

# National EMS Quality Alliance

## 2021 Respiratory-01 Measure Package

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National EMS Quality Alliance

## Respiratory-01: Respiratory Assessment

This measure also does not have direct evidence to support its validity. However, it is known that providers often express discomfort especially with assessment of children and that respiratory distress is one of the most common serious conditions encountered by EMS providers in pediatric patients. The TEP agreed this measure is clinically important and there is value to measuring it. The medical community agrees that, if a pediatric or adult patient is experiencing respiratory distress, a respiratory assessment should be conducted.

Performing the respiratory assessment on the patient is the first step to determining if additional clinical interventions are necessary, and it is important that this process in care be measured. The intent of this measure is to determine if patients experiencing respiratory distress are receiving respiratory assessments.

The denominator, or initial population, for this measure includes EMS encounters for patients with a primary or secondary impression of respiratory distress. The measure is stratified for patients less or equal to 18 years of age and patients greater than 18 years of age to allow continued focus on the pediatric population but also allow for evaluation of all patients who should receive respiratory assessment.

The numerator for the re-specified measure has not changed. While the TEP discussed potentially adding additional elements of a respiratory assessment, such as auscultation of the lung, it was ultimately decided to limit the numerator to SPO2 and respiratory rate measurements, due to feasibility concerns. While there are other elements to a respiratory assessment, Respiratory 01 (previously Pediatrics-01) focuses on the completion and documentation of these two elements.

To the experienced EMS Professional, Respiratory-01 (previously Pediatrics-01) appears to state the obvious – Every patient should have an assessment of their respiratory status. However, documentation of this fundamental element of care is often not completed. This may be simply a documentation omission but may also represent an incomplete clinical assessment or perhaps because providers are less comfortable assessing children than adults. An agency or system can use this measure to identify gaps in standard care or documentation of that care and target areas for improvement. This will drive recognition for the importance of this measure.

## Respiratory-01: Respiratory Assessment

**Measure Score Interpretation:** For this measure, a higher score indicates better quality

Measure Description	
Percentage of EMS responses originating from a 911 request for patients with primary or secondary impression of respiratory distress who had a respiratory assessment.	
Measure Components	
<b>Initial Population</b>	<p>All EMS responses originating from a 911 request for patients with a primary or secondary impression of respiratory distress</p> <p>Respiratory distress may include impressions of:</p> <ul style="list-style-type: none"> <li>• Asthma</li> <li>• Dyspnea</li> <li>• Unspecified Orthopnea</li> <li>• Shortness of breath</li> <li>• Diagnosis of a respiratory ailment</li> <li>• Complaint or condition commonly associated with dyspnea</li> </ul>
<b>Denominator Statement</b>	<p><b>Population 1:</b> EMS responses in the initial population</p> <p><b>Population 2:</b> EMS responses in the initial population for patients greater than or equal to 18 years of age</p> <p><b>Population 3:</b> EMS responses in the initial population for patients less than 18 years of age</p>
<b>Denominator Exclusions</b>	None
<b>Denominator Exceptions</b>	None
<b>Numerator Statement</b>	<p><b>Numerator for Populations 1-3 (Calculate 3 Rates):</b></p> <p>EMS responses for patients who received both a SPO2 and respiratory rate measurement during the EMS response</p>
<b>Supporting Guidance &amp; Other Evidence</b>	<p>The following flowcharts were taken verbatim from the referenced treatment protocol:</p> <p>National Association of State EMS Officials, National Model EMS Clinical Guidelines for Pediatric Respiratory Distress:<b>Error!</b> <b>Bookmark not defined.</b></p> <p>Patient Management</p> <ol style="list-style-type: none"> <li>1. History             <ol style="list-style-type: none"> <li>a. Onset of symptoms (history of choking)</li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>b. Concurrent symptoms (fever, cough, rhinorrhea, tongue/lip swelling, rash, labored breathing, foreign body aspiration)</li> <li>c. Sick contacts</li> <li>d. Treatments given</li> <li>e. Personal history of asthma, wheezing, or croup in past</li> </ul> <p>2. Exam</p> <ul style="list-style-type: none"> <li>a. Full set of vital signs (T, BP, RR, P, O2 sat)</li> <li>b. Presence of stridor at rest or when agitated</li> <li>c. Description of cough</li> <li>d. Other signs of distress (grunting, nasal flaring, retracting)</li> <li>e. Color (pallor, cyanosis, normal)</li> <li>f. Mental status (alert, tired, lethargic, unresponsive)</li> </ul>
<b>Measure Importance</b>	
<b>Rationale</b>	<p>Pediatric transports make up approximately 10% of all EMS requests, and respiratory distress is a common reason for these requests. A 2015 retrospective study found that 13.7% of pediatric EMS transports were due to respiratory distress.<sup>i</sup> Respiratory distress is also a common reason for prehospital adult transports, as an estimated 6-12% of all EMS transports are adults in respiratory distress.<sup>ii,iii,iv</sup></p>
<b>Measure Designation</b>	
<b>Measure purpose</b>	<ul style="list-style-type: none"> <li>• <input checked="" type="checkbox"/> Quality Improvement</li> <li>• <input type="checkbox"/> Accountability</li> <li>• <input type="checkbox"/> MOC</li> </ul>
<b>Type of measure</b>	<ul style="list-style-type: none"> <li>• <input checked="" type="checkbox"/> Process</li> <li>• <input type="checkbox"/> Outcome</li> <li>• <input type="checkbox"/> Structure</li> <li>• <input type="checkbox"/> Efficiency</li> </ul>
<b>National Quality Strategy/Priority/CMS Measure Domain</b>	<ul style="list-style-type: none"> <li>• <input checked="" type="checkbox"/> Clinical Process-Effectiveness</li> <li>• <input type="checkbox"/> Patient Safety</li> <li>• <input type="checkbox"/> Patient Experience</li> <li>• <input type="checkbox"/> Care Coordination</li> <li>• <input type="checkbox"/> Efficiency: Overuse</li> <li>• <input type="checkbox"/> Efficiency: Cost</li> <li>• <input type="checkbox"/> Population &amp; Community Health</li> </ul>
<b>CMS Meaningful Measure Domain</b>	<ul style="list-style-type: none"> <li>• <input type="checkbox"/> Medication Management</li> <li>• <input type="checkbox"/> Admissions and Readmissions to Hospitals</li> <li>• <input type="checkbox"/> Transfer of Health Information and Interoperability</li> <li>• <input type="checkbox"/> Preventative Care</li> <li>• <input checked="" type="checkbox"/> Management of Chronic Conditions</li> <li>• <input type="checkbox"/> Prevention, Treatment, and Management of Mental Health</li> <li>• <input type="checkbox"/> Prevention and Treatment of Opioid and Substance</li> <li>• <input type="checkbox"/> Risk Adjusted Mortality</li> </ul>

	<ul style="list-style-type: none"> <li>• <input type="checkbox"/> Equity of Care</li> <li>• <input type="checkbox"/> Community Engagement</li> <li>• <input type="checkbox"/> Appropriate Use of Healthcare</li> <li>• <input type="checkbox"/> Patient-focused Episode of Care</li> <li>• <input type="checkbox"/> Risk-Adjusted Total Cost of Care</li> <li>• <input type="checkbox"/> Healthcare-associated infections</li> <li>• <input type="checkbox"/> Preventable Healthcare Harm</li> <li>• <input type="checkbox"/> Care is Personalized and Aligned with Patient’s Goals</li> <li>• <input type="checkbox"/> End of Life Care according to Preferences</li> <li>• <input type="checkbox"/> Patient’s Experience of Care</li> <li>• <input type="checkbox"/> Patient Reported Functional Outcomes</li> </ul>
<b>Level of measurement</b>	<ul style="list-style-type: none"> <li>• <input checked="" type="checkbox"/> Individual EMS Professional</li> <li>• <input checked="" type="checkbox"/> EMS Agency</li> </ul>
<b>Care setting</b>	<ul style="list-style-type: none"> <li>• <input checked="" type="checkbox"/> Pre-Hospital Care</li> </ul>
<b>Data source</b>	<ul style="list-style-type: none"> <li>• <input checked="" type="checkbox"/> Electronic Patient Care Record (eCPR) data</li> <li>• <input type="checkbox"/> Administrative Data/Claims (inpatient, outpatient or multiple-source claims)</li> <li>• <input checked="" type="checkbox"/> Paper medical record/Chart abstracted</li> <li>• <input checked="" type="checkbox"/> Registry</li> </ul>

**NEMSIS Pseudocode: Respiratory-01: Respiratory Assessment**

**Measure Score Interpretation:** For this measure, a higher score indicates better quality

<b>Measure Description</b>	
Percentage of EMS responses originating from a 911 request for patients with primary or secondary impression of respiratory distress who had a respiratory assessment.	
<b>Measure Components</b>	
<b>Initial Population</b>	<p>( (   <a href="#">eSituation.11 Provider's Primary Impression</a> matches  /^I50.9 J00 J05 J18.9 J20.9 J44.1 J45.901 J80 J81 J93.9 J96 J98.01 J98.9 R05 R06 R09.2  T17.9/  ("Heart failure, unspecified,"  "Acute nasopharyngitis....,"  "Acute obstructive laryngitis and epiglottitis...,"  "Pneumonia, unspecified organism,"  "Acute bronchitis, unspecified,"  "Chronic obstructive pulmonary disease with (acute) exacerbation,"  "Unspecified asthma with (acute) exacerbation,"  "Acute respiratory distress syndrome,"  "Pulmonary edema...,"  "Pneumothorax, unspecified,"  "Respiratory failure, unspecified,"  "Acute bronchospasm,"  "Respiratory disorder, unspecified,"  "Cough,"  "Abnormalities of breathing,"  "Respiratory arrest," or  "Foreign body in respiratory tract, part unspecified")</p> <p>or</p> <a href="#">eSituation.12 Provider's Secondary Impressions</a> matches /^I50.9 J00 J05 J18.9 J20.9 J44.1 J45.901 J80 J81 J93.9 J96 J98.01 J98.9 R05 R06 R09.2  T17.9/ ("Heart failure, unspecified," "Acute nasopharyngitis....," "Acute obstructive laryngitis and epiglottitis...," "Pneumonia, unspecified organism," "Acute bronchitis, unspecified," "Chronic obstructive pulmonary disease with (acute) exacerbation," "Unspecified asthma with (acute) exacerbation," "Acute respiratory distress syndrome," "Pulmonary edema...," "Pneumothorax, unspecified," "Respiratory failure, unspecified," "Acute bronchospasm," "Respiratory disorder, unspecified," "Cough,"

	<p>“Abnormalities of breathing,”  “Respiratory arrest,” or  “Foreign body in respiratory tract, part unspecified”)  )  and  <a href="#">eResponse.05 Type of Service Requested</a> is  (  2205001 (“Emergency Response (Primary Response Area)”),  2205003 (“Emergency Response (Intercept)”),  2205009 (“Emergency Response (Mutual Aid)”))  )</p>
<b>Denominator</b>	<p><b>Population 1:</b>  Equals Initial Population</p> <p><b>Population 2:</b>  (  Initial Population  and  (  <a href="#">ePatient.15 Age</a> is greater than or equal to 18  and <a href="#">ePatient.16 Age Units</a> is 2516009 (“Years”))</p> <p><b>Population 3:</b>  (  Initial Population  and  (  <a href="#">ePatient.15 Age</a> is less than 18  and <a href="#">ePatient.16 Age Units</a> is 2516009 (“Years”))  or  (  <a href="#">ePatient.15 Age</a> is not null  and <a href="#">ePatient.16 Age Units</a> is in  (  2516001 (“Days”),  2516003 (“Hours”),  2516005 (“Minutes”),  2516007 (“Months”))</p>
<b>Denominator Exclusions</b>	None
<b>Numerator</b>	<p><b>Numerator logic for Populations 1-3 (Calculate three separate rates)</b></p> <p><a href="#">eVitals.12 Pulse Oximetry</a> is not null  and <a href="#">eVitals.14 Respiratory Rate</a> is not null</p>

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<sup>i</sup> Drayna, P.C., Browne, L.R., Guse, C.E. Brousseau, D.C., & Lerner, E.B. (2015) Prehospital Pediatric Care: Opportunities for Training, Treatment, and Research, *Prehospital Emergency Care*, 19:3, 441-447.

<sup>ii</sup> Sporer KA, Tabas JA, Tam RK, et al. (2006) Do medications affect vital signs in the prehospital treatment of acute decompensated heart failure? *Prehosp Emerg Care*; 2006(10):41-5.

<sup>iii</sup> Pittet V, Burnand B, Yersin B, Carron PN (2014) Trends of pre-hospital emergency medical services activity over 10 years: a population-based registry analysis. *BMC Health Serv Res*; 14:380.

<sup>iv</sup> Prekker ME, Feemester LC, Hough CL, et al. (2014) The epidemiology and outcome of prehospital respiratory distress. *Acad Emerg Med*; 21:543-50.