

CEDR 2018 QCDR Measures for CMS 2018 MIPS Performance Year Reporting

Measure #	Measure Title	Measure Description	NQS Domain	Numerator	Denominator	Denominator Exclusions/Exceptions	Measure Type	Rationale/Evidence	Notes
ACEP19	Emergency Department Utilization of CT for Minor Blunt Head Trauma for Patients Aged 18 Years and Older	Percentage of emergency department visits for patients aged 18 years and older who presented with a minor blunt head trauma who had a head CT for trauma ordered by an emergency care provider who have an indication for a head CT	Efficiency & Cost Reduction	Emergency department visits for patients who have an indication for a head CT	All emergency department visits for patients aged 18 years and older who presented with a minor blunt head trauma who had a head CT for trauma ordered by an emergency care provider	Patients with any of the following: <ul style="list-style-type: none"> <li>Ventricular shunt</li> <li>Brain tumor</li> <li>Multisystem trauma</li> <li>Pregnancy</li> <li>Currently taking antiplatelet medications</li> </ul>	Process	About 2.5 million traumatic brain injuries occur each year, where 75% of these are considered mild. There is data to suggest that 70% of head injury patients receive a head CT 4, and it is estimated that 10-35% of head CTs obtained in head injury patients do not follow recognized guidelines 5 Some estimate that as many as 55,000-194,000 CT scans are possibly avoidable annually.	
ACEP20	Emergency Department Utilization of CT for Minor Blunt Head Trauma for Patients Aged 2 Through 17 Years	Percentage of emergency department visits for patients aged 2 through 17 years who presented with a minor blunt head trauma who had a head CT for trauma ordered by an emergency care provider who are classified as low risk according to the PECARN prediction rules for traumatic brain injury	Efficiency & Cost Reduction	Emergency department visits for patients who are classified as low risk according to the Pediatric Emergency Care Applied Research Network (PECARN) prediction rules for traumatic brain injury	All emergency department visits for patients aged 2 through 17 years who presented with a minor blunt head trauma who had a head CT for trauma ordered by an emergency care provider	Patients with any of the following: <ul style="list-style-type: none"> <li>Ventricular shunt</li> <li>Brain tumor</li> <li>Coagulopathy</li> <li>Thrombocytopenia</li> </ul>	Process	This measure is an overuse measure - its intention is to capture those instances in which a pediatric patient is characterized as low risk yet still receives a CT. As such, the measure is scored such that a lower score indicates better quality. The measure is constructed in this manner due to the available evidence; the PECARN clinical policy defines the low-risk population, but does not clearly define the medium and high risk populations. The measure then uses the definable population as its numerator, necessitating an "overuse" construction	Inverse Measure
ACEP21	Coagulation Studies in Patients Presenting with Chest Pain with No Coagulopathy or Bleeding	Percentage of emergency department visits for patients aged 18 years and older with an emergency department discharge diagnosis of chest pain during which coagulation studies were ordered by an emergency care provider	Efficiency & Cost Reduction	Emergency department visits during which coagulation studies (PT, PTT, or INR tests) were ordered by an emergency care provider	All emergency department visits for patients age 18 years and older with an emergency department discharge diagnosis of chest pain	Patients with any of the following clinical indications for ordering coagulation studies: <ul style="list-style-type: none"> <li>End stage liver disease</li> <li>Coagulopathy</li> <li>Thrombocytopenia</li> <li>Currently taking or newly prescribed anticoagulant medications</li> <li>Pregnancy</li> <li>Pulmonary or gastrointestinal hemorrhage</li> <li>Atrial fibrillation</li> <li>Inability to obtain medical history</li> <li>Trauma</li> <li>Patient who left before treatment completion</li> </ul>	Process	Coagulation studies are often ordered out of habit as part of a blood panel with little value added to the patient. Ensuring that clinicians are purposefully ordering these studies may lead to significant reduction in resource utilization without any decrease in value of healthcare provided to the patient.	Inverse Measure
ACEP22	Appropriate Emergency Department Utilization of CT for Pulmonary Embolism	Percentage of emergency department visits during which patients aged 18 years and older had a CT pulmonary angiogram (CTPA) ordered by an emergency care provider, regardless of discharge disposition, with either moderate or high pre-test clinical probability for pulmonary embolism OR positive result or elevated D-dimer level	Efficiency & Cost Reduction	Emergency department visits for patients with either: <ol style="list-style-type: none"> <li>Moderate or high pretest clinical probability for pulmonary embolism OR</li> <li>Positive result or elevated D-dimer level</li> </ol>	All emergency department visits during which patients aged 18 years and older had a CT pulmonary angiogram (CTPA) ordered by an emergency care provider, regardless of discharge disposition	<ul style="list-style-type: none"> <li>Pregnant patients;</li> <li>Medical reason for ordering a CTPA without moderate or high pre-test clinical probability for PE AND no positive result or elevated D-dimer level (eg, CT ordered for aortic dissection)</li> </ul>	Process	The goal of this measure is to reduce the inappropriate ordering of CTPA for pulmonary embolism based on pre-test probability estimation. This measure does not require utilization of a structured clinical prediction rule such as the Wells Score or Geneva Score, however the measure aims to improve efficiency by guiding clinical practice towards use of the PERC rule or d-dimer testing rather than immediate CTPA in low probability patients as indicated.	
ACEP24	Pregnancy Test for Female Abdominal Pain Patients	Percentage of emergency department visits for female patients aged 14 through 50 years old who present to the ED with a chief complaint of abdominal pain who have had a pregnancy test (urine or serum) ordered	Patient Safety	Emergency department visits for patients who have had a pregnancy test (urine or serum) ordered	All emergency department visits for female patients aged 14 through 50 years old who present to the ED with a chief complaint of abdominal pain	<ul style="list-style-type: none"> <li>Patients who have had a hysterectomy</li> <li>Patients who are currently pregnant</li> </ul>	Process	Use of the measure can eliminate the risk of the physician failing to diagnose a patient's pregnancy, thereby reducing the possibility that a patient with ectopic pregnancy is not identified. Pregnancy testing is recommended in the Emergency Department for females who might be pregnant because clinical history is unreliable (Ann Emerg Med 1989). The importance of pregnancy diagnosis is particularly true in patients with abdominal pain and/or prior to radiologic procedures where failure to diagnose pregnancy is a risk to the woman and her unborn child.	

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ACEP25	Tobacco Use: Screening and Cessation Intervention for Patients with Asthma and COPD	Percentage of patients aged 18 years and older with a diagnosis of asthma or COPD seen in the ED who were screened for tobacco use during any ED encounter AND who received tobacco cessation intervention if identified as a tobacco user	Community/ Population Health	Patients who were screened for tobacco use during any ED encounter AND who received tobacco cessation intervention if identified as a tobacco user	All patients aged 18 years and older with a diagnosis of asthma or COPD seen in the ED	Documented medical reason(s) for not screening for tobacco use OR for not providing tobacco cessation intervention for patients identified as tobacco users (eg, limited life expectancy, other medical reasons)	Process	This measure is intended to promote tobacco screening and tobacco cessation intervention for high-risk adults who use tobacco products. There is good evidence that tobacco screening and a brief cessation intervention (including counselling and/or pharmacotherapy) is successful in helping high-risk tobacco users quit. Tobacco users who stop using tobacco lower their risk of acute exacerbation of lung disease.	
ACEP29	Sepsis Management: Septic Shock: Repeat Lactate Level Measurement	Percentage of emergency department visits for patients aged 18 years and older with septic shock and an elevated serum lactate result (>2mmol/L) with a second serum lactate measurement ordered following the elevated serum lactate result during the emergency department visit	Effective Clinical Care	Emergency department visits for patients with a second serum lactate measurement ordered following the elevated serum lactate result during the emergency department visit	All emergency department visits for patients aged 18 years and older with septic shock and an elevated serum lactate result (>2mmol/L)	<p>Patients with any of the following:</p> <ul style="list-style-type: none"> <li>• Transferred into the emergency department from another acute care facility or other in-patient hospital setting</li> <li>• Left before treatment was complete</li> <li>• Died during the emergency department visit</li> <li>• ED visit less than 2 hours following the serum lactate result (&gt;2mmol/L)</li> <li>• Cardiac arrest within the emergency department visit</li> <li>• Patient or surrogate decision maker declined care</li> <li>• Advanced directives present in patient medical record for comfort care</li> <li>• Toxicological emergencies</li> <li>• Burn</li> <li>• Seizures</li> <li>• Secondary diagnosis of: <ul style="list-style-type: none"> <li>o Acute Gastrointestinal Hemorrhage</li> <li>o Acute Pulmonary Hemorrhage</li> <li>o Ischemic Stroke</li> <li>o Hemorrhagic Stroke</li> <li>o Acute myocardial infarction</li> <li>o Acute trauma</li> </ul> </li> </ul>	Process	Serial lactate measurements should be used to examine the severity of critically ill patients including patients with septic shock in the emergency department over time. Multiple serial lactate measurements inform the physician of the patient's response to treatment bundles and can guide the course of care delivered.	

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ACEP30	Sepsis Management: Septic Shock: Lactate Clearance Rate of >=10%	Percentage of emergency department visits for patients aged 18 years and older with septic shock who had an elevated serum lactate result (>2mmol/L) and a subsequent serum lactate level measurement performed following the elevated serum lactate result with a lactate clearance rate of >= 10% during the emergency department visit	Effective Clinical Care	Emergency department visits for patients with a lactate clearance rate of >= 10% during the emergency department visit	All emergency department visits for patients aged 18 years and older with septic shock who had an elevated serum lactate result (>2mmol/L) and a subsequent serum lactate level measurement performed following the elevated serum lactate result	<p>Patients with any of the following:</p> <ul style="list-style-type: none"> <li>Transferred into the emergency department from another acute care facility or other in-patient hospital setting</li> <li>Left before treatment was complete</li> <li>Died during the emergency department visit</li> <li>Cardiac arrest within the emergency department visit</li> <li>Patient or surrogate decision maker declined care</li> <li>Advanced directives present in patient medical record for comfort care</li> <li>Burn</li> <li>Status Epilepticus</li> <li>Seizures</li> <li>Toxicological emergencies</li> <li>Receiving epinephrine</li> <li>Drug-related conflict with ability to clear lactate (i.e., Nucleoside Reverse Transcriptase Inhibitors)</li> <li>Liver dysfunction or cirrhosis with decompensation</li> <li>Liver failure</li> <li>End-stage liver disease</li> <li>Secondary diagnosis of:                             <ul style="list-style-type: none"> <li>Acute Gastrointestinal Hemorrhage</li> <li>Ischemic stroke</li> <li>Hemorrhagic Stroke</li> <li>Acute myocardial infarction</li> <li>Acute trauma</li> </ul> </li> </ul>	Outcome	<p>Persistent elevations in serum lactate are associated with increased morbidity and mortality in septic shock. A decrease in lactate during the emergency department visit is a useful indicator of improved outcome as it can inform the emergency department physician of the severity of illness and the patient's response to bundled treatments. Therefore, the emergency department physician should follow evidence-based protocols to assist septic shock patients in achieving a decreased lactate.</p> <p>Persistent lactate elevation is common in patients with impaired liver dysfunction and liver failure as the injured organ itself is primarily responsible for production and regulation of lactate. Studies confirm that severe liver abnormalities impair a patient's ability to clear lactate. For this reason, patients with liver dysfunction, cirrhosis with decompensation, liver failure, and end-stage liver disease are excluded from the measure.</p> <p>Toxicological emergencies including metformin treatment affects the prognostic value of calculating an accurate and reliable lactate clearance rate by interfering with mitochondrial metabolism and inhibit uptake of lactate. To that end, this measure excludes patients receiving metformin.</p>	
ACEP31	Appropriate Foley Catheter Use in the Emergency Department	Percentage of emergency department (ED) visits for admitted patients aged 18 years and older where an indwelling Foley catheter is ordered and the patient had at least one indication for an indwelling Foley catheter	Patient Safety	Emergency department visits where the patient had at least one of the following indications for an indwelling Foley catheter: <ul style="list-style-type: none"> <li>Acute urinary retention or bladder outlet obstruction</li> <li>Need for accurate measurement of urinary output with no reasonable alternative</li> <li>Pre-operative use for selected surgical procedures</li> <li>Open sacral or perineal wounds in incontinent patients</li> <li>Patient requires prolonged immobilization</li> <li>Comfort for end of life care</li> <li>Other institution-specific indication</li> </ul>	All emergency department visits for admitted patients aged 18 years and older where an indwelling Foley catheter is ordered	Patients who had an existing indwelling Foley catheter at ED arrival	Process	<p>Catheter-associated urinary tract infections (CAUTIs) are among the most prevalent and costly hospital-acquired infections. Assessing whether there is an appropriate indication for catheter use should be part of the initial decision for catheter placement and is an important step in CAUTI prevention. Urinary catheters are commonly placed in the emergency department (ED). For those patients who are subsequently admitted to the hospital, the catheter could remain in place for days, putting them at elevated risk for a CAUTI. As such, it is especially important for ED providers to limit catheter use to those cases when there is an appropriate indication.</p>	

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ACEP32	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Adult</b> Patients	Time (in minutes) from ED arrival to ED departure for discharged patients for Adult Patients (Excluding Psych and Mental Health, and Transfer Patients)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for discharged <b>Adult</b> patients	All Emergency Department encounters for patients aged 18 years and older discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome	Reducing the time patients remain in the emergency department (ED) can improve access to treatment and increase quality of care. Reducing this time potentially improves access to care specific to the patient condition and increases the capability to provide additional treatment. ED crowding may result in delays in the administration of medication such as antibiotics for pneumonia and has been associated with perceptions of compromised emergency care. For patients with non-ST-segment-elevation myocardial infarction, long ED stays were associated with decreased use of guideline-recommended therapies and a higher risk of recurrent myocardial infarction. When EDs are overwhelmed, their ability to respond to community emergencies and disasters may be compromised.	Inverse Measure
ACEP33	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Adult</b> Patients in Supercenter EDs (80k+)	Time (in minutes) from ED arrival to ED departure for discharged patients for Adult Patients in Supercenter EDs (80k+)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for discharged <b>Adult</b> patients	All Emergency Department encounters for patients aged 18 years and older discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure
ACEP35	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Adult</b> Patients in High Volume EDs (60k-79,999)	Time (in minutes) from ED arrival to ED departure for discharged patients for Adult Patients in High Volume EDs (60K-79,999)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for discharged <b>Adult</b> patients	All Emergency Department encounters for patients aged 18 years and older discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure
ACEP36	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Adult</b> Patients in Average Volume EDs (40k-59,999)	Time (in minutes) from ED arrival to ED departure for discharged patients for Adult Patients in Average Volume EDs (40k-59,999)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for discharged <b>Adult</b> patients	All Emergency Department encounters for patients aged 18 years and older discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure

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ACEP37	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Adult</b> Patients in Moderate Volume EDs (20k-39,999)	Time (in minutes) from ED arrival to ED departure for discharged patients for Adult Patients in Moderate Volume EDs (20k-39,999)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for discharged <b>Adult</b> patients	All Emergency Department encounters for patients aged 18 years and older discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure
ACEP38	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Adult</b> Patients in Low Volume EDs (19,999 and less)	Time (in minutes) from ED arrival to ED departure for discharged patients for Adult Patients in Low Volume EDs (19,999 and less)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for discharged <b>Adult</b> patients	All Emergency Department encounters for patients aged 18 years and older discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure
ACEP39	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Adult</b> Patients in Freestanding EDs	Time (in minutes) from ED arrival to ED departure for discharged patients for Adult Patients in Freestanding EDs	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for discharged <b>Adult</b> patients	All Emergency Department encounters for patients aged 18 years and older discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure
ACEP40	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Pediatric</b> Patients	Time (in minutes) from ED arrival to ED departure for discharged patients for Pediatric Patients (Excluding Psych and Mental Health, and Transfer Patients)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for <b>Pediatric</b> Patients	All Emergency Department encounters for patients aged 17 years and younger discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure

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ACEP41	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Pediatric</b> Patients in Supercenter EDs (80k +)	Time (in minutes) from ED arrival to ED departure for discharged patients for Pediatric Patients (Excluding Psych and Mental Health, and Transfer Patients)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for <b>Pediatric</b> Patients	All Emergency Department encounters for patients aged 17 years and younger discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure
ACEP43	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Pediatric</b> Patients in High Volume EDs (60k-79,999)	Time (in minutes) from ED arrival to ED departure for discharged patients for Pediatric Patients (Excluding Psych and Mental Health, and Transfer Patients)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for <b>Pediatric</b> Patients	All Emergency Department encounters for patients aged 17 years and younger discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure
ACEP44	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Pediatric</b> Patients in Average Volume EDs (40k-59,999)	Time (in minutes) from ED arrival to ED departure for discharged patients for Pediatric Patients (Excluding Psych and Mental Health, and Transfer Patients)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for <b>Pediatric</b> Patients	All Emergency Department encounters for patients aged 17 years and younger discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure
ACEP45	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Pediatric</b> Patients in Moderate Volume EDs (20k-39,999)	Time (in minutes) from ED arrival to ED departure for discharged patients for Pediatric Patients (Excluding Psych and Mental Health, and Transfer Patients)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for <b>Pediatric</b> Patients	All Emergency Department encounters for patients aged 17 years and younger discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure

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ACEP46	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Pediatric Patients in Low Volume EDs</b> (19,999 and less)	Time (in minutes) from ED arrival to ED departure for discharged patients for Pediatric Patients (Excluding Psych and Mental Health, and Transfer Patients)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for <b>Pediatric</b> Patients	All Emergency Department encounters for patients aged 17 years and younger discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure
ACEP47	ED Median Time from ED arrival to ED departure for discharged ED patients for <b>Pediatric Patients in Freestanding EDs</b>	Time (in minutes) from ED arrival to ED departure for discharged patients for Pediatric Patients (Excluding Psych and Mental Health, and Transfer Patients)	Person and Caregiver-Centered Experience and Outcomes	Time (in minutes) from ED arrival to ED departure for <b>Pediatric</b> Patients	All Emergency Department encounters for patients aged 17 years and younger discharged from the ED	<ul style="list-style-type: none"> <li>• Transfers</li> <li>• Psychiatric and mental health patients</li> <li>• Patients who expired in the emergency department</li> </ul>	Outcome		Inverse Measure
ACEP48	Sepsis Management: Septic Shock: Lactate Level Management, Antibiotics Ordered, and Fluid Resuscitation	Percentage of emergency department visits for patients aged 18 years and older with septic shock who had an order for all of the following during the emergency department visit: a serum lactate level, antibiotics, and >1L of crystalloids	Effective Clinical Care	Emergency department visits for patients who had an order for all of the following during the emergency department visit: <ul style="list-style-type: none"> <li>•Serum lactate level</li> <li>•Antibiotics</li> <li>•&gt;1L of crystalloids</li> </ul>	All emergency department visits for patients aged 18 years and older with septic shock	<p>Patients with any of the following:</p> <ul style="list-style-type: none"> <li>• Transferred into the emergency department from another acute care facility or other in-patient hospital setting</li> <li>• Left before treatment was complete</li> <li>• Died during the emergency department visit</li> <li>• Cardiac arrest within the emergency department visit</li> <li>• Patient or surrogate decision maker declined care</li> <li>• Advanced directives present in patient medical record for comfort care</li> <li>• Severe Heart Failure (LVEF &lt;20%)</li> <li>• Left Ventricular Assist Device (LVAD)</li> <li>• Acute Pulmonary Edema</li> <li>• Toxicological emergencies</li> <li>• Burn</li> <li>• Seizure</li> <li>• Secondary diagnosis of:                             <ul style="list-style-type: none"> <li>Acute Gastrointestinal Hemorrhage</li> <li>Acute Pulmonary Hemorrhage</li> <li>Ischemic Stroke</li> <li>Hemorrhagic Stroke</li> <li>Acute myocardial infarction</li> <li>Acute trauma</li> </ul> </li> </ul>	Process	<p>Lactate Level Measurement -</p> <p>As soon as patients presenting to the emergency department with sepsis-induced tissue hypoperfusion are identified, protocolized, quantitative resuscitation is recommended. Early resuscitation strategies, including evidence-based treatments to normalize elevated lactate, are associated with improved survival rates in emergency department patients. In order to achieve lactate normalization in patients with elevated levels, an initial lactate measurement must be obtained.</p> <p>An association between elevated lactate with morbidity and mortality in diverse populations of critically ill patients including patients with septic shock. Clinically, patients with sepsis experience elevated serum lactate due to impaired clearance or excessive production of lactate manifested by a dysfunction in the hepatic, renal, and other organ functions. For patients presenting to the emergency department with sepsis, a measurement of serum lactate is a suitable and timely strategy for confirming patients at-risk for poor outcomes and initiating treatment.</p> <p>Antibiotics Ordered -</p> <p>The emergency physician should order antibiotics for patients with septic shock in order to ameliorate patient decline. Delay in delivery of antibiotics in the emergency department puts the patient at high-risk for adverse outcomes such as drug reactions, increase length of hospital stay, and mortality.</p> <p>Multiple studies demonstrate reduced mortality and improved outcomes for septic shock patients receiving timely antibiotics in the emergency department. In addition, a delay in administration of antibiotics is associated with higher mortality, higher cost, and increased length of in-patient hospital stay. Kumar et al found a 7.6% increase in mortality for every hour hypotensive patients with septic shock experienced a delay of receiving antimicrobials in the Intensive Care Unit.</p> <p>Clinically, an increase in the duration of hypotension and elevated lactate in the absence of antibiotics in septic shock patients with gram-positive and gram-negative bacteremias has a demonstrated association with poor outcomes and death). There is a mortality benefit with the delivery of anti-infective therapeutic drugs that combat activity against all likely pathogens and presumed sources of septic shock.</p> <p>Fluid Resuscitation -</p> <p>The goal of this component is to close the gap in provider performance as patients with septic shock are not receiving adequate fluid regimens during the emergency department visit. Failure to deliver intravenous fluids can lead to extended length of in-patient hospital stay, long-term health complications, and mortality.</p> <p>Persistence of elevated lactate, even in the absence of hypotension, is associated with poor outcomes and requires intravenous fluids to improve circulation volume and restore perfusion levels throughout the body. Prompt fluid resuscitation to septic shock patients during the emergency department stay is associated with a stabilized condition and improved survival rate.</p>	