement is verified with ETCO2.</p> <p>3. Patients less than 18 years of age who receive a supraglottic intubation during which placement is verified with ETCO2.</p> <p>4. Patients greater than or equal to 18 years of age who receive an advanced airway during which placement is verified with ETCO2.</p> <p>5. Patients greater than or equal to 18 years of age who receive an endotracheal intubation during which placement is verified with ETCO2.</p> <p>6. Patients greater than or equal to 18 years of age who receive a supraglottic intubation during which placement is verified with ETCO2.</p>	<p>receive an advanced airway attempt</p>	<p>2. EMS responses for patients less than 18 years of age with an endotracheal intubation attempt</p> <p>3. EMS responses for patients less than 18 years of age with a supraglottic airway attempt</p> <p>4. EMS responses in the initial population for patients greater than or equal to 18 years of age</p> <p>5. EMS responses for patients greater than or equal to 18 years of age with an endotracheal intubation</p> <p>6. EMS responses for patients greater than or equal to 18 years of age with a supraglottic airway attempt</p>			<p>EMS responses during which an ETCO2 measurement is documented after advanced airway attempt</p>	
Airway-10	Documentation of SPO2 Saturation with	Percentage of EMS responses originating from a 911 request for patients receiving an advanced airway	All EMS responses originating from a 911 request for	1. EMS responses in the initial population for patients less than 18 years of age	None	None	Numerator Statement for Populations 1-2:	

	Advanced Airway	intervention during which SPO2 saturation is documented during and after the peri-intubation period	patients who receive an advanced airway intervention during the EMS encounter	2. EMS responses in the initial population for patients greater than or equal to 18 years of age			EMS responses during which SPO2 saturation is documented during and after the peri-intubation period	
Airway-18	Waveform Capnography Airway Device Monitoring	Percentage of EMS responses originating from a 911 request for patients receiving advanced airway intervention during which waveform capnography is used for tube placement confirmation and monitoring.	All EMS responses originating from a 911 request for patients who receive advanced airway intervention attempt during the EMS encounter	1. EMS responses in the initial population for patients less than 18 years of age 2. EMS responses in the initial population for patients greater than or equal to 18 years of age	None	None	Numerator Statement for Populations 1 and 2: EMS responses during which waveform capnography is used for tube placement confirmation and monitoring	
Airway-19	Airway Composite	Percentage of EMS responses originating from a 911 request for patients requiring endotracheal intubation during which adequate oxygen levels are achieved prior to intubation procedure, endotracheal	All EMS responses originating from a 911 request for patients who receive an endotracheal	1. EMS responses in the initial population for patients less than 18 years of age	Denominator Exclusions for Population 1: EMS responses for patients in cardiac	None	Numerator Statement for Populations 1 and 2: EMS responses during which	Defect-free (all-or-nothing scoring) composite measure that contains elements of four component measures: • Airway-01 • Airway-05

		intubation placement is successful on first attempt without hypotension or hypoxia during the peri-intubation period, and waveform capnography is used for verification and monitoring.	intubation attempt	2. EMS responses in the initial population for patients 1greater than or equal to 18 years of age	Denominator Exclusions for Population 2: EMS responses for patients in cardiac arrest		adequate oxygen levels are achieved prior to intubation procedure, endotracheal intubation placement is successful on first attempt without hypotension or hypoxia during the peri-intubation period, and waveform capnography is used for verification and monitoring.	<ul style="list-style-type: none"> • Airway-07 • Airway-18
Cardiac-07	Time to First ECG	Median time (in minutes) from: 1. Initial 911 call to first ECG for EMS transports originating from a 911 request for patients greater than 18 years of age with non-traumatic chest pain. 2. On scene to first ECG for EMS transports originating from a 911 request for patients greater than 18 years of age with non-traumatic chest	All EMS transports originating from a 911 request for patients greater than 18 years of age suffering from non-traumatic chest pain.	EMS transports in the initial population	None	None	Numerator Statement 1: Time (in minutes) from initial 911 call to first ECG Numerator Statement 2: Time (in minutes) from on scene to first	

		pain. 3. At patient to first ECG for EMS transports originating from a 911 request for patients greater than 18 years of age with non-traumatic chest pain.					ECG Numerator Statement 3: Time (in minutes) from at patient to first ECG	
Cardiac-12	Aspirin Administration for STEMI	Percentage of EMS transports originating from a 911 request for patients with suspected STEMI during which aspirin is administered during or prior to the EMS encounter.	EMS transports originating from a 911 request for patients with suspected STEMI	EMS transports in the initial population	None	EMS transports for patients with an allergy to aspirin	EMS transports during which aspirin is administered during or prior to the EMS encounter	
Cardiac-13	STEMI Under Call Rate	Percentage of EMS transports originating from a 911 request for patients greater than 18 years of age with an emergency department diagnosis of STEMI during which a pre-arrival STEMI alert is initiated.	All EMS transports originating from a 911 request for patients greater than 18 years of age who have an emergency department diagnosis of STEMI	EMS transports in the initial population	None	None	EMS transports during which a pre-arrival STEMI alert is initiated	

Care Coordination-01	Referral to Fall Prevention Services	Percentage of EMS responses originating from a 911 request for patients who have experienced a fall during which a referral to fall prevention services is made.	All EMS responses originating from a 911 for patients age 65 years of age and older who have experienced a fall	EMS responses in the initial population	None	None	EMS responses during which a referral to fall prevention services is made	<p>This measure will require referral information for the numerator. This is not a current element in the EMSTARS Data Dictionary. However, if referral information is available in the EMSTARS database, SNOMEDCT 391034007 Referral for falls assessment will be priority for this measure.</p> <p>If this isn't feasible, referral to a Community Paramedicine Program would be an acceptable alternative, but we would need to work together to determine how this is documented and who it could be captured for the measure.</p>
Hyperthermia-01	Assessment of Mental Status for Patients with Hyperthermia	Percentage of EMS responses originating from a 911 request for patients with suspected hyperthermia during which a mental status is documented.	All EMS responses originating from a 911 request for patients with suspected hyperthermia	<p>1. EMS responses in the initial population for patients less than 18 years of age</p> <p>2. EMS responses in the initial population for patients greater than or equal to 18 years of age</p>	None	None	<p>Numerator Statement or Populations 1-2:</p> <p>EMS responses during which a mental assessment is</p>	
Respiratory-01	Oxygen Administration for Hypoxia	Percentage of EMS responses originating from a 911 request for patients with hypoxia during which oxygen is administered.	All EMS responses originating from a 911 request for patients with hypoxia	<p>1. EMS responses in the initial population for patients less than 18 years of age</p> <p>2. EMS responses in the initial population for patients greater than or equal to 18 years of age</p>	<p>Denominator Exclusions for Population 1:</p> <p>EMS responses for patients less than 24 hours of age</p>	None	<p>Numerator Statement or Populations 1-2:</p> <p>EMS responses during which oxygen is administered</p>	

Safety-04	Pediatric Restraint Device Used During Transport	Percentage of EMS transports originating from a 911 request or interfacility request for patients less than 8 years of age during which patients are transported in a pediatric restraint device.	All EMS transports originating from a 911 request or interfacility request for patients less than 8 years of age.	EMS transports in the initial population	EMS responses for patients: <ul style="list-style-type: none"> • In cardiac arrest • With severe trauma • Who are immobilized • With active airway management 	None	EMS transports during which patients are restrained using a car seat during transport <i>Car seat can include any pediatric restraint device manufactured for pediatric transport.</i>	
Safety-05	Use of Backboards	Percentage of EMS transports originating from a 911 request for patients with trauma injury during which patients are not secured with a backboard.	All EMS transports originating from a 911 request for patients with trauma injury	1. EMS transports in the initial population for patients less than 18 years of age 2. EMS transports in the initial population for patients greater than or equal to 18 years of age	Denominator Exclusions for Populations 1-2: EMS transports for patients in cardiac arrest or for patients who require extrication	None	Numerator Statement for Populations 1-2: EMS transports during which backboard are not used to secure patients during transport	
Safety-10	Use of PPE	Percentage of EMS responses originating from a 911 request for patients with flu-like symptoms during which EMS providers use recommended PPE.	All EMS responses originating from a 911 request for patients with flu-like symptoms	EMS responses in the initial population	None	EMS responses during which PAPER devices are utilized	EMS responses during which EMS providers use masks, gloves, and eye protection	
Sepsis-01	Sepsis Alert	Percentage of EMS transports originating from a 911 request for patients suffering from suspected sepsis during which a sepsis pre-	All EMS transports originating from a 911 request for patients with a	1. EMS transports in the initial population for patients less than 18 years of age	None	None	Numerator Statement for Populations 1-2:	

		arrival notification is made.	primary or secondary impression of sepsis	2. EMS transports in the initial population for patients greater than or equal to 18 years of age			EMS transports during which a pre-arrival sepsis alert is initiated during the EMS encounter	
Sepsis-07	IV Antibiotics for Sepsis Patients	Percentage of EMS transports originating from a 911 request for patients with suspected sepsis during which IV antibiotics are administered.	All EMS transports originating from a 911 request for patients with a primary or secondary impression of sepsis	1. EMS transports in the initial population for patients less than 18 years of age 2. EMS transports in the initial population for patients greater than or equal to 18 years of age	None	None	Numerator Statement for Populations 1-2: EMS transports during which IV antibiotics are administered during the EMS encounter	
Sepsis-08	ETCO2 Measurement for Sepsis Patients	Percentage of EMS transports originating from a 911 request for patients with suspected sepsis during which an ETCO2 measurement is documented.	All EMS transports originating from a 911 request for patients with a primary or secondary impression of sepsis	1. EMS transports in the initial population for patients less than 18 years of age 2. EMS transports in the initial population for patients greater than or equal to 18 years of age	None	None	Numerator Statement for Populations 1-2: EMS transports during which an ETCO2 measurement is documented during the EMS encounter	
Stroke-03	Prehospital Suspected Stroke with Emergency Department Stroke Diagnosis	Percentage of EMS transports originating from a 911 request for patients with an EMS impression of stroke who have an emergency department diagnosis of stroke.	All EMS transports originating from a 911 request for patients with a primary or secondary impression of stroke	EMS transports in the initial population	EMS transports for patients with a GCS less than 15 or an AVPU less than A.	None	EMS transports for patients for who receive an emergency department stroke diagnosis	

Stroke-06	Suspected Stroke Patients Transported to a Stroke Center	Percentage of EMS transports originating from a 911 request for patients with an EMS impression of stroke who were transported to a stroke center.	All EMS transports originating from a 911 request for patients with a primary or secondary impression of stroke	EMS transports in the initial population	None	None	EMS transports for patients transported to a stroke center	Initial concept was Regionalization Protocol used for Suspected Stroke Patients. However, due to feasibility issues, NEMSQA recommends measuring whether stroke patients are transported to a stroke center.
Structure-01	Pediatric Emergency Care Coordination	Percentage of EMS agencies that have a Pediatric Emergency Care Coordinator within the agency.	All EMS agencies	EMS agencies in the initial population	None	None	EMS agencies that have a Pediatric Emergency Care Coordinator (PECC) within the agency	This will need to be collected at the agency-level via survey. NEMSQA Can help design the survey if needed.
Syncope-01	ECG Performed for Syncope Patients	Percentage of EMS responses originating from a 911 request for patients with syncope during which a 12-lead (or greater) ECG is performed.	All EMS responses originating from a 911 request for patients with syncope	1. EMS responses in the initial population for patients less than 18 years of age 2. EMS responses in the initial population for patients greater than or equal to 18 years of age	None	None	Numerator Statement for Populations 1-2: EMS responses during which a 12-lead (or greater) ECG is performed	
TBI-01	Clinical Assessments for Patients with Traumatic Brain Injury	Percentage of EMS transports originating from a 911 request for patients with suspected traumatic brain injury during which oxygen level, ETCO2, and systolic blood pressure are documented.	All EMS transports originating from a 911 request for patients with a suspected traumatic brain injury	1. EMS transports in the initial population for patients less than 18 years of age 2. EMS transports in the initial population for patients greater than or equal to 18 years of age	None	None	Numerator Statement for Populations 1-2: EMS transports during which SPO2, ETCO2, and systolic blood pressure are documented	

Throughput-01	Patient Offload Time	Median time (in minutes) spent on patient offload time	All EMS transports for patients who are transported to the emergency department	EMS responses in the initial population	None	None	Median time (in minutes) from EMS unit arrival at hospital to time patient is accepted by the emergency department	
Trauma-08	Documentation of GCS, SBP, and Respiratory Rate	Percentage of EMS transports originating from a 911 request for patients with trauma during which GCS, systolic blood pressure, and respiratory rate are documented.	All EMS transports originating from a 911 request for patients with trauma	<p>1. EMS transports in the initial population for patients less than 18 years of age</p> <p>2. EMS transports in the initial population for patients greater than or equal to 18 years of age</p>	None	None	<p>Numerator Statement for Populations 1-2:</p> <p>EMS transports during which GCS, systolic blood pressure, and respiratory rate are documented</p>	Measure was changed from "Documentation of Airway, Breathing, Circulation, and Disability" to "Documentation of GCS, SBP, and Respiratory Rate" due to feasibility issues with first concept (inability to capture documentation of airway assessment). Updated measure concept aligns with CDC Field Triage Assessment Guidelines (Step 1 Criteria) and can be updated as guidelines are updated.
Trauma-14	Trauma Call Rate	Percentage of EMS transports originating from a 911 request for patients meeting Step 1 or Step 2 prehospital field triage criteria for	All EMS transports originating from a 911 request for patients meeting	1. EMS transports in the initial population for patients less than 18 years of age	None	None	Numerator Statement for Populations 1-2:	Initial concept included comparing prehospital trauma alerts to hospital trauma alerts. However, hospital

		prehospital triage criteria for trauma during which a pre-arrival trauma alert is initiated.	patients meeting Step 1 or Step 2 prehospital field triage criteria.	2. EMS transports in the initial population for patients greater than or equal to 18 years of age		EMS transports during which a pre-arrival trauma alert is initiated	trauma alerts are not captured in SNOMEDCT or ICD-10 coding systems. NEMSQA recommends using this this concept, which measures prehospital actions only, until data from trauma registries or other sources can be more readily accessed for a more mature measure.
Trauma-17	Non-Opioid Approaches to Pain Management	Percentage of EMS responses originating from a 911 request for patients with injury during which non-opioid approaches to pain management are utilized.	EMS responses originating from a 911 request for patients with injury and an initial pain scale score of 3 to 5	1. EMS responses in the initial population for patients less than 18 years of age 2. EMS responses in the initial population for patients greater than or equal to 18 years of age	None	Denominator or Exception for Populations 1 and 2: EMS responses for patients with an initial GCS of less than 15 or initial AVPU of less than A	Numerator Statement for Populations 1-2: EMS responses during which non-opioid approaches to pain management are utilized Non-opioid approaches to pain management may include: •Application of ice •Splinting •Administration of non-opioid pain medication

TTR-01	Vital Signs Documented	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	All EMS responses originating from a 911 request for patients not transported by EMS	<p>1. EMS responses in the initial population for patients less than 18 years of age</p> <hr/> <p>2. EMS responses in the initial population for patients greater than or equal to 18 years of age</p>	<p>Denominator Exclusions for Populations 1-2:</p> <p>EMS responses for patients in cardiac arrest prior to EMS arrival</p>	None	<p>Numerator Statement for Populations 1-2:</p> <p>EMS responses during which a basic set of vital signs (SBP, DBP, heart rate, pulse oximetry, respiratory rate, and GCS or AVPU) is documented</p>	<p>Feasibility issues with original measure concept (Subsequent Transport after Recent Refusal: Percentage of EMS transports originating from a 911 request for patients who were treated and released on scene within 72 hours prior to transport) due to patient matching requirements for measure calculation.</p> <p>NEMSQA recommends this updated measure concept (Documented Vital Signs for Non-Transported Patients) which is more inclusive of data documented within the prehospital encounter and still addresses an important clinical issue.</p>
--------	------------------------	--	--	--	---	------	--	--