SEPSIS BUNDLE PROJECT (SEP)
NATIONAL HOSPITAL INPATIENT QUALITY MEASURES

SEP Measure Set Table

Set Measure ID #	Measure Short Name
SEP-1	Early Management Bundle, Severe Sepsis/Septic Shock

Type of Measure: Process

Improvement Noted As: An increase in the rate

Numerator Statement: Patients who received ALL of the following:
Received within three hours of presentation of severe sepsis:

- Initial lactate level measurement
- Broad spectrum or other antibiotics administered
- Blood cultures drawn prior to antibiotics

AND received within six hours of presentation of severe sepsis:

- Repeat lactate level measurement only if initial lactate level is elevated

AND ONLY if:

Initial Hypotension present initiated within three hours of Initial Hypotension:

- Resuscitation with 30 mL/kg crystalloid fluids

OR

Septic Shock Present initiated within three hours of septic shock presentation:

- Resuscitation with 30 mL/kg crystalloid fluids

AND ONLY IF hypotension persists after fluid administration, received within six hours of presentation of septic shock:

- Vasopressors

AND ONLY if hypotension persists after fluid administration or initial lactate >= 4 mmol/L, received within six hours of presentation of septic shock:

- Repeat volume status and tissue perfusion assessment **Included**

Populations: As described above

Excluded Populations: None

Denominator Statement: Inpatients age 18 and over with an *ICD-10-CM Principal or Other Diagnosis Code* of Sepsis, Severe Sepsis, or Septic Shock.

Included Populations: Discharges age 18 and over with an *ICD-10-CM Principal or Other Diagnosis Code* of Sepsis, Severe Sepsis, or Septic Shock as defined in Appendix A, Table 4.01.

Excluded Populations:

- Directive for Comfort Care or Palliative Care within 6 hours of presentation of severe sepsis
- Directive for Comfort Care or Palliative Care within 6 hours of presentation of septic shock
- Administrative contraindication to care within 6 hours of presentation of severe sepsis
- Administrative contraindication to care within 6 hours of presentation of septic shock
- Length of Stay >120 days
- Transfer in from another acute care facility
- Patients enrolled in a clinical trial for sepsis, severe sepsis or septic shock treatment or intervention
- Patients with severe sepsis who are discharged within 6 hours of presentation
- Patients with septic shock who are discharged within 6 hours of presentation
- Patients receiving IV antibiotics for more than 24 hours prior to presentation of severe sepsis

Risk Adjustment: None

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical record documents. Some hospitals may prefer to gather data concurrently by identifying patients in the population of interest. This approach provides opportunity for improvement at the point of care/service. However, complete documentation includes the principal or other ICD-10-CM diagnosis and procedure codes, which require retrospective data entry.

Data Accuracy: Variation may exist in the assignment of ICD-10-CM codes; therefore, coding practices may require evaluation to ensure consistency**.**

Measure Analysis Suggestions: Hospitals may wish to aggregate the reasons for failure to meet this measure so that gaps in care may be identified and educationally addressed.

Sampling: Yes, please refer to the measure set specific sampling requirements and for additional information see the Population and Sampling Specifications.

Data Reported As: Aggregate rate generated from count data reported as a proportion

Selected References:

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SEP DATA ELEMENT LIST

SEP Data Elements Table

Name	Collected For:
Administrative Contraindication to Care, Septic Shock	SEP-1
Administrative Contraindication to Care, Severe Sepsis	SEP-1
Bedside Cardiovascular Ultrasound Date	SEP-1
Bedside Cardiovascular Ultrasound Performed	SEP-1
Bedside Cardiovascular Ultrasound Time	SEP-1
Blood Culture Collection	SEP-1
Blood Culture Collection Acceptable Delay	SEP-1
Blood Culture Collection Date	SEP-1
Blood Culture Collection Time	SEP-1
Broad Spectrum or Other Antibiotic Administration	SEP-1
Broad Spectrum or Other Antibiotic Administration Date	SEP-1
Broad Spectrum or Other Antibiotic Administration Selection	SEP-1
Broad Spectrum or Other Antibiotic Administration Time	SEP-1
Capillary Refill Examination Date	SEP-1
Capillary Refill Examination Performed	SEP-1
Capillary Refill Examination Time	SEP-1
Cardiopulmonary Evaluation Date	SEP-1
Cardiopulmonary Evaluation Performed	SEP-1
Cardiopulmonary Evaluation Time	SEP-1
Central Venous Oxygen Measurement	SEP-1
Central Venous Oxygen Measurement Date	SEP-1
Central Venous Oxygen Measurement Time	SEP-1
Central Venous Pressure Measurement	SEP-1
Central Venous Pressure Measurement Date	SEP-1
Central Venous Pressure Measurement Time	SEP-1
Clinical Trial	SEP-1
Crystalloid Fluid Administration	SEP-1
Crystalloid Fluid Administration Date	SEP-1
Crystalloid Fluid Administration Time	SEP-1
Directive for Comfort Care or Palliative Care, Septic Shock	SEP-1
Directive for Comfort Care or Palliative Care, Severe Sepsis	SEP-1
Discharge Date	SEP-1
Discharge Disposition	SEP-1
Discharge Time	SEP-1
Documentation of Septic Shock	SEP-1
Fluid Challenge Date	SEP-1
Fluid Challenge Performed	SEP-1
Fluid Challenge Time	SEP-1
Initial Hypotension	SEP-1
Initial Lactate Level Collection	SEP-1
Initial Lactate Level Date	SEP-1
Initial Lactate Level Result	SEP-1

SEP Data Elements Table

Name	Collected For:
Initial Lactate Level Time	SEP-1
Passive Leg Raise Exam Date	SEP-1
Passive Leg Raise Exam Performed	SEP-1
Passive Leg Raise Exam Time	SEP-1
Peripheral Pulse Evaluation Date	SEP-1
Peripheral Pulse Evaluation Performed	SEP-1
Peripheral Pulse Evaluation Time	SEP-1
Persistent Hypotension	SEP-1
Repeat Lactate Level Collection	SEP-1
Repeat Lactate Level Date	SEP-1
Repeat Lactate Level Time	SEP-1
Septic Shock Present	SEP-1
Septic Shock Presentation Date	SEP-1
Septic Shock Presentation Time	SEP-1
Severe Sepsis Present	SEP-1
Severe Sepsis Presentation Date	SEP-1
Severe Sepsis Presentation Time	SEP-1
Skin Examination Date	SEP-1
Skin Examination Performed	SEP-1
Skin Examination Time	SEP-1
Transfer From Another Hospital or ASC	SEP-1
Vasopressor Administration	SEP-1
Vasopressor Administration Date	SEP-1
Vasopressor Administration Time	SEP-1
Vital Signs Review Date	SEP-1
Vital Signs Review Performed	SEP-1
Vital Signs Review Time	SEP-1

Sepsis Initial Patient Population Algorithm

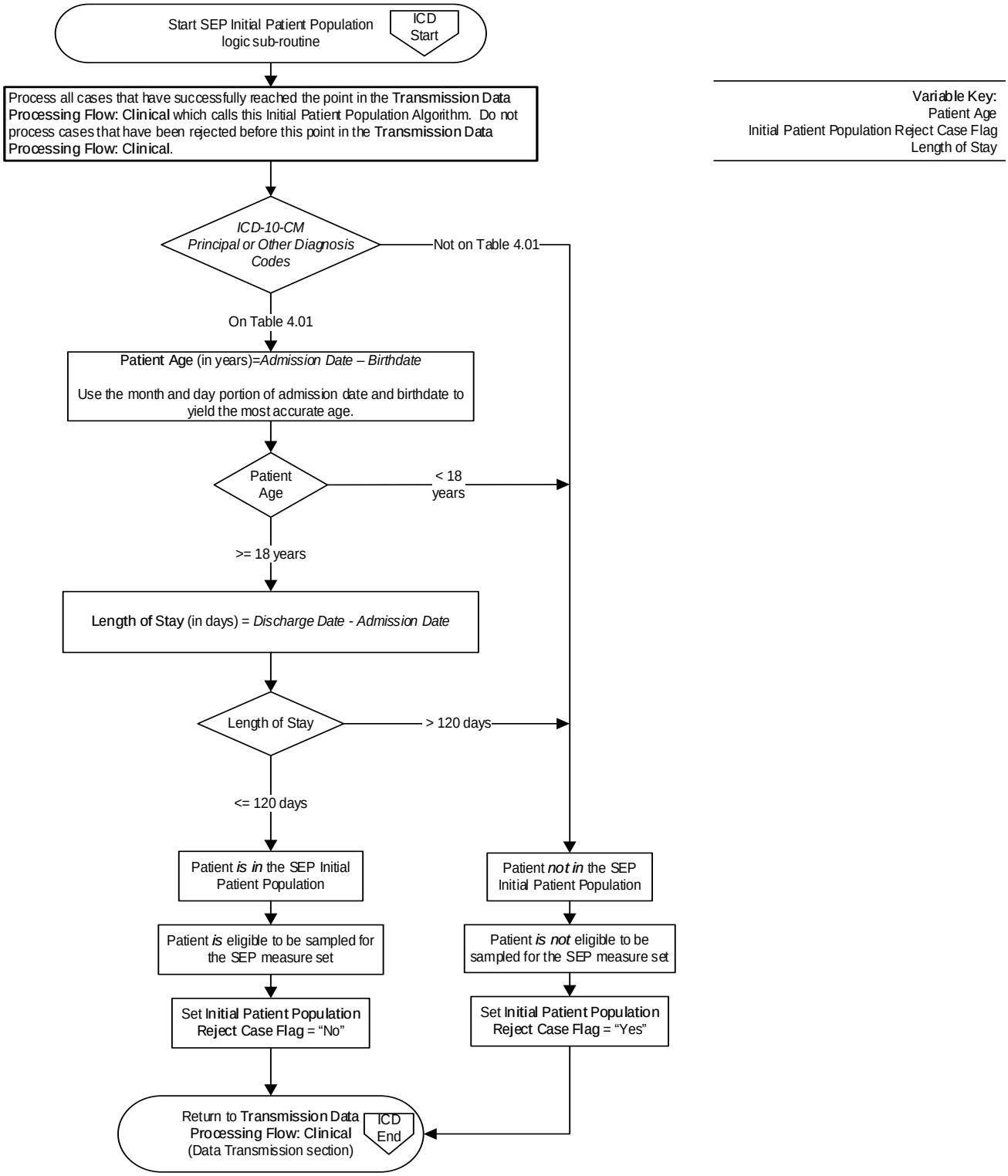


Table 4.01: Severe Sepsis and Septic Shock (SEP)

ICD-10-CM Code	Code Description
A021	Salmonella sepsis
A227	Anthrax sepsis
A267	Erysipelothrix sepsis
A327	Listerial sepsis
A400	Sepsis due to streptococcus, group A
A401	Sepsis due to streptococcus, group B
A403	Sepsis due to Streptococcus pneumoniae
A408	Other streptococcal sepsis
A409	Streptococcal sepsis, unspecified
A4101	Sepsis due to Methicillin susceptible Staphylococcus aureus
A4102	Sepsis due to Methicillin resistant Staphylococcus aureus
A411	Sepsis due to other specified staphylococcus
A412	Sepsis due to unspecified staphylococcus
A413	Sepsis due to Hemophilus influenzae
A414	Sepsis due to anaerobes
A4150	Gram-negative sepsis, unspecified
A4151	Sepsis due to Escherichia coli [E. coli]
A4152	Sepsis due to Pseudomonas
A4153	Sepsis due to Serratia
A4159	Other Gram-negative sepsis
A4181	Sepsis due to Enterococcus
A4189	Other specified sepsis
A419	Sepsis, unspecified organism
A427	Actinomycotic sepsis
A5486	Gonococcal sepsis
B377	Candidal sepsis
R6520	Severe sepsis without septic shock
R6521	Severe sepsis with septic shock

SEP-1: Early Management Bundle, Severe Sepsis/Septic Shock

Numerator: Patients who received ALL of the following:
Received within three hours of presentation of severe sepsis:

- Initial lactate level measurement
- Broad spectrum or other antibiotics administered
- Blood cultures drawn prior to antibiotics

AND received within six hours of presentation of severe sepsis:

- Repeat lactate level measurement only if initial lactate level is elevated

AND ONLY if:

Initial Hypotension present initiated within three hours of Initial Hypotension

- Resuscitation with 30 mL/kg crystalloid fluids

OR

Septic Shock Present initiated within three hours of septic shock presentation

- Resuscitation with 30 mL/kg crystalloid fluids

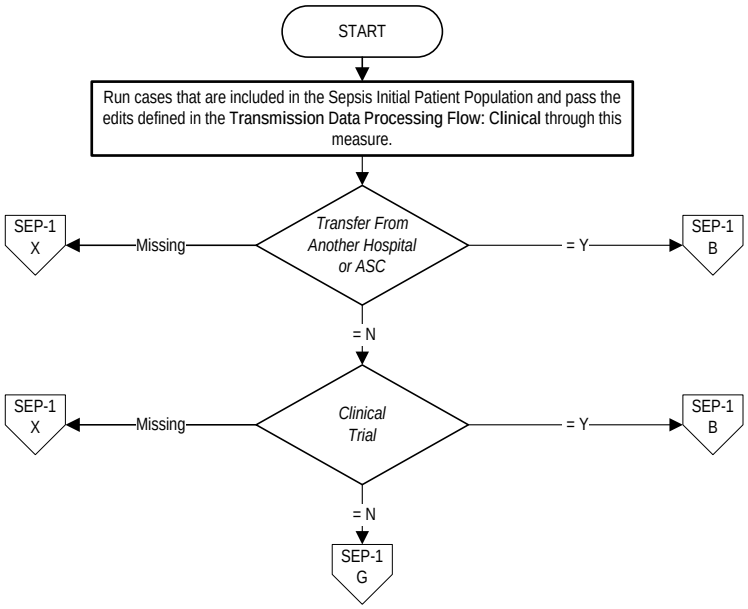
AND ONLY if hypotension persists after fluid administration, received within six hours of presentation of septic shock:

- Vasopressors

AND ONLY if hypotension persists after fluid administration or initial lactate >= 4 mmol/L, received within six hours of presentation of septic shock:

- Repeat volume status and tissue perfusion assessment

Denominator: Inpatients age 18 and over with an ICD-10-CM Principal or Other Diagnosis Code of Sepsis, Severe Sepsis or Septic Shock as defined in Appendix A, Table 4.01



Variable Key:
Sepsis Discharge Time
Shock Discharge Time
Shock Six Hour Counter
Shock Physical Assessment Six Hour Counter
Initial Lactate Time
Broad Spectrum Antibiotic Time
Blood Culture Time
Blood Culture Antibiotic Time
Repeat Lactate Time
Shock Presentation Time
Crystalloid Fluid Admin Time
Vasopressor Time
Vital Signs Time
Vital Signs Fluid Time
Cardiopulmonary Eval Time
Cardiopulmonary Evaluation Fluid Time
Capillary Refill Time
Capillary Refill Fluid Time
Peripheral Pulse Time
Peripheral Pulse Fluid Time
Skin Exam Time
Skin Exam Fluid Time
Central Venous Pressure Time
Central Venous Pressure Fluid Time
Central Venous Oxygen Time
Central Venous Oxygen Fluid Time
Bedside Ultrasound Time
Bedside Ultrasound Fluid Time
Passive Leg Raise Time
Passive Leg Raise Fluid Time
Fluid Shock Time
Fluid Challenge Fluid Time

Data Element Name: *Transfer From Another Hospital or ASC*

Collected For CMS Only: SEP-1

Definition: Documentation that the patient was received as a transfer from an inpatient, outpatient, or emergency/observation department of an outside hospital or from an ambulatory surgery center (ASC).

Suggested Data Collection Question: Was the patient received as a transfer from an inpatient, outpatient or emergency/observation department of an outside hospital or from an ambulatory surgery center?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

Y (Yes)	Patient was received as a transfer from an inpatient, outpatient, or emergency/observation department of an outside hospital or from an ambulatory surgery center.
N (No)	Patient was not received as a transfer from an inpatient, outpatient, or emergency/observation department of an outside hospital or from an ambulatory surgery center, or unable to determine from medical record documentation.

Notes for Abstraction:

- If a patient is transferred in from any emergency department (ED) or observation unit OUTSIDE of your hospital, select “Yes.” This applies even if the emergency department or observation unit is part of your hospital’s system (e.g., your hospital’s free-standing or satellite emergency department), has a shared medical record or provider number, or is in close proximity.
- If the patient is transferred to your hospital from an outside hospital where he was an inpatient or outpatient, select “Yes.” This applies even if the two hospitals are close in proximity, part of the same hospital system, have the same provider number, and/or there is one medical record.
- Select “**Yes**” in the following types of transfers:
  - Long term acute care (LTAC): Any LTAC hospital or unit (outside or inside your hospital)
  - Acute rehabilitation: Rehab unit in outside hospital, free-standing rehab hospital/facility/pavilion outside your hospital, OR rehab **hospital** inside your hospital
  - Psychiatric: Psych unit in outside hospital, free-standing psych hospital/facility/pavilion outside your hospital, OR psych **hospital** inside your hospital
  - Cath lab, same day surgery, or other outpatient department of an outside hospital

    - Disaster Medical Assistance Team (DMAT): Provides emergency medical assistance following catastrophic disaster or other major emergency
- Select "**No**" in the following types of transfers:
    - Urgent care center
    - Psych or rehab unit inside your hospital
    - Dialysis center (unless documented as an outpatient department of an outside hospital)
    - Same Day Surgery or other outpatient department inside your hospital
    - Clinic (outside or inside your hospital)
    - Hospice facility (outside or inside your hospital)
    - Assisted living facilities and nursing homes
    - Skilled nursing facility (SNF) care: Any facility or unit (outside or inside your hospital) providing SNF level of care to patient
- If there is conflicting documentation in the record, and you are unable to determine whether or not the patient was received as a transfer from an inpatient, outpatient, or emergency/observation department of an outside hospital or from an ambulatory surgery center, select "No" UNLESS there is supporting documentation for one setting over the other.

    Examples:
    - One source reports patient was transferred from an outside hospital's ED, another source reports patient was transferred in from an urgent care center. No additional documentation. Select "No."
    - One source states patient came from physician office, another source reports patient was transferred from an outside hospital's ED, and transfer records from the outside hospital's ED are included in the record. Select "Yes."
- If, in cases other than conflicting documentation, you are unable to determine whether or not the patient was received as a transfer from an inpatient, outpatient, or emergency/observation department of an outside hospital or from an ambulatory surgery center, select "No." (e.g., "Transferred from Park Meadows" documented – documentation is not clear whether Park Meadows is a hospital or not.)

Suggested Data Sources:
- Ambulance record
- Any DMAT documentation
- Emergency Department record
- Face sheet
- History and physical
- Nursing admission assessment
- Progress notes
- Transfer sheet

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Clinical Trial*

Collected For CMS/The Joint Commission: VTE-6; **Collected for CMS Only:** SEP-1

Definition: Documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients with the same condition as the measure set were being studied (i.e. VTE or SEP-1).

Suggested Data Collection Question: During this hospital stay, was the patient enrolled in a clinical trial in which patients with the same condition as the measure set were being studied (i.e. VTE or SEP-1)?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

Y (Yes)	There is documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients with the same condition as the measure set were being studied (i.e. VTE or SEP-1).
N (No)	There is no documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients with the same condition as the measure set were being studied (i.e. VTE or SEP-1), or unable to determine from medical record documentation.

Notes for Abstraction:

- To select "Yes" to this data element, BOTH of the following must be true:
  1. **There must be a signed consent form for clinical trial**. For the purposes of abstraction, a clinical trial is defined as an **experimental study** in which research subjects are recruited and assigned a treatment/intervention and their outcomes are measured based on the intervention received. Treatments/interventions most often include use of drugs, surgical procedures, and devices. Often a control group is used to compare with the treatment/intervention. Allocation of different interventions to participants is usually randomized.
  2. **There must be documentation on the signed consent form that during this hospital stay the patient was enrolled in a clinical trial in which patients with the same condition as the measure set were being studied (i.e. VTE or SEP-1).** Patients may either be newly enrolled in a clinical trial during the hospital stay or enrolled in a clinical trial prior to arrival and continued active participation in that clinical trial during this hospital stay.
- In the following situations, select "No":
  1. **There is a signed patient consent form for an observational study only.** Observational studies are non-experimental and involve no intervention (e.g., registries). Individuals are observed (perhaps with lab draws, interviews, etc.), data is collected, and outcomes are tracked by investigators. Although observational studies may include the assessment

of the effects of an intervention, the study participants are not allocated into intervention or control groups.

2. **It is not clear whether the study described in the signed patient consent form is experimental or observational.**
3. **It is not clear which study population the clinical trial is enrolling.** Assumptions should not be made if it is not specified.

VTE:
Only capture patients enrolled in clinical trials studying patients with VTE (prevention or treatment interventions).

SEP-1:
Only capture patients enrolled in clinical trials studying patients with sepsis, severe sepsis or septic shock (treatment and interventions).

Suggested Data Sources:
ONLY ACCEPTABLE SOURCES
Signed consent form for clinical trial

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

SEP-1 G
Severe Sepsis Present
Missing
SEP-1 X
= 2
SEP-1 B
= 1
Severe Sepsis Presentation Date
Missing
SEP-1 X
= UTD
SEP-1 D
Non-UTD Value
Severe Sepsis Presentation Time
Missing
SEP-1 X
= UTD
SEP-1 D
Non-UTD Value
Administrative Contraindication to Care, Severe Sepsis
Missing
SEP-1 X
= 1
SEP-1 B
= 2
Directive for Comfort Care or Palliative Care, Severe Sepsis
Missing
SEP-1 X
=1
SEP-1 B
= 2
Discharge Disposition
Missing
SEP-1 X
= 1, 2, 3, 4, 5, 6, 7
Discharge Time
Missing
SEP-1 X
= UTD
SEP-1 D
Non-UTD Value
Sepsis Discharge Time (in minutes) = Discharge Date and Discharge Time - Severe Sepsis Presentation Date and Severe Sepsis Presentation Time
Sepsis Discharge Time
< 0 minutes
SEP-1 X
>= 0 minutes and <= 360 minutes
SEP-1 B
> 360 minutes
= 8
SEP-1 H

Data Element Name: *Severe Sepsis Present*

Collected For CMS: SEP-1

Definition: Documentation of the presence of severe sepsis.

Suggested Data Collection Question: Was severe sepsis present?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes) Severe Sepsis was present.

2 (No) Severe Sepsis was not present, or Unable to Determine.

Notes for Abstraction:

- Presence of Severe Sepsis may be identified based upon clinical criteria or physician/APN/PA documentation of Severe Sepsis.
- In order to establish the presence of Severe Sepsis by clinical criteria, all three clinical criteria (a, b, and c) must **be met within 6 hours of each other.** The three clinical criteria do not need to be documented in any particular order.
  a. Documentation of an infection.
    - Physician/APN/PA or nursing documentation referencing the presence of an infection is acceptable.
    - Physician/APN/PA, nursing, or pharmacist documentation indicating a patient is being treated with an antibiotic for an infection and that antibiotic is documented as administered within 6 hours of criteria b or c is acceptable (e.g., Levaquin is documented in MAR for pneumonia and nursing documentation indicates a dose was given within 6 hours of criteria b and c, pharmacy note that patient is on vancomycin for pneumonia).
    - If documentation of an infection is in a physician/APN/PA, nursing, or pharmacist note without a specific date and time or documented using the acronym POA, use the date and time the note was started or opened.
    - If the note states an infection was present on arrival, use the earliest documented arrival date and time.
    - If the note states an infection was present on admission, use the earliest documented hospital observation/inpatient admission date and time.
    - If an infection is documented and within 6 hours following the initial documentation of the infection, there is additional physician/APN/PA documentation indicating the infection is not present, disregard the initial documentation of the infection.

Examples:

- ED physician/APN/PA documents rule out UTI and pneumonia at 05:00. At 10:00 hospitalist documents no infection present. Disregard ED physician/APN/PA documentation of rule out UTI and pneumonia.
- ED physician/APN/PA documents suspected UTI and pneumonia at 09:00. At 12:30 infectious disease APN documents no UTI. Disregard the initial documentation of suspected UTI. Documentation of pneumonia is still valid to use for an infection.

- Documentation of an infection in an active problem list is acceptable if there is information in the medical record supporting the infection is current.
- If a condition documented in the medical record does not include the word "infection," or is not in the Inclusion Guidelines for Abstraction infection list, consulting other medical resources (such as a medical dictionary) to identify whether or not the condition is an infection or is caused by an infection is acceptable.
  i. If the other medical resource indicates the condition is an infection or is caused by an infection, it may be used to meet the suspected infection criteria.
  ii. If the other medical resource indicates the condition is NOT an infection and NOT caused by an infection, it may NOT be used to meet the suspected infection criteria.
  iii. If the other medical resource indicates the condition may or may not be an infection, or may be caused by an infection or may be caused by something other than an infection, there must be additional documentation in the medical record supporting the condition is an infection (e.g., antibiotic ordered for the condition) to be used to meet the suspected infection criteria.
- If an antibiotic is ordered for a condition that may be inflammation or a sign or symptom of an infection this may be considered documentation of an infection (e.g., ceftriaxone ordered for colitis, Zosyn 3.375 g IV q6hr for cough).
- Exclude documentation of viral, fungal, or parasitic infections.

b. Two or more manifestations of systemic infection according to the Systemic Inflammatory Response Syndrome (SIRS) criteria, which are:
- Temperature >38.3 C or <36.0 C (>100.9 F or <96.8 F)
- Heart rate (pulse) >90
- Respiration >20 per minute
- White blood cell count >12,000 or <4,000 or >10% bands

c. Organ dysfunction, evidenced by any one of the following:
- Systolic blood pressure (SBP) <90 mmHg or mean arterial pressure <65 mmHg.
  - If there is physician/APN/PA documentation prior to or within 24 hours after *Severe Sepsis Presentation Time* indicating hypotension or low blood pressure (SBP <90 mmHg or MAP

<65 mmHg) is due to the following, the criteria value should be used.
    - Acute condition
    - Acute injury on chronic condition

      Example:
      Hypotension due to acute exacerbation on chronic heart failure.
  - If there is physician/APN/PA documentation prior to or within 24 hours of *Severe Sepsis Presentation Time* indicating the acute condition is due to a non-infectious source/process, it should not be used (Refer to *Severe Sepsis Present* to determine if a condition is an infection)

    Examples:
    - Hypotension due to acute blood loss secondary to trauma, do not use hypotension.
    - Hypotension due to acute exacerbation of chronic heart failure due to worsening heart failure, do not use hypotension.
- Systolic blood pressure decrease of more than 40 mmHg.
  - Physician/APN/PA documentation must be present in the medical record indicating a >40 mmHg decrease in SBP has occurred and is related to infection, Severe Sepsis or Septic Shock and not other causes.
- Acute respiratory failure as evidenced by a new need for invasive or non-invasive mechanical ventilation.
  - Documentation the patient is on mechanical ventilation.
  - Invasive mechanical ventilation requires an endotracheal or tracheostomy tube. Non-invasive mechanical ventilation may be referred to as BiPAP or CPAP.
  - New need for mechanical ventilation indicates the patient had a new need for mechanical ventilation that was not previously needed or the patient had an increased need from intermittent to continuous mechanical ventilation.
  - Use the time mechanical ventilation was initiated or the time the mechanical ventilation changed from intermittent to continuous.
- Creatinine >2.0
  - If there is physician/APN/PA documentation the patient has end stage renal disease (ESRD) and is on hemodialysis or peritoneal dialysis all reported creatinine levels should be disregarded as signs of organ dysfunction. ESRD (on hemodialysis or peritoneal dialysis) and creatinine levels or reference to elevated creatinine levels do not need to be included in the same physician/APN/PA documentation.
  - If there is physician/APN/PA documentation of chronic renal disease (e.g., CKD I, II, or III, or “chronic renal insufficiency”) and the baseline creatinine is documented, creatinine values

elevated >0.5 above baseline should be used as organ dysfunction (e.g., baseline 2.30, creatinine now 2.81).

- Urine output <0.5 mL/kg/hour for 2 consecutive hours
  - Documentation must clearly indicate that urine output is being monitored hourly to be able to use this as organ dysfunction.
- Total Bilirubin >2 mg/dL (34.2 mmol/L)
- Platelet count <100,000
- INR >1.5 or aPTT >60 sec
  - If the suggested data source shows the patient was given an anticoagulant medication in Appendix C Table 5.3, an elevated INR or aPTT level should not be used as organ dysfunction. Physician/APN/PA documentation is not required.
- Lactate >2 mmol/L (18.0 mg/dL)

- If there is physician/APN/PA documentation prior to or within 24 hours after *Severe Sepsis Presentation Time* that SIRS criteria or a sign of organ dysfunction is due to the following, it should not be used. Inferences should not be made.
  - It is required the same physician/APN/PA documentation must also include either the abnormal value or reference the abnormal value.
    - Normal for that patient
    - Is due to a chronic condition
    - Is due to a medication
- Documentation of a term defining an abnormal value of a SIRS criterion or sign of organ dysfunction that is documented as normal for the patient, due to a chronic condition, or due to a medication is sufficient to disregard the SIRS criterion or sign of organ dysfunction.

  Examples:
  - Thrombocytopenia due to chemo, do not use the abnormal platelet value.
  - A-fib with tachycardia or RVR, do not use the elevated heart rate.
- If there is physician/APN/PA documentation prior to or within 24 hours after *Severe Sepsis Presentation Time* indicating a SIRS criterion or sign of organ dysfunction is due to the following, the criteria value should be used:
  - Acute condition
  - Acute on chronic condition

    Example:
    Elevated lactate secondary to seizure.
- If there is physician/APN/PA documentation prior to or within 24 hours of *Severe Sepsis Presentation Time* indicating the acute condition is due to a non-infectious source/process, it should not be used (Refer to *Severe Sepsis Present* criteria “a” to determine if a condition is an infection).

  Example:
  Elevated lactate secondary to seizure post brain injury, do not use lactate level.
- If there is physician/APN/PA documentation prior to or within 24 hours of *Severe Sepsis Presentation Time* indicating SIRS criteria or a sign of organ dysfunction is due to or possibly due to an infection, Severe Sepsis or Septic Shock, the value should be used.
- Vital signs documented in the operating room (OR) should not be used.

- SIRS criteria or a sign of organ dysfunction due to artificial interventions (e.g., respiratory rate is 24, vent rate set at 24) should not be used.
- The title or heading of an order set, protocol, checklist, alert, screening tool, etc. reflecting an infection, SIRS, Sepsis, Severe Sepsis, or Septic Shock should not be used to meet criteria.
- Documentation of an infection, Sepsis, Severe Sepsis, or Septic Shock ***within an*** order set, protocol, checklist, alert, screening tool, etc., may be used if the following is true:

  The documentation or value and recorded date and time is present and is the earliest date and time recorded for the criteria.
- If there is physician/APN/PA or nursing documentation that SIRS criteria or sign of organ dysfunction is invalid, erroneous or questionable, disregard that value.
- Use the time vital signs were taken or obtained. If time taken or obtained is not available, use recorded or documented time.
- Use the earliest time laboratory values are reported/resulted, not the collection time.
- Use of documentation in pre-hospital records (e.g., ambulance records, nursing home records) that is considered part of the medical record is acceptable for determining presence of Severe Sepsis.
- If there is more than one presentation of Severe Sepsis in the record, abstract only the first presentation.
- If clinical criteria for Severe Sepsis are not met, but there is physician/APN/PA documentation of Severe Sepsis, choose Value “1.”
- If Severe Sepsis is met by physician/APN/PA documentation only, and is documented as due to a viral, fungal, or parasitic infection, the documentation of Severe Sepsis should not be used.
- If clinical criteria for Severe Sepsis are not documented and there is not physician/APN/PA documentation of Severe Sepsis, but there is physician/APN/PA documentation of Septic Shock, choose Value “1.”
- Disregard documentation of an infection, Severe Sepsis, or Septic Shock in a discharge note or discharge summary.
- If there is documentation of clinical criteria being met or physician/APN/PA documentation of Severe Sepsis and within 6 hours after there is additional physician/APN/PA documentation indicating the patient is not septic, does not have Sepsis, Severe Sepsis, or Severe Sepsis is due to a viral, fungal, or parasitic infection, choose Value “2.”
- For documentation of an infection or Severe Sepsis accompanied by a qualifier, the table below should be used. Documentation containing a positive qualifier should be used to meet criteria, documentation containing a negative qualifier should not be used to meet criteria.

Positive Qualifiers	Negative Qualifiers
Possible	Impending
Rule out (r/o)	Unlikely
Suspected	Doubt
Likely	Risk for
Probable	Ruled out
Differential Diagnosis	Evolving
Suspicious for	Questionable
Concern for	

Suggested Data Sources:

- Any physician/APN/PA documentation
- Entire ED record
- Hourly output record
- Intake/Output record
- Laboratory results
- Nurses notes
- Vital signs record or flow sheet

Guidelines for Abstraction: Severe Sepsis

Inclusions

Documentation that is acceptable for Severe Sepsis.

- PHYSICIAN/APN/PA DOCUMENTATION ONLY
- Severe Sepsis

Exclusions

Documentation that is not acceptable for Severe Sepsis.

- Bacteremia
- Septicemia

Guidelines for Abstraction: Infections

Inclusions

Documentation that is acceptable for an infection.
The following is a list of conditions commonly associated with Severe Sepsis that are considered infections.
(*This is not an all-inclusive list.*)

- Abscess
- Acute abdomen
- Acute abdominal infection
- Blood stream catheter infection
- Bone/joint infection
- Chronic Obstructive Pulmonary Disease (COPD) acute exacerbation
- Endocarditis
- Gangrene
- Implantable device infection
- Infection

- Infectious
- Meningitis
- Necrosis
- Necrotic/ischemic/infarcted bowel
- Pelvic Inflammatory Disease
- Perforated bowel
- Pneumonia, empyema
- Purulence/pus
- Sepsis
- Skin/soft tissue infection
- Suspect infection, source unknown
- Urosepsis, Urinary tract infection
- Wound infection

Exclusions

Documentation that is not acceptable for an infection.

- Colonization, positive screens, or positive cultures (e.g., MRSA, VRE, or for other bacteria) without physician/APN/PA documentation referencing an infection.
- Fungal infections
- History of infection, recent infection, or recurrent infection that is not documented as a current or active infection.
- Orders for tests or screens without documentation of a suspected infection.
- Parasitic infections
- Results of tests without documentation of a suspected infection (e.g., infiltrates on chest x-ray, positive cultures).
- Signs or symptoms of an infection without supportive documentation.
- Viral infections

New Table: Version 5.3

Table 5.3: Anticoagulants, Sepsis

Generic Name	Brand Name
Heparin	Heparin
Edoxaban	Savaysa
Desirudin	Iprivask
Dabigatran etexilate	Pradaxa
Rivaroxaban	Xarelto
Apixaban	Eliquis
Argatroban	Argatroban
Bivalirudin	Angiomax
Fondaparinux	Arixtra
Warfarin	Coumadin

Data Element Name: *Severe Sepsis Presentation Date*

Collected For CMS: SEP-1

Definition: The earliest date on which the final criterion was met to establish the presence of severe sepsis.

Suggested Data Collection Question: What was the date on which the last criterion was met to establish the presence of severe sepsis?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Use the earliest date the final clinical criterion for severe sepsis was noted (see *Severe Sepsis Present* data element for clinical criteria list) or the earliest date the physician/APN/PA documented severe sepsis.
- For patients with multiple severe sepsis presentation dates, only abstract the earliest presentation date.
- If a severe sepsis or septic shock is documented in a physician/APN/PA note without a specific date or documented using the acronym POA, use the date the note was started or opened.
- For patients who enter the Emergency Department with severe sepsis or if the physician/APN/PA note states severe sepsis was present on arrival, use the earliest documented arrival date.
- If the physician/APN/PA note states severe sepsis was present on admission, use the earliest documented hospital observation/inpatient admission date.
- If clinical criteria for severe sepsis are met after physician/APN/PA documentation of septic shock, enter the date the physician/APN/PA documented septic shock.
- If clinical criteria for severe sepsis are not documented and there is not physician/APN/PA documentation of severe sepsis, but there is physician/APN/PA documentation of septic shock, enter the earliest date septic shock was documented for this data element.

Suggested Data Sources:

- Any physician/APN/PA documentation
- Entire ED record
- Hourly output record
- Intake/Output record
- Laboratory results
- Nurses notes
- Vital signs record or flow sheet

Inclusion Guidelines for Abstraction:

None

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Severe Sepsis Presentation Time*

Collected For CMS: SEP-1

Definition: The earliest time at which the final criterion was met to establish the presence of severe sepsis.

Suggested Data Collection Question: What was the time at which the last criterion was met to establish the presence of severe sepsis?

Format:

Length: 5 - HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

- Use the earliest time the final clinical criterion for severe sepsis was noted (see *Severe Sepsis Present* data element for clinical criteria list) or the earliest time the physician/APN/PA documented severe sepsis.
- For patients with multiple severe sepsis presentation times, only abstract the earliest presentation time.
- If a severe sepsis or septic shock is documented in a physician/APN/PA note without a specific time or documented using the acronym POA, use the time the note was started or opened.
- For patients who enter the Emergency Department with severe sepsis or if the physician/APN/PA note states severe sepsis was present on arrival, use the earliest documented arrival time.
- If the physician/APN/PA note states severe sepsis was present on admission, use the earliest documented hospital observation/inpatient admission time.
- If clinical criteria for severe sepsis are met after physician/APN/PA documentation of septic shock, enter the time the physician/APN/PA documented septic shock.
- If clinical criteria for severe sepsis are not documented and there is not physician/APN/PA documentation of severe sepsis, but there is physician/APN/PA documentation of septic shock, enter the earliest time septic shock was documented.

Suggested Data Sources:

- Any physician/APN/PA documentation
- Entire ED record
- Hourly output record
- Intake/Output record
- Laboratory results
- Nurses notes
- Vital signs record or flow sheet

Inclusion Guidelines for Abstraction:

None

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Administrative Contraindication to Care, Severe Sepsis*

Collected For CMS: SEP-1

Definition: Documentation of refusal of blood draw, IV fluid administration, or IV antibiotic administration prior to or within 6 hours following presentation of severe sepsis.

Suggested Data Collection Question: Did the patient or surrogate decision-maker decline consent for blood draw, IV fluid administration, or IV antibiotic administration prior to or within 6 hours following presentation of severe sepsis?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	There is documentation by a physician/APN/PA or nurse that the patient or decision-maker has refused either blood draw, IV fluid administration, or IV antibiotic administration prior to or within 6 hours following presentation of severe sepsis.
2 (No)	There is no physician/APN/PA or nurse documentation that the patient or decision-maker has refused either blood draw, IV fluid administration, or IV antibiotic administration prior to or within 6 hours following presentation of severe sepsis.

Notes for Abstraction:

- Only acceptable sources are physician/APN/PA or nursing documentation.
- Documentation indicating patient or authorized patient advocate has refused blood draw, IV or IO fluid administration, or IV or IO antibiotic administration prior to or within 6 hours following presentation of severe sepsis can be used to select Value "1."
- Documentation of refusal of care that would result in blood draws, IV or IO fluids or IV or IO antibiotics not being administered is acceptable.
- For refusal of blood draws:
  - Documented refusal of blood draws is acceptable.
  - Refusal of specific blood draws or blood tests that do not impact the ability to meet the requirements of the SEP-1 measure data elements should not be used.

    Examples:
    - Patient refused HIV blood test.
    - Patient refused arterial blood gas (ABG).
- For refusal of IV or IO fluids:
  - Documented refusal of fluids or IV or IO fluids is acceptable.
- For refusal of IV or IO antibiotic administration:
  - Documented refusal of medications is acceptable.
  - Documented refusal of antibiotics or IV or IO antibiotics is acceptable.

Suggested Data Sources:

- Consultation reports
- History and physical
- Physician/APN/PA notes

Inclusion Guidelines for Abstraction:

- Declined
- Refused
- Requests not to be given

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Directive for Comfort Care or Palliative Care, Severe Sepsis*

Collected For CMS: SEP-1

Definition: Directive for Comfort Care refers to medical treatment of a dying person where the natural dying process is permitted to occur while assuring maximum comfort. It includes attention to the psychological and spiritual needs of the patient and support for both the dying patient and the patient's family. It is not equivalent to a physician order to withhold emergency resuscitative measures such as Do Not Resuscitate (DNR).

Palliative Care is the identification, prevention, and treatment of suffering by means of assessment of the physical, psychosocial, intellectual, and spiritual needs of the patient with a goal of supporting and optimizing the patient's quality of life. Palliative care ensures a partnership between practitioner, patient, and family to provide support in decision making at any stage in the patient's care.

Suggested Data Collection Question: Did physician/APN/PA documentation of comfort measures only or palliative care occur?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Physician/APN/PA documentation of comfort measures only or palliative care was prior to or within 6 hours of the presentation of severe sepsis.
2 (No)	Physician/APN/PA documentation of comfort measures only or palliative care was not prior to or within 6 hours of presentation of severe sepsis, or not documented or time is unclear.

Notes for Abstraction:

- Only accept terms identified in the list of inclusions. No other terminology will be accepted.
- The earliest physician/APN/PA documentation of an inclusion term mentioned in the following contexts suffices:
  - Comfort measures only recommendation
  - Order for consultation or evaluation by a hospice care service
  - Patient or patient representative request for comfort measures only
  - Plan for comfort measures only
  - Referral to hospice care service
- State-authorized portable orders (SAPOs):
  - SAPOs are specialized forms or identifiers authorized by state law that translate a patient's preferences about specific end-of-life treatment decisions into portable medical orders.

Examples:

- DNR-Comfort Care form
- MOLST (Medical Orders for Life-Sustaining Treatment)
- POLST (Physician Orders for Life-Sustaining Treatment)
- Out-of-Hospital DNR (OOH DNR)

- If there is a SAPO in the record that is dated and signed prior to arrival with an option in which an inclusion term is found that is checked, select Value "1."
- If a SAPO lists different options for CMO and any CMO option is checked, select Value "1."
- If one or more dated SAPOs are included in the record (and signed by the physician/APN/PA), use only the most recent one. Disregard undated SAPOs.
- For cases where there is a SAPO in the record with a CMO option selected: If the SAPO is dated prior to arrival and there is documentation on the day of arrival up to severe sepsis presentation that the patient or patient representative does not want CMO, and there is no other documentation regarding CMO found in the record, disregard the SAPO.

  Example:
  Patient has a POLST dated prior to arrival in his chart and ED physician states in current record "Patient is refusing comfort measures, wants to receive full treatment and be a full code."

- Documentation of an inclusion term in the following situations should be **disregarded**. Continue to review the remaining physician/APN/PA documentation for acceptable inclusion terms. If the **ONLY** documentation found is an inclusion term in the following situations, select Value "2."
  - Documentation (other than SAPOs) that is dated prior to arrival or documentation which refers to the pre-arrival time period.

    Examples:

    - Comfort measures only or palliative care order in previous hospitalization record.
    - "Pt. on hospice at home" in MD ED note.
  - Inclusion term clearly described as negative or conditional.

    Examples:

    - "No comfort care"
    - "Not appropriate for hospice care"
    - "Comfort care would also be reasonable - defer decision for now"
    - "DNRCCA" (Do Not Resuscitate – Comfort Care Arrest)
    - "Family requests comfort measures only should the patient arrest."
  - Documentation of "CMO" should be disregarded if documentation makes clear it is not being used as an acronym for Comfort Measures Only (e.g., "hx dilated CMO" – Cardiomyopathy context).
- If there is physician/APN/PA documentation of an inclusion term in one source that indicates the patient is Comfort Measures Only or Palliative Care, AND there is physician/APN/PA documentation of an inclusion term in another source that

indicates the patient is NOT CMO or Palliative Care, the source that indicates the patient is CMO or Palliative Care would be used, select Value “1.”

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Discharge summary
- DNR/MOLST/POLST forms
- Emergency Department record
- History and physical
- Physician orders
- Progress notes

Excluded Data Sources:
Restraint order sheet

Inclusion Guidelines for Abstraction:

- Brain dead
- Brain death
- Comfort care
- Comfort measures
- Comfort measures only (CMO)
- Comfort only
- DNR-CC
- End of life care
- Hospice
- Hospice care
- Organ harvest
- Palliative Care
- Terminal care
- Terminal extubation
- Withdraw care
- Withhold care

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Discharge Disposition*

Collected For CMS/The Joint Commission: IMM-2; **The Joint Commission Only:** SUB-3, TOB-3; **CMS Only:** SEP-1

Definition: The final place or setting to which the patient was discharged on the day of discharge.

Suggested Data Collection Question: What was the patient's discharge disposition on the day of discharge?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 Home

2 Hospice - Home

3 Hospice – Health Care Facility

4 Acute Care Facility

5 Other Health Care Facility

6 Expired

7 Left Against Medical Advice/AMA

8 Not Documented or Unable to Determine (UTD)

Notes for Abstraction:

- Only use documentation written on the day prior to discharge through 30 days after discharge when abstracting this data element.

  Example:
  Documentation in the Discharge Planning notes on 04-01-20xx state that the patient will be discharged back home. On 04-06-20xx the physician orders and nursing discharge notes on the day of discharge reflect that the patient was being transferred to skilled care. The documentation from 04-06-20xx would be used to select Value "5" (Other Health Care Facility).
- The medical record must be abstracted as documented (taken at "face value"). Inferences should not be made based on internal knowledge.
- If there is documentation that further clarifies the level of care that documentation should be used to determine the correct value to abstract. If documentation is contradictory, use the latest documentation.

Examples:

- o Discharge summary dictated 2 days after discharge states patient went “home.” Physician note on day of discharge further clarifies that the patient will be going "home with hospice.” Select Value “2” (“Hospice - Home”).
- o Discharge planner note from day before discharge states “XYZ Nursing Home.” Discharge order from day of discharge states “Discharge home.” Contradictory documentation, use latest. Select Value “1” (“Home”).
- o Physician order on discharge states “Discharge to ALF.” Discharge instruction sheet completed after the physician order states patient discharged to “SNF.” Contradictory documentation, use latest. Select Value “5” (“Other Health Care Facility”).

- If documentation is contradictory, and you are unable to determine the latest documentation, select the disposition ranked highest (top to bottom) in the following list. See Inclusion lists for examples.
  - o Acute Care Facility
  - o Hospice – Health Care Facility
  - o Hospice – Home
  - o Other Health Care Facility
  - o Home
- Hospice (Values “2” and “3”) includes discharges with hospice referrals and evaluations.
- If the medical record states only that the patient is being discharged to another hospital and does not reflect the level of care that the patient will be receiving, select Value “4” (“Acute Care Facility”).
- If the medical record states the patient is being discharged to assisted living care or an assisted living facility (ALF) and the documentation also includes nursing home, intermediate care or skilled nursing facility, select Value “1” (“Home”).
- If the medical record states the patient is being discharged to nursing home, intermediate care or skilled nursing facility without mention of assisted living care or assisted living facility (ALF), select Value “5” (“Other Health Care Facility”).
- If the medical record identifies the facility the patient is being discharged to by name only (e.g., “Park Meadows”), and does not reflect the type of facility or level of care, select Value “5” (“Other Health Care Facility”).
- If the medical record states only that the patient is being “discharged” and does not address the place or setting to which the patient was discharged, select Value “1” (“Home”).
- When determining whether to select Value “7” (“Left Against Medical Advice/AMA”):
  - o Explicit “left against medical advice” documentation is not required. E.g., “Patient is refusing to stay for continued care” – Select Value “7.”
  - o Documentation suggesting that the patient left before discharge instructions could be given does not count.
  - o A signed AMA form is not required, for the purposes of this data element.
  - o Do not consider AMA documentation and other disposition documentation as “contradictory.” If any source states the patient left against medical advice, select Value “7,” regardless of whether the AMA documentation was

written last. E.g., AMA form signed and discharge instruction sheet states "Discharged home with belongings" – Select "7."

Suggested Data Sources:
- Discharge instruction sheet
- Discharge planning notes
- Discharge summary
- Nursing discharge notes
- Physician orders
- Progress notes
- Social service notes
- Transfer record

Excluded Data Sources:
- Any documentation prior to the last two days of hospitalization
- Coding documents
- UB-04

Inclusion Guidelines for Abstraction:
Home (Value 1):
- Assisted Living Facilities (ALFs) – Includes ALFs and assisted living care at: nursing home, intermediate care, and skilled nursing facilities
- Court/Law Enforcement – includes detention facilities, jails, and prison
- Home – includes board and care, foster or residential care, group or personal care homes, retirement communities, and homeless shelters
- Home with Home Health Services
- Outpatient Services including outpatient procedures at another hospital, Outpatient Chemical Dependency Programs and Partial Hospitalization

Hospice – Home (Value 2):
Hospice in the home (or other "Home" setting as above in Value 1)

Hospice – Health Care Facility (Value 3):
- Hospice - General Inpatient and Respite
- Hospice - Residential and Skilled Facilities
- Hospice - Other Health Care Facilities

Acute Care Facility (Value 4):
- Acute Short Term General and Critical Access Hospitals
- Cancer and Children's Hospitals
- Department of Defense and Veteran's Administration Hospitals

Other Health Care Facility (Value 5):
- Extended or Intermediate Care Facility (ECF/ICF)
- Long Term Acute Care Hospital (LTACH)
- Nursing Home or Facility including Veteran's Administration Nursing Facility
- Psychiatric Hospital or Psychiatric Unit of a Hospital

- Rehabilitation Facility including Inpatient Rehabilitation Facility/Hospital or Rehabilitation Unit of a Hospital
- Skilled Nursing Facility (SNF), Sub-Acute Care or Swing Bed
- Transitional Care Unit (TCU)
- Veterans Home

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Discharge Date*

Collected For CMS/The Joint Commission: All Records

Definition: The month, day, and year the patient was discharged from acute care, left against medical advice, or expired during this stay.

Suggested Data Collection Question: What is the date the patient was discharged from acute care, left against medical advice (AMA), or expired?

Format:

Length: 10 – MM-DD-YYYY (includes dashes)
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)

Note: The CMS Clinical Warehouse only allows data containing dates applicable to a specified quarter of data transmission. Data submitted for discharge quarters outside of the current submission deadline will be rejected.

Refer to the Data Transmission section of this manual for further guidance related to data transmission.

Notes for Abstraction:
Because this data element is critical in determining the population for many measures, the abstractor should NOT assume that the claim information for the discharge date is correct. If the abstractor determines through chart review that the date is incorrect, she/he should correct and override the downloaded value. If the abstractor is unable to determine the correct discharge date through chart review, she/he should default to the discharge date on the claim information.

Suggested Data Sources:

- Discharge summary
- Face sheet
- Nursing discharge notes
- Physician orders
- Progress notes
- Transfer note
- UB-04

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Discharge Time*

Collected For CMS: SEP-1

Definition: Time of documentation of discharge.

Suggested Data Collection Question: What time was the patient discharged?

Format:

Length: 5 - HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

- If the time the patient expired is unable to be determined from medical record documentation, enter "UTD."
- The medical record must be abstracted as documented (taken at "face value"). When the time documented is obviously in error (not a valid time/format) **and** no other documentation is found that provides this information, the abstractor should select "UTD."

  Example:
  Documentation indicates the patient expired at **3300**. No other documentation in the medical record provides a valid time. Since the Time Expired is outside of the range listed in the Allowable Values for "Hour," it is not a valid time and the abstractor should select "UTD."
- If the patient expired and there are multiple times, such as a time the patient was pronounced in physician notes and an administrative time the patient was discharged, use the time the patient was pronounced.
- If the patient expired and there is not a pronounced time but there is a discharge time, use the discharge time.
- If the patient was transferred out to another facility or to home, use the time the patient actually left, not the time the order was written.
- If there are multiple times documented when the patient was discharged, use the earliest time.

Suggested Data Sources:

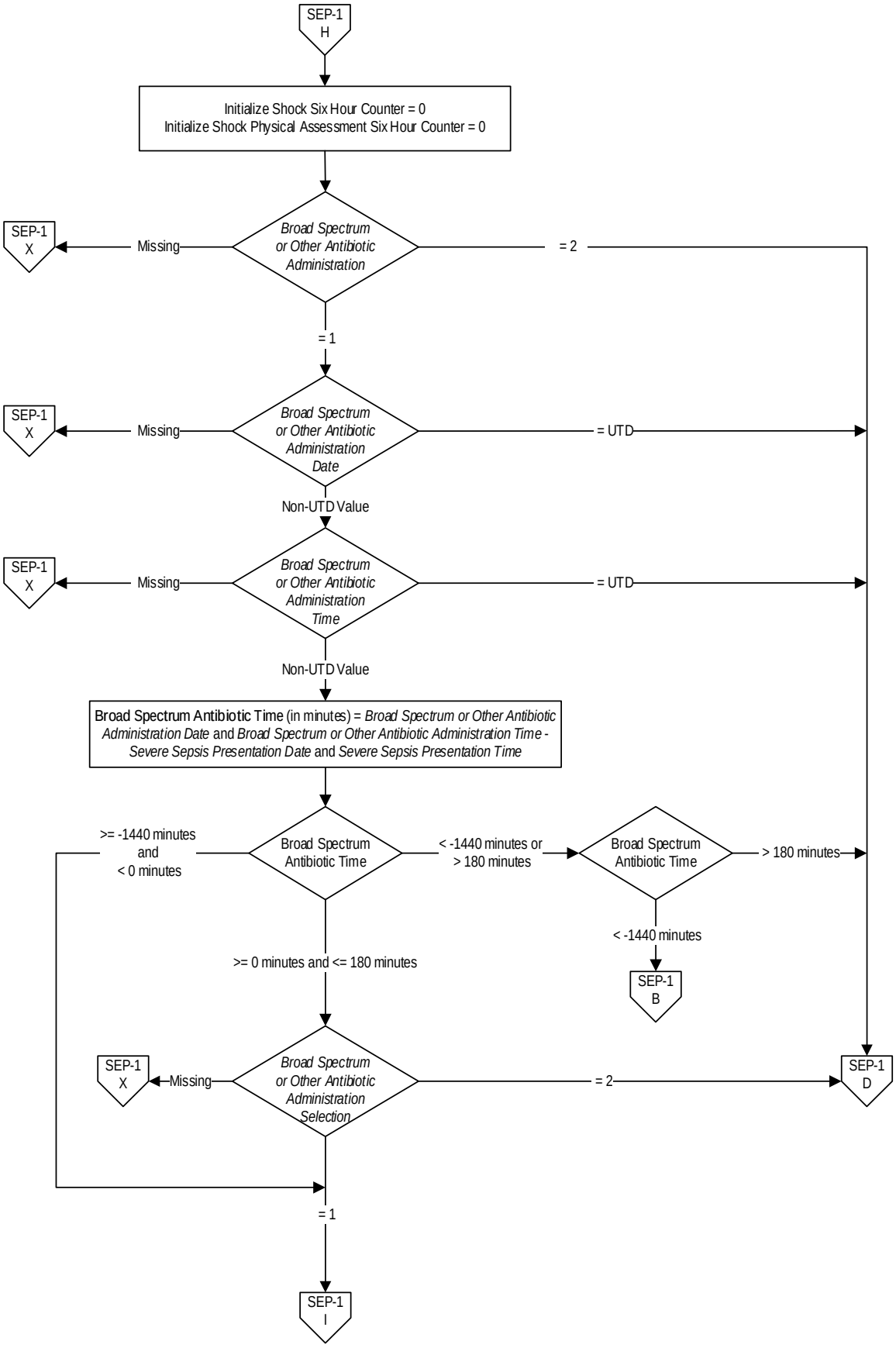
- Death certificate
- Discharge summary
- Nurses Notes
- Progress Notes
- Resuscitation records

Inclusion Guidelines for Abstraction:

None

Exclusion Guidelines for Abstraction:

None


SEP-1 H
Initialize Shock Six Hour Counter = 0
Initialize Shock Physical Assessment Six Hour Counter = 0
Broad Spectrum or Other Antibiotic Administration
Missing
SEP-1 X
= 2
= 1
Broad Spectrum or Other Antibiotic Administration Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Broad Spectrum or Other Antibiotic Administration Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Broad Spectrum Antibiotic Time (in minutes) = Broad Spectrum or Other Antibiotic Administration Date and Broad Spectrum or Other Antibiotic Administration Time - Severe Sepsis Presentation Date and Severe Sepsis Presentation Time
Broad Spectrum Antibiotic Time
>= -1440 minutes and < 0 minutes
< -1440 minutes or > 180 minutes
Broad Spectrum Antibiotic Time
> 180 minutes
< -1440 minutes
SEP-1 B
>= 0 minutes and <= 180 minutes
Broad Spectrum or Other Antibiotic Administration Selection
Missing
SEP-1 X
= 2
SEP-1 D
= 1
SEP-1 I

Data Element Name: *Broad Spectrum or Other Antibiotic Administration*

Collected For CMS: SEP-1

Definition: Documentation of administration of a broad spectrum or other antibiotic in the time window 24 hours prior to or 3 hours after *Severe Sepsis Presentation Date and Time*.

Suggested Data Collection Question: Was a broad spectrum or other antibiotic administered in the time window 24 hours prior to or 3 hours after *Severe Sepsis Presentation Date and Time*?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	A broad spectrum or other antibiotic was administered in the time window 24 hours prior to or 3 hours following the presentation of severe sepsis.
2 (No)	No antibiotic was administered in the time window 24 hours prior to or 3 hours following the presentation of severe sepsis, or unable to determine.

Notes for Abstraction:

- Only IV antibiotic administered in the 24 hours prior to or 3 hours after severe sepsis presentation is acceptable.

  EXCEPTION:
  If there is documentation indicating IV access could not be established, antibiotics administered via intramuscular (IM) or intraosseous (IO) started in the 24 hours prior to or 3 hours after the severe sepsis presentation is acceptable to select Value "1."
- If the patient started on an antibiotic within the 24 hours preceding or 3 hours following the *Severe Sepsis Presentation Date and Time,* choose Value "1."
- If no antibiotic was started within the 24 hours preceding or 3 hours following the *Severe Sepsis Presentation Date and Time*, choose Value "2."
- Antibiotic administration information should only be abstracted from documentation that demonstrates actual administration of the antibiotic (i.e., antibiotic name, route, date and time).
- A physician/APN/PA order for antibiotics is not sufficient unless the antibiotic ordered was marked as "started" with date/time noted.
- Do not collect antibiotics documented on an operative report unless the surgeon states that the surgeon actually administered the dose.
- Do not cross reference between different sources to infer that an antibiotic was started if it was documented only with name/date/time given but no route indicated. The route on the MAR for an antibiotic cannot be used as the route for a dose of that same antibiotic on another form.

- The method of designation of administration on hand-written or pre-printed forms such as MARs or eMARs, with pre-printed scheduled times for administration, must be clearly designated as started. The methods may vary. Whatever method is used, it must be clear that the dose was administered.
- Do not abstract test doses of antibiotics.
- Do not abstract antibiotics from sources that do not represent actual administration.

  Examples that ***do not*** represent actual administration:
  Pre-Op Checklist states:
  X IV Started at 1730
  X Preop Antibiotic Given at 1800
  X Lab on Chart
  Operative report states: IV antibiotics were given prior to procedure.
- Do not abstract antibiotics from narrative charting unless there is no other documentation that reflects that the same antibiotic was given during the specified timeframe.
- If the antibiotic name, route, date or time is missing, disregard that dose.
- Pre-hospital records (e.g., ambulance records, nursing home records) that are considered part of the medical record should be used for abstracting antibiotics.

Suggested Data Sources:

- Anesthesia record
- Entire Emergency Department record
- ICU flow sheet
- IV flow sheet
- Medication administration record
- Nurses notes
- Operating room record
- PACU/recovery room record
- Perfusion record
- Physician/APN/PA notes
- Pre-arrival documentation that is part of the medical record

Inclusion Guidelines for Abstraction:

- Antibiotic administered via intravenous route
- Intramuscular or IM
- Intraosseous or IO
- Intravenous
- IV Bolus
- IV infusion

Exclusion Guidelines for Abstraction:

- Give antibiotic stat
- Hang antibiotic
- Order for xx antibiotic

Data Element Name: *Broad Spectrum or Other Antibiotic Administration Date*

Collected For CMS: SEP-1

Definition: The earliest date on which an antibiotic was started in the time window of 24 hours preceding or 3 hours after *Severe Sepsis Presentation Date and Time*.

Suggested Data Collection Question: What was the earliest date on which an antibiotic was started in the time window of 24 hours preceding or 3 hours after *Severe Sepsis Presentation Date and Time*?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date, Numeric
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Only IV antibiotic administered in the 24 hours prior to or 3 hours after severe sepsis presentation is acceptable.

  EXCEPTION:
  If there is documentation indicating IV access could not be established, antibiotics administered via intramuscular (IM) or intraosseous (IO) started in the 24 hours prior to or 3 hours after the severe sepsis presentation is acceptable.
- If one or more antibiotic was started within the 24 hours prior to presentation of severe sepsis, and none of those same antibiotics were started more than 24 hours prior to presentation, abstract the earliest dose started in the 24 hours prior to presentation of severe sepsis.
- If one or more antibiotics were administered within 24 hours prior to severe sepsis presentation, abstract the earliest date and time that antibiotic was started. This may be the same date as the date of presentation or may be a date any time before presentation. Do not review for antibiotic doses started more than 72 hours prior to severe sepsis presentation.

Examples:

More than 24 hours Before Presentation (Max. lookback 72 hrs.)	24 hours Before Presentation	Severe Sepsis	3 Hours After Presentation	Antibiotic Dose to Abstract
	A A A			First dose of A
	B C C			Antibiotic B
G	***A*** A A			First dose of A
B	B B			First dose of B
C	D C C			First dose of C

- If one or more antibiotic was started within the 3 hours after presentation of severe sepsis, and the patient did not receive an antibiotic in the 24 hours before severe sepsis presentation, abstract the dose started closest to severe sepsis presentation.

Examples:

More than 24 hours Before Presentation (Max. lookback 72 hrs. from presentation)	24 hours Before Presentation	Severe Sepsis	3 Hours After Presentation	Antibiotic Dose to Abstract
E			***L***	Antibiotic L
K			***K*** A	Dose of K in 3 hr. period

- If antibiotics were administered both 24 hours prior to and within 3 hours after the time of presentation of severe sepsis, abstract the earliest date and time that an antibiotic in the 24 hours prior was started. This may be the same date as the date of presentation or may be a date any time before presentation. Do not review for antibiotic doses started more than 72 hours prior to severe sepsis presentation.

Examples:

More than 24 hours Before Presentation (Max. lookback 72 hrs. from presentation)	24 hours Before Presentation	Severe Sepsis	3 Hours After Presentation	Antibiotic Dose to Abstract
	D D		D	First dose of D
	E		F	Antibiotic E
E	E E		L	First dose of E
M	***A*** B A		M	First dose of A
M	A B M A		M	First dose of M

- Stop abstracting 3 hours after the presentation of severe sepsis.
- If no antibiotic was started in the 24 hours before or 3 hours after the severe sepsis presentation, enter “UTD.”

- Do not cross reference between different sources to infer that an antibiotic was started if it was documented only with name/date/time given but no route indicated. The route on the MAR for an antibiotic cannot be used as the route for a dose of the same antibiotic on another form.
- If the antibiotic name, route, date or time is missing, disregard that dose.
- Antibiotic administration information should only be abstracted from documentation that demonstrates actual administration of the specific antibiotic within the time window of 24 hours prior to or 3 hours following the presentation of severe sepsis.

  Examples:
  - A physician order for IV antibiotics is not sufficient unless the antibiotic ordered was marked as "started" with date/time noted.
  - Do not collect antibiotics documented on an operative report unless the surgeon states that the surgeon actually administered the dose.
- Specific documentation by one person that another person administered the antibiotic is acceptable for determining the date and time of administration.

  Example:
  OR nurse, S. Smith RN, documents, "Cefazolin 1 gm IV given on 1/7/20xx at 0500 per J Doe RN." This dose can be abstracted as given if not documented by the person that gave the dose.
- The method of designation of administration on hand-written or pre-printed forms such as MARs or eMARs, with pre-printed scheduled times for administration, must be clearly designated as started. The methods may vary. Whatever method is used, it must be clear that the dose was administered.
- Do not abstract test doses of antibiotics.
- Do not abstract antibiotics from sources that do not represent actual administration.

  Examples that ***do not*** represent actual administration:
  <u>Pre-Op Checklist states:</u>
  <u>X</u> IV Started at 1730
  <u>X</u> Preop Antibiotic Given at 1800
  <u>X</u> Lab on Chart
  <u>Operative report states</u>: IV antibiotics were given prior to procedure.
- Do not abstract antibiotics from narrative charting unless there is no other documentation that reflects that the same antibiotic was started during the specified timeframe.

  Example:
  Narrative states: "Ancef 1 gram given IV prior to incision." No other doses of Ancef are documented. The dose in the narrative should be abstracted using UTD for missing data (no date and time).
- Pre-hospital records (e.g., ambulance records, nursing home records) that are considered part of the medical record should be used for abstracting antibiotics.

Suggested Data Sources:

- Anesthesia record
- Entire Emergency Department record
- ICU flow sheet
- IV flow sheet
- Medication administration record
- Nurses notes
- Operating room record
- PACU/recovery room record
- Perfusion record
- Physician/APN/PA notes
- Pre-arrival documentation that is part of the medical record

Inclusion Guidelines for Abstraction:

- Antibiotic administered via intravenous route
- Intramuscular or IM
- Intraosseous or IO
- Intravenous
- IV Bolus
- IV infusion

Exclusion Guidelines for Abstraction:

- Give antibiotic stat
- Hang antibiotic
- Order for xx antibiotic

Data Element Name: *Broad Spectrum or Other Antibiotic Administration Time*

Collected For CMS: SEP-1

Definition: The earliest time at which an antibiotic was started in the time window of 24 hours preceding or 3 hours after *Severe Sepsis Presentation Date and Time*.

Suggested Data Collection Question: What was the earliest time at which an antibiotic was started in the time window of 24 hours preceding or 3 hours after *Severe Sepsis Presentation Date and Time*?

Format:

Length: 5 – HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

- Only IV antibiotic administered in the 24 hours prior to or 3 hours after severe sepsis presentation is acceptable.

  EXCEPTION:
  If there is documentation indicating IV access could not be established, antibiotics administered via intramuscular (IM) or intraosseous (IO) started in the 24 hours prior to or 3 hours after the severe sepsis presentation is acceptable.
- If one or more antibiotic was started within the 24 hours prior to presentation of severe sepsis, and none of those same antibiotics were started more than 24 hours prior to presentation, abstract the earliest dose started in the 24 hours prior to presentation of severe sepsis.
- If one or more antibiotics were administered within 24 hours prior to severe sepsis presentation, abstract the earliest date and time that antibiotic was started. This may be the same time as the time of presentation or may be a time before presentation. Do not review for antibiotic doses started more than 72 hours prior to severe sepsis presentation.

Examples:

More than 24 hours Before Presentation (Max. lookback 72 hrs.)	24 hours Before Presentation	Severe Sepsis	3 Hours After Presentation	Antibiotic Dose to Abstract
	A A A			First dose of A
	B C C			Antibiotic B
G	***A*** A A			First dose of A
B	B B			First dose of B
C	D C C			First dose of C

- If one or more antibiotic was started within the 3 hours after the presentation of severe sepsis, and the patient did not receive an antibiotic in the 24 hours before severe sepsis presentation, abstract the dose started closest to severe sepsis.

Examples:

More than 24 hours Before Presentation (Max. lookback 72 hrs. from presentation)	24 hours Before Presentation	Severe Sepsis	3 Hours After Presentation	Antibiotic Dose to Abstract
E			***L***	Antibiotic L
K			***K*** A	Dose of K in 3 hr. period

- If antibiotics were administered both 24 hours prior to and within 3 hours after the time of presentation of severe sepsis, abstract the earliest date and time that an antibiotic in the 24 hours prior was started. This may be the same time as the time of presentation or may be a time before presentation. Do not review for antibiotic doses started more than 72 hours prior to severe sepsis presentation.

Examples:

More than 24 hours Before Presentation (Max. lookback 72 hrs. from presentation)	24 hours Before Presentation	Severe Sepsis	3 Hours After Presentation	Antibiotic Dose to Abstract
	D D		D	First dose of D
	E		F	Antibiotic E
E	E E		L	First dose of E
M	***A*** B A		M	First dose of A
M	A B M A		M	First dose of M

- Stop abstracting 3 hours after the presentation of severe sepsis.
- If no antibiotic was started in the 24 hours before or 3 hours after the severe sepsis presentation, enter “UTD.”

- Do not cross reference between different sources to infer that an antibiotic was started if it was documented only with name/date/time given but no route indicated. The route on the MAR for an antibiotic cannot be used as the route for a dose of the same antibiotic on another form.
- If the antibiotic name, route, date or time is missing, disregard that dose.
- Antibiotic administration information should only be abstracted from documentation that demonstrates actual administration of the specific antibiotic within the time window of 24 hours prior to or 3 hours following the presentation of severe sepsis.

  Examples:
  - A physician order for IV antibiotics is not sufficient unless the antibiotic ordered was marked as "started" with date/time noted.
  - Do not collect antibiotics documented on an operative report unless the surgeon states that the surgeon actually administered the dose.
- Specific documentation by one person that another person administered the antibiotic is acceptable for determining the date and time of administration.

  Example:
  OR nurse, S. Smith RN, documents, "Cefazolin 1 gm IV given on 1/7/20xx at 0500 per J Doe RN." This dose can be abstracted as given if not documented by the person that gave the dose.
- The method of designation of administration on hand-written or pre-printed forms such as MARs or eMARs, with pre-printed scheduled times for administration, must be clearly designated as started. The methods may vary. Whatever method is used, it must be clear that the dose was administered.
- Do not abstract test doses of antibiotics.
- Do not abstract antibiotics from sources that do not represent actual administration.

  Examples that ***do not*** represent actual administration:
  Pre-Op Checklist states:
  X IV Started at 1730
  X Preop Antibiotic Given at 1800
  X Lab on Chart
  Operative report states: IV antibiotics were given prior to procedure
- Do not abstract antibiotics from narrative charting unless there is no other documentation that reflects that the same antibiotic was started during the specified timeframe.

  Example:
  Narrative states: "Ancef 1 gram given IV prior to incision." No other doses of Ancef are documented. The dose in the narrative should be abstracted using "UTD" for missing data (no date and time).
- Pre-hospital records (e.g., ambulance records, nursing home records) that are considered part of the medical record should be used for abstracting antibiotics.

Suggested Data Sources:

- Anesthesia record
- Entire Emergency Department record
- ICU flow sheet
- IV flow sheet
- Medication administration record
- Nurses notes
- Operating room record
- PACU/recovery room record
- Perfusion record
- Physician/APN/PA notes
- Pre-arrival documentation that is part of the medical record

Inclusion Guidelines for Abstraction:

- Antibiotic administered via intravenous route
- Intramuscular or IM
- Intraosseous or IO
- Intravenous
- IV Bolus
- IV infusion

Exclusion Guidelines for Abstraction:

- Give antibiotic stat
- Hang antibiotic
- Order for xx antibiotic

Data Element Name: *Broad Spectrum or Other Antibiotic Administration Selection*

Collected For CMS: SEP-1

Definition: The selection of the antibiotic administered within 3 hours following *Severe Sepsis Presentation Date and Time*.

Suggested Data Collection Question: Was the antibiotic administered within 3 hours after the *Severe Sepsis Presentation Date and Time* consistent with antibiotic selection guidelines detailed in the Notes for Abstraction?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	The antibiotic that was given within 3 hours following the presentation of severe sepsis is consistent with antibiotic selection guidelines.
2 (No)	The antibiotic that was given within 3 hours following the presentation of severe sepsis is not consistent with antibiotic selection guidelines.

Notes for Abstraction:

- Only IV antibiotic administered 3 hours after severe sepsis presentation is acceptable.

  EXCEPTION:
  If there is documentation indicating IV access could not be established, antibiotics administered via intramuscular (IM) or intraosseous (IO) started 3 hours after the severe sepsis presentation is acceptable to select Value "1."
- Antibiotic administration information should only be abstracted from documentation that demonstrates actual administration of the antibiotic within the 3 hours following *Severe Sepsis Presentation Date and Time*.
- If there is one antibiotic started within 3 hours after presentation of severe sepsis that is on the monotherapy table in Appendix C, Table 5.0, choose Value "1."
- If the administered antibiotics were NOT on Table 5.0, determine if the antibiotics are on Table 5.1 in Appendix C. Determine the class the administered antibiotics belong to, based on the class name in the shaded row above the antibiotic names. Next, refer to the following Combination Antibiotic Therapy Table to determine if an antibiotic from a class in both Column A and Column B were given. There must be at least one from a class in column A and at least one from a class in column B administered to select Value "1." Review the chart to see that both drugs were started within 3 hours of severe sepsis presentation and if so, choose Value "1." If both drugs were not started within 3 hours, choose Value "2."

Combination Antibiotic Therapy Table

Column A		Column B
Aminoglycosides OR Aztreonam OR Ciprofloxacin	+	Cephalosporins (1st and 2nd Generation) OR Clindamycin IV OR Daptomycin OR Glycopeptides OR Linezolid OR Macrolides OR Penicillins

- If an antibiotic from Table 5.0 or an appropriate combination of antibiotics from Table 5.1 is not started or given within the 3 hours following presentation of severe sepsis, but there is a lab report or physician/APN/PA documentation indicating the causative organism and susceptibility is known (see exception for *C. difficile*) and an antibiotic identified as appropriate to treat the causative organism is given within 3 hours following presentation of severe sepsis, choose Value "1."
  - Cultures are not limited to blood cultures.
  - If a causative organism with a susceptible antibiotic are used, the causative organism must be identified from cultures collected in the period 24 hours. prior to the antibiotic being started, or within 3 hours following severe sepsis presentation. Cultures or documentation referring to cultures obtained outside of this time period should not be used.
- Exception for *C. difficile*: If the causative organism is identified as *C. difficile,* susceptibility testing is not required, and if the patient is receiving oral vancomycin with or without oral or IV metronidazole (Flagyl), choose Value “1.”
  - Cultures are not limited to blood cultures.
  - C-diff must be identified from cultures collected in the period 24 hours prior to the antibiotic being started, or within 3 hours following severe sepsis presentation. Cultures or documentation referring to cultures obtained outside of this time period should not be used.

Suggested Data Sources:

- Anesthesia record
- Entire Emergency Department record
- ICU flow sheet
- IV flow sheet
- Medication administration record
- Nurses notes
- Operating room record
- PACU/recovery room record
- Perfusion record
- Physician/APN/PA documentation

Inclusion Guidelines for Abstraction:
Intravenous:

- Antibiotic administered via intravenous route
- Intramuscular or IM
- Intraosseous or IO
- Intravenous
- IV bolus
- IV infusion

Exclusion Guidelines for Abstraction:

- Give antibiotic stat
- Hang antibiotic
- Order for xx antibiotic

Table 5.0: Antibiotic Monotherapy, Sepsis

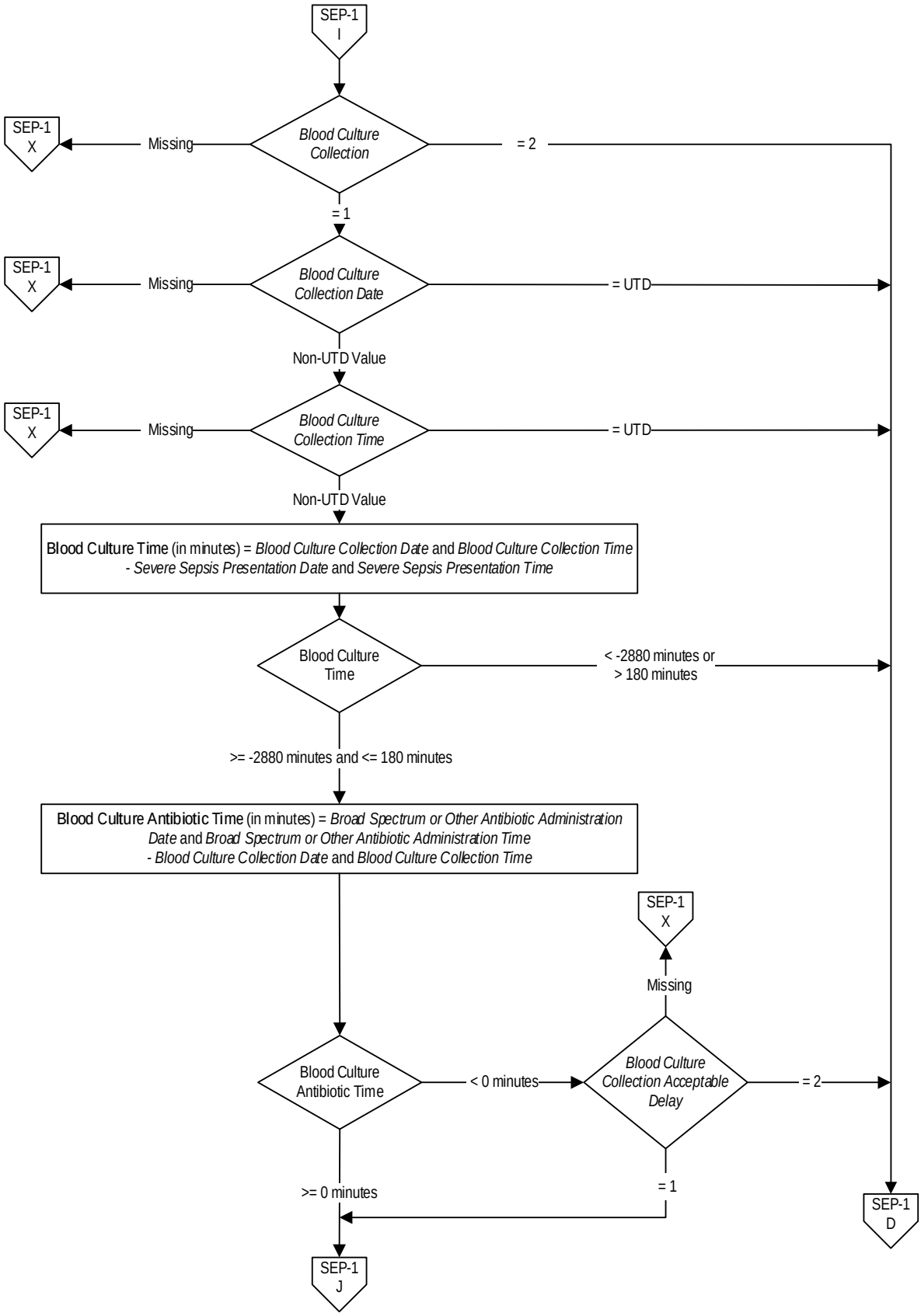
Antibiotic Selection Options (includes trade & generic name)	Generic Name Crosswalk
Ampicillin/sulbactam	Ampicillin/sulbactam
Avelox	Moxifloxacin
Avycaz	Ceftazidime/avibactam
Cefepime	Cefepime
Cefotaxime	Cefotaxime
Ceftaroline fosamil	Ceftaroline fosamil
Ceftazidime/avibactam	Ceftazidime/avibactam
Ceftazidime	Ceftazidime
Ceftolozane/tazobactam	Ceftolozane/tazobactam
Ceftriaxone	Ceftriaxone
Claforan	Cefotaxime
Doribax	Doripenem
Doripenem	Doripenem
Ertapenem	Ertapenem
Fortaz	Ceftazidime
Imipenem/Cilastatin	Imipenem/Cilastatin
Invanz	Ertapenem
Levaquin	Levofloxacin
Levofloxacin	Levofloxacin
Maxipime	Cefepime
Meropenem	Meropenem
Merrem	Meropenem
Moxifloxacin	Moxifloxacin
Piperacillin/tazobactam	Piperacillin/tazobactam
Primaxin	Imipenem/Cilastatin
Rocephin	Ceftriaxone
Teflaro	Ceftaroline fosamil
Ticarcillin/clavulanate	Ticarcillin/clavulanate
Timentin	Ticarcillin/clavulanate
Unasyn	Ampicillin/sulbactam
Zerbaxa	Ceftolozane/tazobactam
Zosyn	Piperacillin/tazobactam

Table 5.1: Antibiotic Generic/Trade Name Crosswalk, Sepsis

Antibiotic Selection Options (includes trade & generic name)	Generic Name Crosswalk
Aminoglycosides	
Amikacin	Amikacin
Garamycin	Gentamicin
Gentamicin	Gentamicin
Kanamycin	Kanamycin
Kantrex	Kanamycin
Nebcin	Tobramycin
Tobramycin	Tobramycin
Aztreonam	
Azactam	Aztreonam
Aztreonam	Aztreonam
Cephalosporins (1st and 2nd Generation)	
Ancef	Cefazolin
Cefazolin	Cefazolin
Cefotan	Cefotetan
Cefotetan	Cefotetan
Cefoxitin	Cefoxitin
Ceftin	Cefuroxime
Cefuroxime	Cefuroxime
Mefoxin	Cefoxitin
Ciprofloxacin	
Cipro	Ciprofloxacin
Ciprobay	Ciprofloxacin
Ciprofloxacin	Ciprofloxacin
Ciproxin	Ciprofloxacin
Clindamycin IV	
Cleocin	Clindamycin
Clindamycin	Clindamycin
Daptomycin	
Cubicin	Daptomycin
Daptomycin	Daptomycin
Glycopeptides	
Targocid	Teicoplanin
Teicoplanin	Teicoplanin
Telavancin	Telavancin
Vancocin	Vancomycin
Vancomycin	Vancomycin
Vibativ	Telavancin
Linezolid	
Linezolid	Linezolid
Zyvox	Linezolid

Table 5.1: Antibiotic Generic/Trade Name Crosswalk, Sepsis

Antibiotic Selection Options (includes trade & generic name)	Generic Name Crosswalk
Macrolides	
Azithromycin	Azithromycin
Erythocin	Erythromycin
Erythromycin	Erythromycin
Erythroped	Erythromycin
Ketek	Telithromycin
Sumamed	Azithromycin
Telithromycin	Telithromycin
Xithrone	Azithromycin
Zithromax	Azithromycin
Penicillins	
Ampicillin	Ampicillin
Nafcillin	Nafcillin
Oxacillin	Oxacillin
Penicillin G	Penicillin G


SEP-1 I
Blood Culture Collection
Missing
SEP-1 X
= 2
= 1
Blood Culture Collection Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Blood Culture Collection Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Blood Culture Time (in minutes) = Blood Culture Collection Date and Blood Culture Collection Time - Severe Sepsis Presentation Date and Severe Sepsis Presentation Time
Blood Culture Time
< -2880 minutes or > 180 minutes
>= -2880 minutes and <= 180 minutes
Blood Culture Antibiotic Time (in minutes) = Broad Spectrum or Other Antibiotic Administration Date and Broad Spectrum or Other Antibiotic Administration Time - Blood Culture Collection Date and Blood Culture Collection Time
SEP-1 X
Missing
Blood Culture Antibiotic Time
< 0 minutes
Blood Culture Collection Acceptable Delay
= 2
>= 0 minutes
= 1
SEP-1 D
SEP-1 J

Data Element Name: *Blood Culture Collection*

Collected For CMS: SEP-1

Definition: Documentation of the collection of a blood culture.

Suggested Data Collection Question: Was a blood culture collected in the time window 48 hours prior to and 3 hours following the presentation of severe sepsis?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	A blood culture was collected in the time window 48 hours prior to and 3 hours following the presentation of severe sepsis.
2 (No)	A blood culture was not collected in the time window 48 hours prior to and 3 hours following the presentation of severe sepsis or unable to determine.

Notes for Abstraction:

- Use documentation specifying a blood culture was actually drawn or collected. Do not use “Labs Drawn” or similar documentation, as it is not specific to blood culture.
- If a blood culture is ordered and there is an attempt to collect it, but the attempt results in failure to collect the specimen (too dehydrated to get a vein) or the specimen was contaminated during or after the draw, select Value “1.”
- If there is supportive documentation that a blood culture was collected and it is the earliest mention of a blood culture, this date and time can be used, e.g., “BC sent to lab,” “blood culture received time.” Select Value “1.”
- Do not use physician orders to determine a blood culture was collected, as they do not demonstrate collection of the blood culture.
- If the patient was started on antibiotics within 24 hours before presentation of severe sepsis, begin abstraction of a blood culture 24 hours before the first antibiotic dose was given.
- If the patient was not on antibiotics at the time of presentation of severe sepsis, begin abstracting 24 hours prior to the time of presentation of severe sepsis.
- Stop abstracting 3 hours after the presentation of severe sepsis.

Suggested Data Sources:

- Emergency Department record
- History and physical
- Laboratory report
- Microbiology report
- Nursing notes
- Progress notes

Inclusion Guidelines for Abstraction:

- BC
- Blood cultures
- Blood cultures collected

Exclusion Guidelines for Abstraction:

- Blood sent to lab
- Lab here
- Labs drawn

Data Element Name: *Blood Culture Collection Date*

Collected For CMS: SEP-1

Definition: The date on which a blood culture was collected.

Suggested Data Collection Question: What was the date on which a blood culture was collected in the time window 48 hours prior to or 3 hours following the presentation of severe sepsis?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Use documentation specifying a blood culture was actually drawn or collected. Do not use “Labs Drawn” or similar documentation, as it is not specific to blood culture.
- If there is supportive documentation that a blood culture was collected in the time window 48 hours prior to or 3 hours following the presentation of severe sepsis and it is the earliest mention of a blood culture, this date and time can be used, e.g., “BC sent to lab,” “blood culture received time.”
- Do not use physician orders to determine that a blood culture was collected, as they do not demonstrate collection of the blood culture.
- If the patient was started on antibiotics within 24 hours before presentation of severe sepsis, begin abstracting 24 hours prior to the time the first antibiotic dose was given.
- If the patient was not on antibiotics at the time of presentation of severe sepsis, begin abstracting 24 hours prior to the time of presentation of severe sepsis.
- Stop abstracting 3 hours after the presentation of severe sepsis.
- If multiple blood cultures were drawn or attempted, abstract the earliest blood culture drawn or attempted in the time window 48 hours prior to or 3 hours following the presentation of severe sepsis.

Suggested Data Sources:

- Laboratory documentation
- Nursing notes

Inclusion Guidelines for Abstraction:

- Blood culture drawn
- Blood culture to lab
- Blood culture received

Exclusion Guidelines for Abstraction:

- Blood sent to lab
- Lab here
- Labs drawn

Data Element Name: *Blood Culture Collection Time*

Collected For CMS: SEP-1

Definition: The time at which a blood culture was collected.

Suggested Data Collection Question: What was the time at which a blood culture was collected in the time window 48 hours prior to or 3 hours following the presentation of severe sepsis?

Format:

Length: 5 - HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

- Use documentation specifying a blood culture was actually drawn or collected. Do not use “Labs Drawn” or similar documentation, as it is not specific to blood culture.
- If there is supportive documentation that a blood culture was collected in the time window 48 hours prior to or 3 hours following the presentation of severe sepsis and it is the earliest mention of a blood culture, this date and time can be used, e.g., “BC sent to lab,” “blood culture received time.”
- Do not use physician orders to determine that a blood culture was collected, as they do not demonstrate collection of the blood culture.
- If the patient was started on antibiotics within 24 hours before presentation of severe sepsis, begin abstracting 24 hours prior to the time the first antibiotic dose was given.
- If the patient was not on antibiotics at the time of presentation of severe sepsis, begin abstracting 24 hours prior to the time of presentation of severe sepsis.
- Stop abstracting 3 hours after the presentation of severe sepsis.
- If multiple blood cultures were drawn or attempted, abstract the earliest blood culture drawn or attempted in the time window 48 hours prior to or 3 hours following the presentation of severe sepsis.

Suggested Data Sources:

- Laboratory documentation
- Nursing notes

Inclusion Guidelines for Abstraction:

- Blood culture drawn
- Blood culture received
- Blood culture to lab

Exclusion Guidelines for Abstraction:

- Blood sent to lab
- Lab here
- Labs drawn

Data Element Name: *Blood Culture Collection Acceptable Delay*

Collected For CMS: SEP-1

Definition: Documentation supporting there was an acceptable delay in the collection of a blood culture.

Suggested Data Collection Question: Is there documentation supporting an acceptable delay in collecting a blood culture?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	There is documentation supporting an acceptable delay in the collection of a blood culture.
2 (No)	There is no documentation supporting an acceptable delay in the collection of a blood culture.

Notes for Abstraction:

- Only the following situations demonstrate an acceptable delay, resulting in the blood culture being drawn after the *Broad Spectrum or Other Antibiotic Administration Date* and *Time*. If there is an acceptable delay, choose Value "1."
  - Surgical patients who receive a pre-op or post-op prophylactic antibiotic and within 24 hours of that antibiotic dose develop severe sepsis and then have a blood culture drawn.
  - Within 24 hours prior to severe sepsis presentation, antibiotics were started in the hospital for an infection before severe sepsis was identified as present or suspected and a blood culture was drawn after the initial antibiotic dose.
  - Within 24 hours prior to severe sepsis presentation antibiotics were started prior to arrival to the hospital and a blood culture was drawn after arrival to the hospital.
  - A physician/APN/PA documented reason for the delay, such as waiting to start the antibiotic or to draw the blood culture could cause a delay which would be detrimental to the patient.
  - Obstetric patients given prophylactic antibiotics for ruptured membranes, group B strep, or prior to a caesarean section.
- If there is no documentation supporting an acceptable delay in the collection of a blood culture, choose Value "2."

Suggested Data Sources:

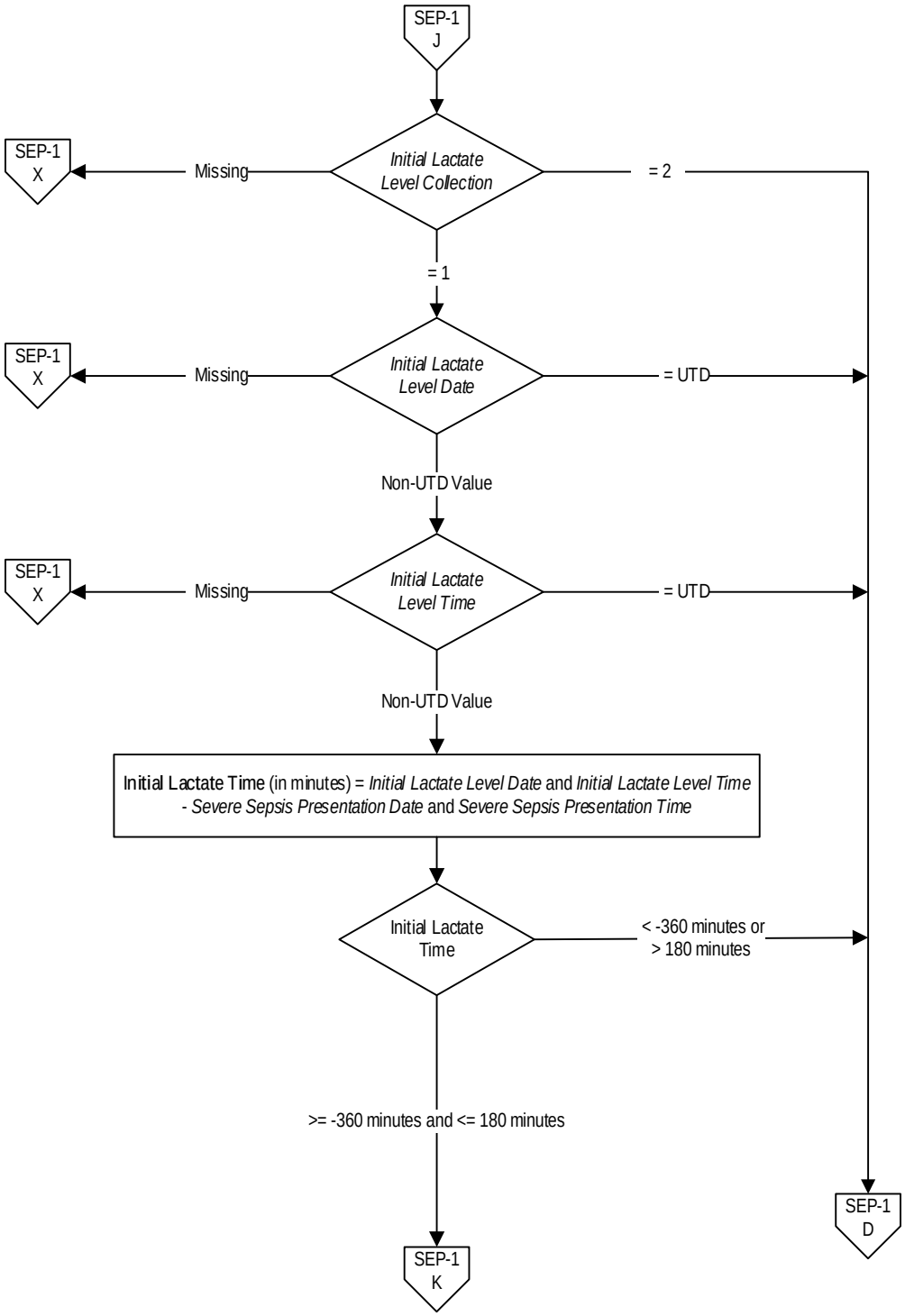
- Emergency Department record
- History and physical
- Laboratory report
- Medication Administration Records
- Microbiology report
- Nursing notes
- Progress notes

Inclusion Guidelines for Abstraction:

None

Exclusion Guidelines for Abstraction:

None


SEP-1 J
Initial Lactate Level Collection
Missing
SEP-1 X
= 2
= 1
Initial Lactate Level Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Initial Lactate Level Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Initial Lactate Time (in minutes) = Initial Lactate Level Date and Initial Lactate Level Time - Severe Sepsis Presentation Date and Severe Sepsis Presentation Time
Initial Lactate Time
< -360 minutes or > 180 minutes
>= -360 minutes and <= 180 minutes
SEP-1 K
SEP-1 D

Data Element Name: *Initial Lactate Level Collection*

Collected For CMS: SEP-1

Definition: Documentation of collection of an initial lactate level between 6 hours prior to and 3 hours following the presentation of severe sepsis.

Suggested Data Collection Question: Was an initial lactate level drawn between 6 hours prior to and 3 hours following the presentation of severe sepsis?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	An initial lactate level was drawn in the time window between 6 hours prior to and 3 hours following the presentation of severe sepsis.
2 (No)	An initial lactate level was not drawn in the time window between 6 hours prior to and 3 hours following the presentation of severe sepsis, or unable to determine.

Notes for Abstraction:

- If there are multiple lactate levels, only abstract the level drawn closest to the time of presentation of severe sepsis. If there is a lactate level both before and after presentation of severe sepsis that are the same time apart, use the level prior to presentation. That lactate level is the initial lactate level for purposes of this data element.
- If there is physician/APN/PA or nursing documentation that a lactate value is invalid, erroneous or questionable, disregard that value.
- Use documentation specifying a lactate was actually drawn or collected. Do not use documentation such as “Labs Drawn” as it is not specific for lactate level.
- Do not use a physician order for lactate levels as it does not specify that lactate level was drawn; however, you may use a physician order that has a notation “drawn” or “collected” next to it.
- If a lactate level is ordered and there is an attempt to collect it, but the attempt results in failure to collect the specimen (too dehydrated to get a vein) or the specimen was contaminated during or after the draw, select Value “1.”
- If a lactate level is drawn but there are no results in the record, choose Value “1.”
- If there is no documentation indicating a lactate was drawn or collected, but there is supportive documentation that a lactate was drawn, use the earliest supportive documentation (e.g., lactate sent to lab, lactate received, lactate result).

Suggested Data Sources:

- Laboratory Reports
- Nursing Notes
- Physician/APN/PA notes or orders

Inclusion Guidelines for Abstraction:

- Lactate drawn
- Lactate level collected
- Lactic acid drawn

Exclusion Guidelines for Abstraction:

Labs drawn

Data Element Name: *Initial Lactate Level Date*

Collected For CMS: SEP-1

Definition: The date on which the initial lactate level was drawn.

Suggested Data Collection Question: What was the date on which the initial lactate level was drawn?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- If there are multiple lactate levels, only abstract the level drawn closest to the time of presentation of severe sepsis. If there is a lactate level both before and after presentation of severe sepsis that are the same time apart, use the level prior to presentation. That lactate level is the initial lactate level for purposes of this data element.
- Use documentation specifying the date a lactate was actually drawn or collected. Do not use documentation such as “Labs Drawn” as it is not specific for lactate level.
- Do not use a physician order for lactate levels as it does not specify that lactate level was drawn or reported, unless there is a notation of “drawn” or “collected” next to the order, including a date.
- If there is not a lactate draw or collected date documented, but there is supportive documentation that a lactate was drawn, use the date of the earliest supportive documentation (e.g., lactate sent to lab, lactate received date, lactate result date).
- If a lactate level is ordered and there is an attempt to collect it, but the attempt results in failure to collect the specimen (too dehydrated to get a vein) or the specimen was contaminated during or after the draw, use the date of attempted lactate level collection.

Suggested Data Sources:

- Laboratory Reports
- Nursing Notes
- Physician/APN/PA notes or orders

Inclusion Guidelines for Abstraction:

- Lactate level collected
- Lactate level drawn
- Lactic acid drawn

Exclusion Guidelines for Abstraction:

Labs drawn

Data Element Name: *Initial Lactate Level Time*

Collected For CMS: SEP-1

Definition: The time at which the initial lactate level was drawn.

Suggested Data Collection Question: What was the time at which the initial lactate level was drawn?

Format:

Length: 5 - HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

- If there are multiple lactate levels, only abstract the level drawn closest to the time of presentation of severe sepsis. If there is a lactate level both before and after presentation of severe sepsis that are the same time apart, use the level prior to presentation. That lactate level is the initial lactate level for purposes of this data element.
- Use documentation specifying the time a lactate was actually drawn or collected. Do not use documentation such as “Labs Drawn” as it is not specific for lactate level.
- Do not use a physician order for lactate levels as it does not specify that lactate level was drawn, unless there is a notation next to the lactate level order indicating it was drawn or collected, with a time noted.
- If there is not a lactate draw or collected time documented, but there is supportive documentation that a lactate was drawn, use the time of the earliest supportive documentation (e.g., lactate sent to lab, lactate received time, lactate result time).
- If a lactate level is ordered and there is an attempt to collect it, but the attempt results in failure to collect the specimen (too dehydrated to get a vein) or the specimen was contaminated during or after the draw, use the time of attempted lactate level collection.

Suggested Data Sources:

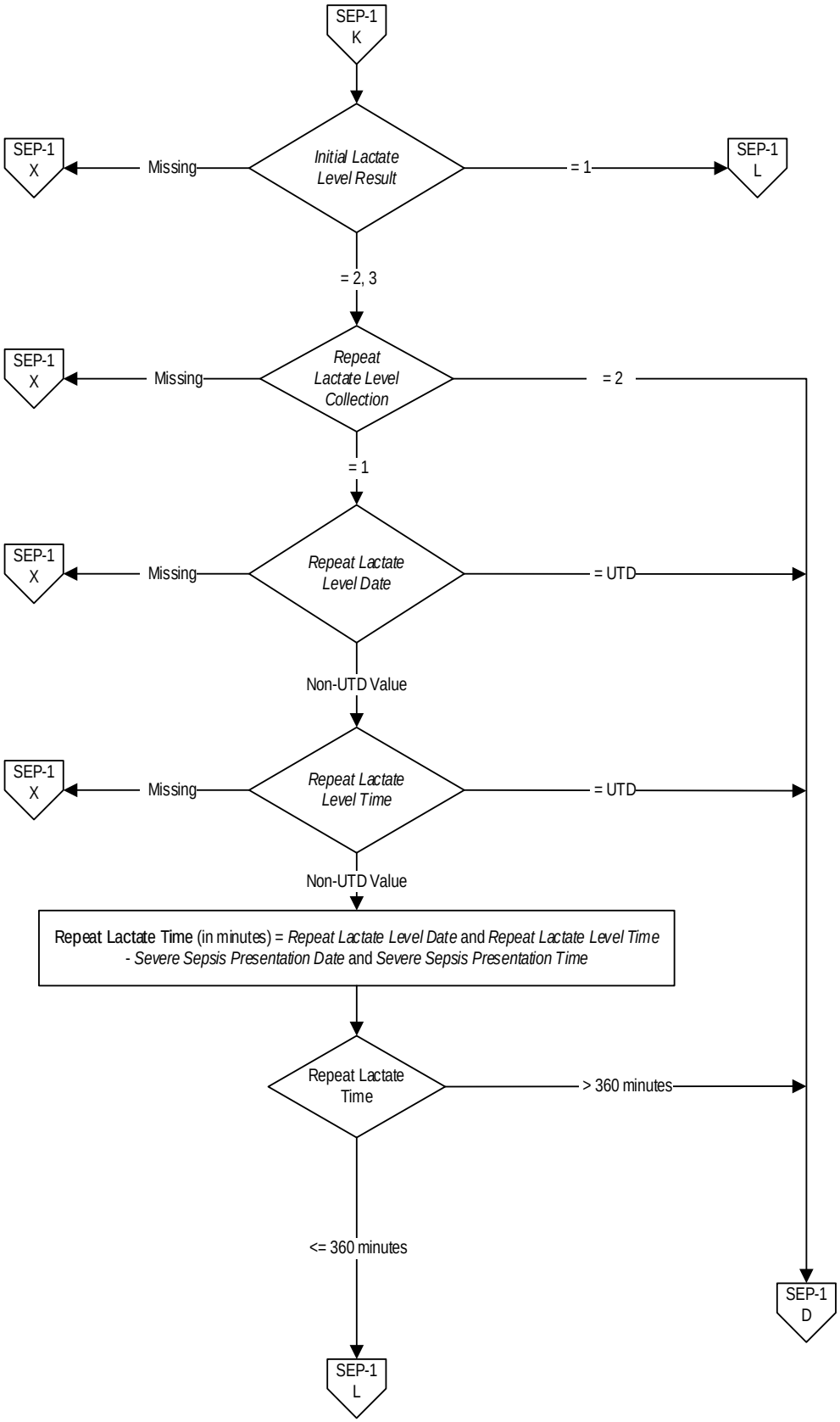
- Laboratory Reports
- Nursing Notes
- Physician/APN/PA notes or orders

Inclusion Guidelines for Abstraction:

- Lactate level collected
- Lactate level drawn
- Lactic acid drawn

Exclusion Guidelines for Abstraction:

Labs drawn


SEP-1 K
Initial Lactate Level Result
Missing
SEP-1 X
= 1
SEP-1 L
= 2, 3
Repeat Lactate Level Collection
Missing
SEP-1 X
= 2
= 1
Repeat Lactate Level Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Repeat Lactate Level Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Repeat Lactate Time (in minutes) = Repeat Lactate Level Date and Repeat Lactate Level Time - Severe Sepsis Presentation Date and Severe Sepsis Presentation Time
Repeat Lactate Time
> 360 minutes
<= 360 minutes
SEP-1 D
SEP-1 L

Data Element Name: *Initial Lactate Level Result*

Collected For CMS: SEP-1

Definition: Documentation of the initial lactate level result.

Suggested Data Collection Question: What was the initial lactate level result?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (<=2)	The initial lactate level was less than or equal to 2 mmol/L, or there is no result in the chart, or unable to determine the result.
2 (>2 and <4.0)	The initial lactate level was greater than 2 mmol/L and less than 4 mmol/L.
3 (>=4)	The initial lactate level was 4 mmol/L or more.

Notes for Abstraction:

- Lactate levels may be reported as mmol/L or mg/dL. Use the following to cross reference mmol/L and mg/dL equivalents.
  - 2 mmol/L is equivalent to 18 mg/dL
  - 4 mmol/L is equivalent to 36 mg/dL
- Use the result for the initial lactate level drawn in the data element *Initial Lactate Level Collection*.
- If there was an initial lactate level collected but there is no result or the result cannot be determined, choose Value “1.”
- If point of care (POC) results and laboratory results are obtained from the same sample, use the results that are recorded first.
- If there is physician/APN/PA documentation prior to or within 24 hours after the initial lactate level result that indicates the initial lactate value is due to a condition that is not an infection, or is due to a medication, select Value “1.”

Suggested Data Sources:

- Laboratory results
- Physician/APN/PA notes

Inclusion Guidelines for Abstraction:

- Lactate results
- Lactic acid results

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Repeat Lactate Level Collection*

Collected For CMS: SEP-1

Definition: Documentation of obtaining a repeat lactate level in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter. A repeat lactate level is the level drawn following the initial level.

Suggested Data Collection Question: Was a repeat lactate level drawn in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	A repeat lactate level was drawn in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter.
2 (No)	A repeat lactate level was not drawn in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter, or unable to determine.

Notes for Abstraction:

- A repeat lactate level is the next lactate level drawn after the initial lactate level if the initial lactate is elevated (>2.0 mmol/L). This repeat level must be drawn in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter to choose Value “1.”
- If a repeat lactate level was drawn but not in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter, choose Value “2.”
- Do not use documentation such as “Labs Drawn” as it is not specific for lactate level. Similarly, do not use a physician order for lactate levels as it does not specify that lactate level was drawn, unless there is a notation next to the order that it was drawn or collected.
- If there is no documentation indicating a repeat lactate was drawn or collected, it is acceptable to use supporting documentation indicating that a repeat lactate was drawn (e.g., lactate sent to lab, lactate received, lactate result). If there are multiple instances of supporting documentation, use the earliest.
- If a repeat lactate level is ordered and there is an attempt to collect it, but the attempt results in failure to collect the specimen (too dehydrated to get a vein) or the specimen was contaminated during or after the draw, select Value “1.”

Suggested Data Sources:

- Laboratory Reports
- Nursing Notes
- Physician/APN/PA notes or orders

Inclusion Guidelines for Abstraction:

- Lactate drawn
- Lactate level collected
- Lactic acid drawn

Exclusion Guidelines for Abstraction:

Labs drawn

Data Element Name: *Repeat Lactate Level Date*

Collected For CMS: SEP-1

Definition: The date on which the repeat lactate level was drawn in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter.

Suggested Data Collection Question: What was the earliest date on which the repeat lactate level was drawn in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- A repeat lactate level is the next lactate level drawn after the initial lactate level if the initial lactate is elevated (>2.0 mmol/L). This repeat level must be drawn in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter.
- Do not use documentation such as “Labs Drawn” as it is not specific for lactate level. Similarly, do not use a physician order for lactate levels as it does not specify that lactate level was drawn, unless there is a notation next to the order that it was drawn or collected and there is a date noted.
- If there is no documentation indicating a repeat lactate was drawn or collected, it is acceptable to use supporting documentation indicating that a repeat lactate was drawn (e.g., lactate sent to lab, lactate received, lactate result). If there are multiple instances of supporting documentation, use the earliest.
- If a repeat lactate level is ordered and there is an attempt to collect it, but the attempt results in failure to collect the specimen (too dehydrated to get a vein) or the specimen was contaminated during or after the draw, enter the date of the attempted lactate collection.

Suggested Data Sources:

- Laboratory Reports
- Nursing Notes
- Physician/APN/PA notes or orders

Inclusion Guidelines for Abstraction:

- Lactate level collected
- Lactate level drawn
- Lactic acid drawn

Exclusion Guidelines for Abstraction:

- Labs drawn
- Labs reported

Data Element Name: *Repeat Lactate Level Time*

Collected For CMS: SEP-1

Definition: The earliest time at which a repeat lactate level was drawn in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter.

Suggested Data Collection Question: What was the earliest time at which a repeat lactate level was drawn in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter?

Format:

Length: 5 - HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

- A repeat lactate level is the next lactate level drawn after the initial lactate level if the initial lactate is elevated (>2.0 mmol/L). This repeat level must be drawn in the time window beginning at severe sepsis presentation date and time and ending 6 hours thereafter.
- Do not use documentation such as “Labs Drawn” as it is not specific for lactate level. Similarly, do not use a physician order for lactate levels as it does not specify that lactate level was drawn, unless there is a notation next to the order that it was drawn or collected and there is a time noted.
- If there is no documentation indicating a repeat lactate was drawn or collected, it is acceptable to use supporting documentation indicating that a repeat lactate was drawn (e.g., lactate sent to lab, lactate received, lactate result). If there are multiple instances of supporting documentation, use the earliest.
- If a repeat lactate level is ordered and there is an attempt to collect it, but the attempt results in failure to collect the specimen (too dehydrated to get a vein) or the specimen was contaminated during or after the draw, enter the time of the attempted lactate collection.

Suggested Data Sources:

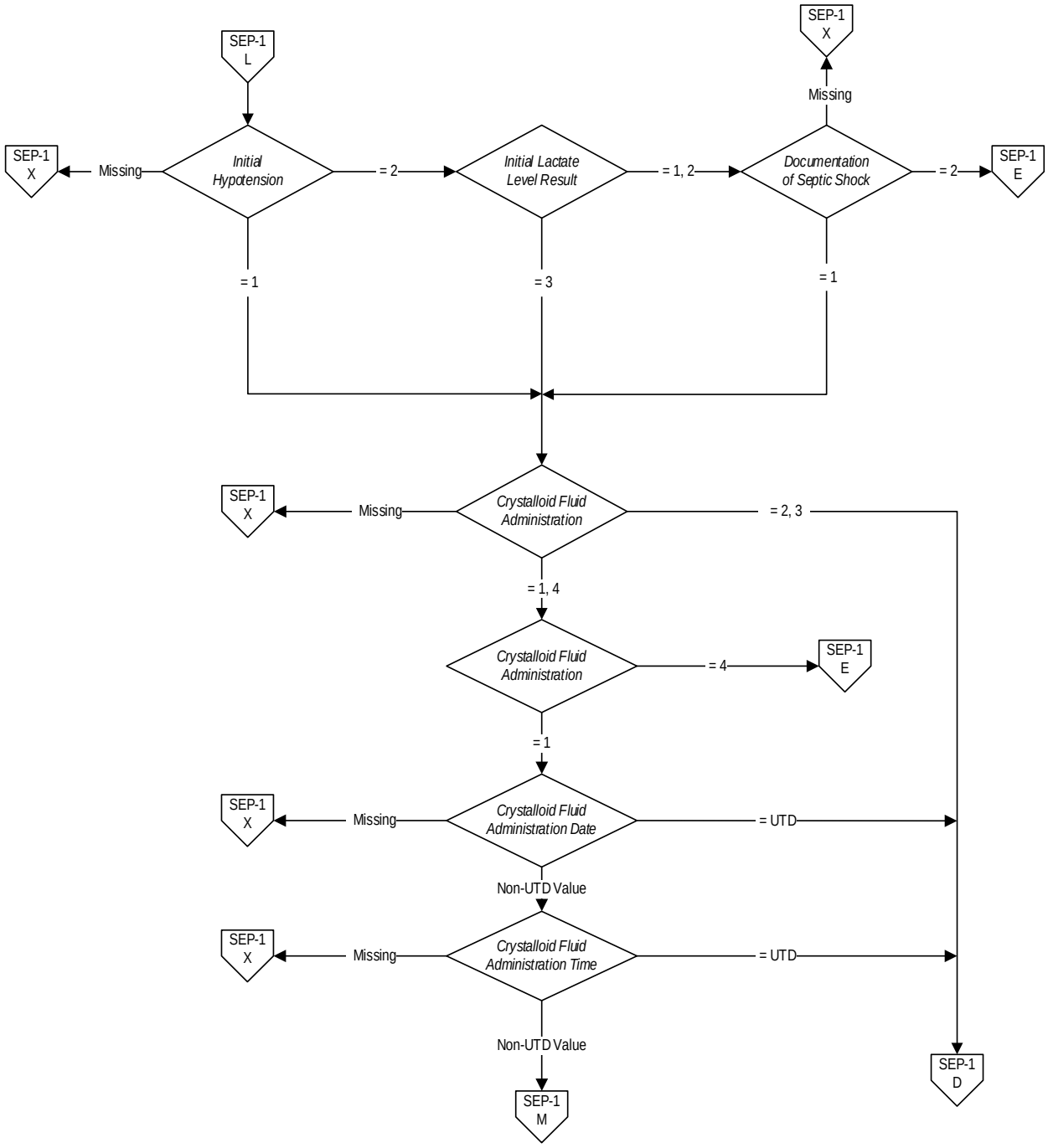
- Laboratory Reports
- Nursing Notes
- Physician/APN/PA notes or orders

Inclusion Guidelines for Abstraction:

- Lactate level collected
- Lactate level drawn
- Lactic acid drawn

Exclusion Guidelines for Abstraction:

- Labs drawn
- Labs reported


SEP-1 L
Initial Hypotension
Missing
SEP-1 X
= 2
Initial Lactate Level Result
= 1, 2
Documentation of Septic Shock
Missing
SEP-1 X
= 2
SEP-1 E
= 1
= 3
= 1
Crystalloid Fluid Administration
Missing
SEP-1 X
= 2, 3
= 1, 4
Crystalloid Fluid Administration
= 4
SEP-1 E
= 1
Crystalloid Fluid Administration Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Crystalloid Fluid Administration Time
Missing
SEP-1 X
= UTD
Non-UTD Value
SEP-1 M
SEP-1 D

Data Element Name: *Initial Hypotension*

Collected For CMS: SEP-1

Definition: Documentation of the presence of initial hypotension 6 hours prior to or within 6 hours following *Severe Sepsis Presentation Date and Time* and prior to the completion of the target ordered volume (30 mL/kg or up to10% less than 30 mL/kg) of crystalloid fluids.

Suggested Data Collection Question: Was initial hypotension present 6 hours prior to or within 6 hours following *Severe Sepsis Presentation Date and Time*?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes) Initial Hypotension was present 6 hours prior to or within 6 hours following Severe Sepsis presentation.

2 (No) Initial Hypotension was not present 6 hours prior to or within 6 hours following Severe Sepsis presentation or unable to determine from medical record documentation.

Notes for Abstraction:

- The criteria for determining that Initial Hypotension was present are as follows:
  - Either 6 hours prior to or within 6 hours following Severe Sepsis presentation of two low blood pressure readings from different measurements of either:
    - systolic blood pressures <90, or
    - mean arterial pressures (MAP) <65 or
    - a decrease in systolic blood pressure by >40 mm/Hg. Physician/APN/PA documentation must be present in the medical record indicating a >40 mmHg decrease in SBP has occurred and is related to infection or severe sepsis and not other causes.
- If there is physician/APN/PA documentation prior to or within 24 hours after *Severe Sepsis Presentation Time* indicating hypotension or low blood pressure (SBP <90 mmHg or MAP <65 mmHg) is due to the following, it should not be used. Inferences should not be made.
  - It is required that the same physician/APN/PA documentation must also include either the abnormal value or reference the abnormal value.
    - Normal for that patient
    - Is due to a chronic condition
    - Is due to a medication

- If there is physician/APN/PA documentation prior to or within 24 hours after *Severe Sepsis Presentation Time* indicating hypotension or low blood pressure (SBP <90 mmHg or MAP <65 mmHg) is due to the following, the criteria value should be used.
  - Acute condition
  - Acute injury on a chronic condition

    Example:

    Hypotension due to acute exacerbation on chronic heart failure.
- If there is physician/APN/PA documentation prior to or within 24 hours of *Severe Sepsis Presentation Time* indicating the acute condition is due to a non-infectious source/process, it should not be used (Refer to *Severe Sepsis Present* to determine if a condition is an infection).

  Examples:
  - Hypotension due to acute blood loss secondary to trauma.
  - Hypotension due to acute exacerbation on chronic heart failure due to worsening heart failure.
- Initial hypotension is hypotension that is present prior to the target ordered volume of crystalloid fluids being completely infused.
- If hypotension was present within 6 hours prior to or within 6 hours following *Severe Sepsis Presentation Date and Time*, select Value "1."
- If hypotension was not present within 6 hours prior to or within 6 hours following *Severe Sepsis Presentation Date and Time*, select Value "2."
- If there is physician/APN/PA or nursing documentation indicating a low blood pressure reading is invalid, erroneous or questionable, disregard that reading when determining the presence of initial hypotension.
- Blood pressure readings documented in the operating room (OR) should not be used.
- Do not use low BPs documented from an orthostatic BP evaluation.
- If there is physician/APN/PA documentation indicating the patient does not have hypotension and it is referencing a specific time period in which there was one or more low blood pressure(s) recorded, the low blood pressure value(s) should not be used. The documentation must be within 24 hours following the low blood pressure value(s).

Suggested Data Sources:
- Entire ED record
- Nurses notes
- Physician/APN/PA notes
- Vital signs record or flow sheet

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Initial Lactate Level Result*

Collected For CMS: SEP-1

Definition: Documentation of the initial lactate level result.

Suggested Data Collection Question: What was the initial lactate level result?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (<=2)	The initial lactate level was less than or equal to 2 mmol/L, or there is no result in the chart, or unable to determine the result.
2 (>2 and <4.0)	The initial lactate level was greater than 2 mmol/L and less than 4 mmol/L.
3 (>=4)	The initial lactate level was 4 mmol/L or more.

Notes for Abstraction:

- Lactate levels may be reported as mmol/L or mg/dL. Use the following to cross reference mmol/L and mg/dL equivalents.
  - 2 mmol/L is equivalent to 18 mg/dL
  - 4 mmol/L is equivalent to 36 mg/dL
- Use the result for the initial lactate level drawn in the data element *Initial Lactate Level Collection*.
- If there was an initial lactate level collected but there is no result or the result cannot be determined, choose Value “1.”
- If point of care (POC) results and laboratory results are obtained from the same sample, use the results that are recorded first.
- If there is physician/APN/PA documentation prior to or within 24 hours after the initial lactate level result that indicates the initial lactate value is due to a condition that is not an infection, or is due to a medication, select Value “1.”

Suggested Data Sources:

- Laboratory results
- Physician/APN/PA notes

Inclusion Guidelines for Abstraction:

- Lactate results
- Lactic acid results

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Documentation of Septic Shock*

Collected For CMS: SEP-1

Definition: Physician/APN/PA documentation of septic shock within 6 hours following the presentation of severe sepsis.

Suggested Data Collection Question: Was physician/APN/PA documentation of septic shock within 6 hours following the presentation of severe sepsis present in the medical record?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	There was physician/APN/PA documentation of septic shock within 6 hours of *Severe Sepsis Presentation Date and Time*.
2 (No)	There was not physician/APN/PA documentation of septic shock within 6 hours of *Severe Sepsis Presentation Date and Time*.

Notes for Abstraction:

- If there was physician/APN/PA documentation of confirmed, suspected, or possible septic shock within 6 hours of *Severe Sepsis Presentation Date and Time*, select Value “1.”
- If there was not physician/APN/PA documentation of confirmed, suspected, or possible septic shock within 6 hours of *Severe Sepsis Presentation Date and Time*, select Value “2.”
- If there is physician/APN/PA documentation of septic shock and within 6 hours there is conflicting physician/APN/PA documentation indicating the patient does not have septic shock, choose Value “2.”

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Physician/APN/PA orders
- Progress notes

Inclusion Guidelines for Abstraction:

- Differential Diagnosis: Septic Shock
- Possible septic shock
- Septic shock
- Severe sepsis with shock
- Suspected septic shock

Exclusion Guidelines for Abstraction:

- Bacteremia
- Possibly septic
- Sepsis
- Septic
- Septicemia
- Shock (not referenced as related to severe sepsis or septic shock)

Data Element Name: *Crystalloid Fluid Administration*

Collected For CMS: SEP-1

Definition: Documentation of initiation of crystalloid fluids prior to, at the time of, or after the presentation of *Initial Hypotension*, *Initial Lactate Level Result* >=4 mmol/L, or physician/APN/PA *Documentation of Septic Shock*.

Suggested Data Collection Question: Were crystalloid fluids inititated prior to, at the time of, or after the presentation of *Initial Hypotension*, *Initial Lactate Level Result* >=4 mmol/L, or physician/APN/PA *Documentation of Septic Shock*?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes) Target ordered volume of crystalloid fluids were ordered, initiated, and infused prior to, at the time of, or after the presentation of *Initial Hypotension*, *Initial Lactate Level Result* >=4 mmol/L, or *Documentation of Septic Shock*.

2 (No) Less than the target ordered volume of crystalloid fluids were ordered, initiated, or infused prior to, at the time of, or after the presentation of *Initial Hypotension*, *Initial Lactate Level Result* >=4 mmol/L, or *Documentation of Septic Shock*, or unable to determine volume ordered.

3 (No) Crystalloid fluids were not initiated prior to, at the time of, or after the presentation of *Initial Hypotension*, *Initial Lactate Level Result* >=4 mmol/L, or *Documentation of Septic Shock*, or unable to determine whether or not they were administered.

4 (No) There is documentation the patient has an implanted Ventricular Assist Device (VAD) or documentation of the patient or authorized patient advocate refusal of IV fluids.

Notes for Abstraction:

- Crystalloid fluid volumes ordered that are equivalent to 30 mL/kg or within 10% less than 30 mL/kg are considered the target ordered volume.
- Crystalloid fluid volumes ordered that are within 10% lower than the 30 mL/kg total volume calculated by weight are acceptable.

  Example:
  2000 mL of normal saline was ordered and initiated in the ED. The patient's weight is not available or documented at the time of the order. After admission to critical care a weight is obtained of 74 kg. Based on this weight 30 mL/kg is 2220 mL. The 2000 mL ordered is within 10% lower of 2220 mL (2220 mL – 222 mL = 1998 mL) and is an acceptable volume.

- Acceptable fluids are crystalloid or balanced crystalloid solutions.
- Crystalloid fluid volumes to which the following electrolytes have been added may be counted toward the target ordered volume requirement: potassium, magnesium, calcium, lactate, acetate, or gluconate.
- Only abstract fluids administered through the intravenous or intraosseous route.
- Only abstract crystalloid fluids started for the presence of *Initial Hypotension,* OR for the presence of an *Initial Lactate Level Result* >=4 mmol/L, OR physician/APN/PA *Documentation of Septic Shock*.
- Do not abstract crystalloid fluids started more than 6 hours prior to the presence of an *Initial Lactate Level Result* >=4 mmol/L or physician/APN/PA *Documentation of Septic Shock*.
- For the presence of *Initial Hypotension*, only abstract crystalloid fluids that were started in the timeframe of 6 hours prior through 3 hours after the initial hypotension.
  - A single order for the target ordered volume initiated within 6 hours prior through 3 hours after initial hypotension is acceptable.
  - If crystalloid fluids are initiated via multiple physician/APN/PA orders, only abstract crystalloid fluids initiated within 6 hours prior through 3 hours after.
- To determine the target ordered volume:
  - Use the patient weight in kilograms (kg) if documented.
  - If not documented, divide the weight in pounds by 2.2; that yields the weight in kg. Round the weight to the nearest whole number.
  - Multiply the weight in kg by 30; the result is the number of mL of IV fluid that should be specified in the physician/APN/PA order(s).

    Examples:
    - Patient weight is 160 pounds. 160/2.2 = 72.72 kg. Round to 73 kg. 73 x 30 = 2190 (mL). Physician order is “Infuse 2400 mL 0.9% Normal Saline over the next two hours.” This is acceptable because 2400 mL is greater than 2190.
    - Patient weight is 160 pounds. 160/2.2 = 72.72 kg. Round to 73 kg. 73 x 30 = 2190 (mL). Physician order is “Give 1000 mL Lactated Ringers over the next 4 hours.” This is not acceptable because 1000 mL is less than 2190.
- Use the weight documented closest to and prior to the order for crystalloid fluids. If a weight is not documented prior to the crystalloid fluid order, use the weight recorded closest to and after the crystalloid fluid order.
- Use the patient’s actual weight. Use estimated weight only if actual weight is not available to determine the volume of crystalloid fluids the patient should receive. Do not use ideal weight unless indicated by the physician/APN/PA.
- If there is physician/APN/PA documentation identifying the patient has obesity (defined as a Body Mass Index >30), the clinician may choose to use Ideal Body Weight (IBW) to determine the target ordered crystalloid fluid volume. If the clinician prefers to use IBW, it must be documented clearly and the clinician must indicate that IBW will be the weight used to determine the target ordered volume.
- Documentation of fluid initiation:
  - Medical record documentation must be clear that crystalloid fluids were actually initiated (i.e., date and time of administration is noted).

- Do not use physician/APN/PA orders as equivalent to actual initiation of fluids as they are not specific to initiation.

- Crystalloid fluid orders:
  - Physician/APN/PA orders are required for the fluids.
  - The order must include the type of fluid, the volume of fluid, and a rate or time over which the fluids are to be given.
  - The terms bolus, wide-open, or open are acceptable for a rate or infusion duration.
  - If the type of fluid, volume of fluid, rate or infusion duration is missing, do not use the order toward the target ordered volume.
  - The target ordered volume may be in a single order or a series of multiple orders.
- If the total volume of crystalloid fluids ordered is less than the target ordered volume, select Value "2."
- ***Exception for Prior to Arrival:*** Documentation of crystalloid fluids administered prior to arrival to the hospital (e.g., ambulance, nursing home) that are part of the medical record are acceptable if the documentation of fluid administration contains the type, volume, start time, and either a rate, duration, or end time of the fluid infusion. A physician/APN/PA order for fluids administered prior to arrival is not required.
- ***Exception for Operating Room (OR):*** Crystalloid fluids administered in the OR by a physician/APN/PA are acceptable without an order if a fluid type, an infusion start time, and an infusion rate or infusion end time is documented.
- To determine if the target ordered volume was completely infused, one of the following must be documented (written in the order or documented by nursing):
  - An infusion rate
  - Infusion duration or time over which to infuse
  - Infusion end or completion time

    Examples:
    - Order for 1500 mL (30 mL/kg) of normal saline over 1 hour started at 08:00. There is no infusion end time documented, and no documentation indicating the 1500 mL was not infused. The infusion end time can be determined based on the duration in the order. Select Value "1."
    - Order for 1000 mL (30 mL/kg) normal saline bolus started at 09:30. The nurse documented an infusion rate of 1000 mL/hour. There is no fluid bolus end time documented, and no documentation indicating the 1000 mL was not infused. The infusion end time can be determined based on the rate. Select Value "1."
    - Order for 2000 mL (30 mL/kg) normal saline bolus started at 08:30. There is no infusion rate documented and no fluid bolus end time documented. An infusion end time cannot be determined. Choose Value "2."
- If an infusion rate, duration, or time over which the IV fluids are to be given is not written in the order or not documented by nursing OR a fluid bolus completed time or end time is not documented, do not use the fluids toward the target ordered volume.

- If an ordered rate or duration time frame to infuse fluids and the rate or duration time frame the fluids were actually administered over are different, use the rate or duration time the fluids were actually administered over.
- If crystalloid fluids are only given at 125 mL/hour or less, at a maintenance rate or at a "Keep Vein Open" (KVO) rate, choose Value "2."
- Only those crystalloid fluids given at a rate greater than 125 mL/hour should be used towards the target ordered volume.
- If there is documentation the infusion was stopped prior to reaching the target ordered volume, select Value "2."
- If there is documentation that the patient has an implanted ventricular assist device (VAD) prior to or at the time of identifying need for crystalloid fluids, choose Value "4" regardless of the volume and rate of crystalloid fluids ordered.
- Physician/APN/PA or nursing documentation indicating patient or authorized patient advocate has refused IV fluid administration prior to or within 6 hours following presentation of septic shock can be used to select Value "4."

Suggested Data Sources:
- Ambulance or transport vehicle records
- Entire ED record
- Input and Output (I&O) flowsheet
- IV therapy record
- Medication Administration Record
- Patient weight record
- Physician/APN/PA orders

Inclusion Guidelines for Abstraction:
- 0.9% saline solution
- 0.9% Sodium Chloride Solution
- Isolyte
- Lactated Ringers Solution
- normal saline
- Normosol
- PlasmaLyte

Exclusion Guidelines for Abstraction:
Crystalloid solutions that are given to flush other medications or IV lines

Data Element Name: *Crystalloid Fluid Administration Date*

Collected For CMS: SEP-1

Definition: The earliest date on which crystalloid fluids were initiated for *Initial Hypotension*, *Initial Lactate Level Result* >=4 mmol/L, or physician/APN/PA *Documentation of Septic Shock*.

Suggested Data Collection Question: What was the earliest date on which crystalloid fluids were initiated for *Initial Hypotension, Initial Lactate Level Result* >=4 mmol/L, or physician/APN/PA *Documentation of Septic Shock*?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Crystalloid fluid volumes ordered that are equivalent to 30 mL/kg or within 10% less than 30 mL/kg are considered the target ordered volume.
- If a single order is written for the target ordered volume, use the date the crystalloid solution was started as an IV infusion.
- If a single order is written for the target ordered volume and the infusion is given over multiple infusions, use the start date of the first crystalloid fluid infusion.
- If multiple orders are written that total the target ordered volume, use the start date of the crystalloid fluid infusion that completes the target ordered volume.
- If a crystalloid infusion is running at a maintenance rate (125 mL/hour or less) and the rate is increased to administer the target ordered volume, use the date the infusion rate is increased.
- In some cases, the crystalloid fluid will be infusing prior to the time of presentation of *Initial Hypotension*, an *Initial Lactate Level Result* >=4 mmol/L, or physician/APN/PA *Documentation of Septic Shock*; if so, use the date the unit of fluid was started or hung.

  Examples:

  - Initial hypotension was present on 07-12-20xx at 14:00. Prior to the initial hypotension, one liter of Lactated Ringers had been hung at 13:00 on 07-12-20xx. The *Crystalloid Fluid Administration Date* was 07-12-20xx.
  - An initial lactate of 4.5 was drawn on 07-12-20xx at 14:00. Normal Saline was started on 07-12-20xx at 12:00 – there was no fluid infusing at the date and time the initial lactate was drawn. The *Crystalloid Fluid Administration Date* was 07-12-20xx.
  - Persistent hypotension was present on 08-15-20xx at 01:00. The patient needs to receive 3000 mL (30 mL/kg). An order for 3000 mL

of 0.9% Normal Saline over 2 hours is written. The total volume is given as 3 separate infusions of 1000 mL each. The first of the three infusions is started on 08-14-20xx at 22:00. The C*rystalloid Fluid Administration Date* was 08-14-20xx.

  - Septic shock presentation date and time was 08-15-20xx at 01:00. The patient needs to receive 3000 mL (30 mL/kg). An order for 1000 mL of 0.9% Normal Saline over 60 minutes is written and started on 08-14-20xx at 22:00. An order for another 1000 mL of Normal Saline is written and started on 08-14-20xx at 23:15. A third order for 1000 mL of Normal Saline is written and started on 08-15-20xx at 00:30. The *Crystalloid Fluid Administration Date* was 08-15-20xx.

- Do not abstract the date that fluids were ordered or the date that IV access was started. Abstract the date that the crystalloid fluid infusion began.
- Do not use physician orders as fluid administration start date and time; use the date and time that the fluid infusion was initiated.
- Documentation of crystalloid fluids administered prior to arrival to the hospital (e.g., ambulance, nursing home) that are part of the medical record are acceptable if the documentation of fluid administration contains the type, volume, start time, and rate, duration, or end time of the fluid infusion. A physician/APN/PA order for fluids administered prior to arrival is not required.

Suggested Data Sources:

- Ambulance or transport vehicle records
- Entire ED record
- IV therapy records or flow sheet
- Medication Administration Record

Inclusion Guidelines for Abstraction:

None

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Crystalloid Fluid Administration Time*

Collected For CMS: SEP-1

Definition: The earliest time at which crystalloid fluids were initiated for *Initial Hypotension, Initial Lactate Level Result* >=4 mmol/L, or physician/APN/PA *Documentation of Septic Shock*.

Suggested Data Collection Question: What was the earliest time at which crystalloid fluids were initiated for *Initial Hypotension, Initial Lactate Level Result* >=4 mmol/L, or physician/APN/PA *Documentation of Septic Shock*?

Format:

Length: 5 - HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

- Crystalloid fluid volumes ordered that are equivalent to 30 mL/kg or within 10% less than 30 mL/kg are considered the target ordered volume.
- If a single order is written for the target ordered volume, use the time the crystalloid solution was started as an IV infusion.
- If a single order is written for the target ordered volume and the infusion is given over multiple infusions, use the start time of the first crystalloid fluid infusion.
- If multiple orders are written that total the target ordered volume, use the start time of the crystalloid fluid infusion that completes the target ordered volume.
- If a crystalloid infusion is running at a maintenance rate (125 mL/ hour or less) and the rate is increased to administer the target ordered volume, use the time the infusion rate is increased.
- In some cases, the crystalloid fluid will be infusing prior to the time of presentation of *Initial Hypotension*, an *Initial Lactate Level Result* >=4 mmol/L, or physician/APN/PA *Documentation of Septic Shock*; if so, use the time the unit of fluid was started or hung.

Examples:

- Initial hypotension was present on 07-12-20xx at 14:00. Prior to the initial hypotension, one liter of Lactated Ringers had been hung at 13:00 on 07-12-20xx. The *Crystalloid Fluid Administration Time* was 13:00.
- An initial lactate of 4.5 was drawn on 07-12-20xx at 14:00. Normal Saline was started on 07-12-20xx at 12:00 – there was no fluid infusing at the date and time the initial lactate was drawn. The *Crystalloid Fluid Administration Time* was 12:00.
- Persistent hypotension was present on 08-15-20xx at 01:00. The patient needs to receive 3000 mL (30 mL/kg). An order for 3000 mL of 0.9% Normal Saline over 2 hours is written. The total volume is given as 3 separate infusions of 1000 mL each. The first of the three infusions was started on 08-14-20xx at 22:00. The *Crystalloid Fluid Administration Time* was 22:00.
- Septic shock presentation date and time was 08-15-20xx at 01:00. The patient needs to receive 3000 mL (30 mL/kg). An order for 1000 mL of Normal Saline over 60 minutes is written and started on 08-14-20xx at 22:00. An order for another 1000 mL of Normal Saline is written and started on 08-14-20xx at 23:15. A third order for 1000 mL of Normal Saline is written and started on 08-15-20xx at 00:30. The *Crystalloid Fluid Administration Time* was 00:30.

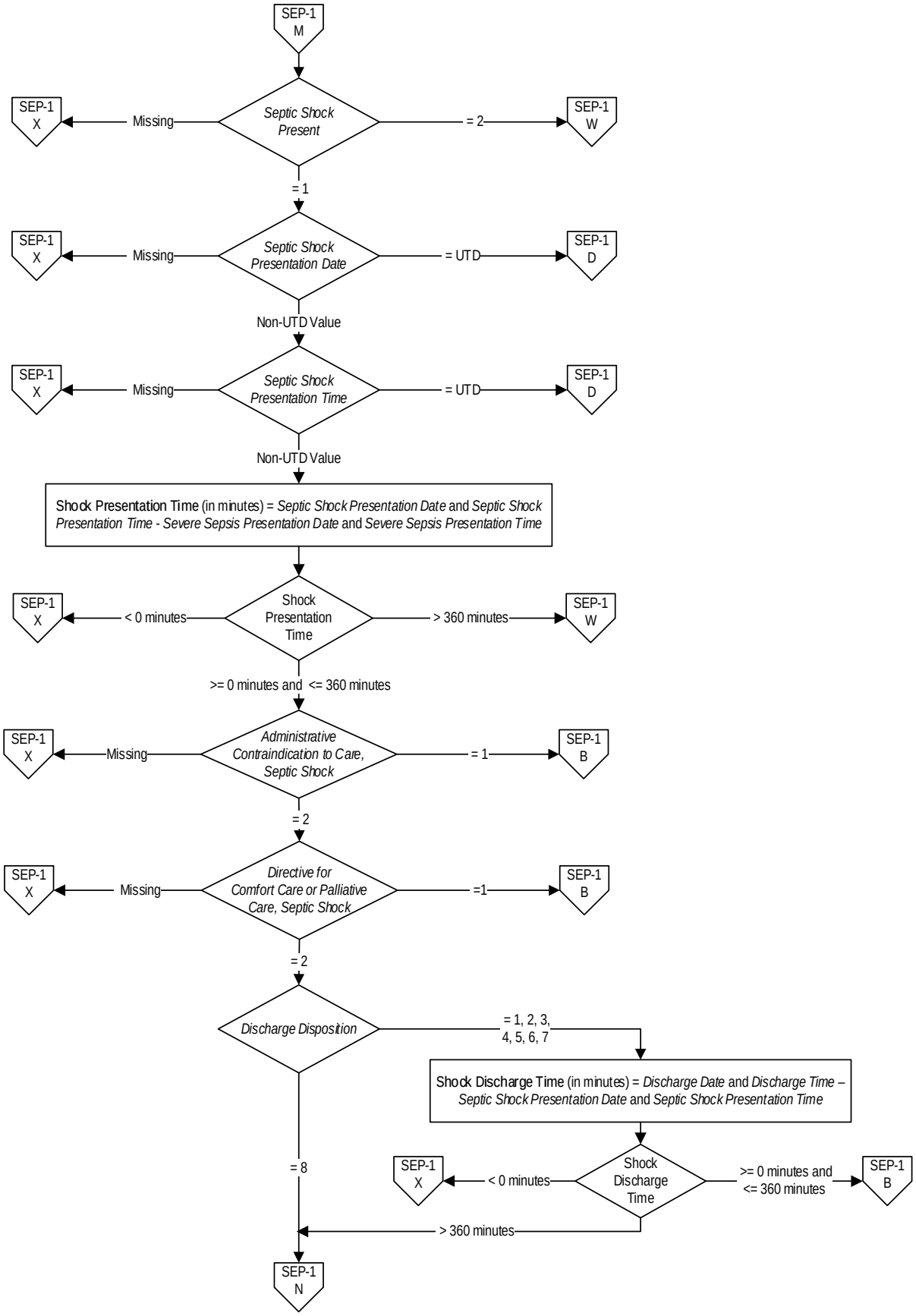
- Do not abstract the time that fluids were ordered or the time that IV access was started. Abstract the time that the crystalloid fluid infusion began.
- Do not use physician orders as fluid administration start date and time; use the date and time that the fluid infusion was initiated.
- Documentation of crystalloid fluids administered prior to arrival to the hospital (e.g., ambulance, nursing home) that are part of the medical record are acceptable if the documentation of fluid administration contains the type, volume, start time, and rate, duration, or end time of the fluid infusion. A physician/APN/PA order for fluids administered prior to arrival is not required.

Suggested Data Sources:

- Ambulance or transport vehicle records
- Entire ED record
- IV therapy records or flow sheet
- Medication Administration Record

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None


SEP-1 M
Septic Shock Present
Missing
SEP-1 X
= 2
SEP-1 W
= 1
Septic Shock Presentation Date
Missing
SEP-1 X
= UTD
SEP-1 D
Non-UTD Value
Septic Shock Presentation Time
Missing
SEP-1 X
= UTD
SEP-1 D
Non-UTD Value
Shock Presentation Time (in minutes) = Septic Shock Presentation Date and Septic Shock Presentation Time - Severe Sepsis Presentation Date and Severe Sepsis Presentation Time
Shock Presentation Time
< 0 minutes
SEP-1 X
> 360 minutes
SEP-1 W
>= 0 minutes and <= 360 minutes
Administrative Contraindication to Care, Septic Shock
Missing
SEP-1 X
= 1
SEP-1 B
= 2
Directive for Comfort Care or Palliative Care, Septic Shock
Missing
SEP-1 X
=1
SEP-1 B
= 2
Discharge Disposition
= 1, 2, 3, 4, 5, 6, 7
Shock Discharge Time (in minutes) = Discharge Date and Discharge Time – Septic Shock Presentation Date and Septic Shock Presentation Time
Shock Discharge Time
< 0 minutes
SEP-1 X
>= 0 minutes and <= 360 minutes
SEP-1 B
= 8
> 360 minutes
SEP-1 N

Data Element Name: *Septic Shock Present*

Collected For CMS: SEP-1

Definition: Documentation of the presence of septic shock.

Suggested Data Collection Question: Is there documentation of the presence of septic shock?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes) There is documentation of Septic Shock.

2 (No) There is no documentation of Septic Shock, or unable to determine.

Notes for Abstraction:

- Presence of Septic Shock may be identified based upon clinical criteria or physician/APN/PA documentation of Septic Shock.
- In order to establish the presence of Septic Shock by clinical criteria, one of following two criteria (a or b) must be met.
  a. *Severe Sepsis Present*

     AND

     Persistent Hypotension in the hour after the conclusion of the target ordered volume of *Crystalloid Fluid Administration*, evidenced by two consecutive documented recordings of:
     - systolic blood pressure (SBP) <90, or
     - mean arterial pressure <65 or
     - a decrease in systolic blood pressure by >40 mmHg. Physician/APN/PA documentation must be present in the medical record indicating a >40 mmHg decrease in SBP has occurred and is related to infection, Severe Sepsis or Septic Shock and not other causes.

  b. *Severe Sepsis Present*

     AND

     Tissue hypoperfusion evidenced by
     - *Initial Lactate Level Result* is >=4 mmol/L
- For evaluation of blood pressure parameters to establish whether or not hypotension persists after crystalloid fluid administration, begin abstracting at the time that crystalloid fluid administration concludes (refer to the *Persistent Hypotension* data element); abstract for the time period that follows for the next hour only. Choose Value “1” if hypotension (systolic blood pressure <90, or mean arterial pressure <65 or a decrease in systolic blood pressure by >40 mmHg) was present in the hour after crystalloid fluid administration for two or more consecutive readings.

- Use the time vital signs were taken or obtained. If time taken or obtained is not available, use recorded or documented time.
- If there is physician/APN/PA documentation prior to or within 24 hours after *Severe Sepsis Presentation Time* indicating hypotension or low blood pressure (SBP <90 mmHg or MAP <65 mmHg) is due to the following, it should not be used. Inferences should not be made.
  - It is required that the same physician/APN/PA documentation must also include either the abnormal value or reference the abnormal value.
    - Normal for that patient
    - Is due to a chronic condition
    - Is due to a medication
- If there is physician/APN/PA documentation prior to or within 24 hours after *Severe Sepsis Presentation Time* indicating hypotension or low blood pressure (SBP <90 mmHg or MAP <65 mmHg) is due to the following, the criteria value should be used.
  - Acute condition
  - Acute injury on a chronic condition

    Example:

    Hypotension due to acute exacerbation on chronic heart failure.
- If there is physician/APN/PA documentation prior to or within 24 hours of *Severe Sepsis Presentation Time* indicating the acute condition is due to a non-infectious source/process, it should not be used (Refer to *Severe Sepsis Present* to determine if a condition is an infection).

  Example:

  Hypotension due to acute blood loss secondary to trauma.
- If there is physician/APN/PA or nursing documentation that a low blood pressure reading is invalid, erroneous or questionable, disregard that reading when determining the presence of Septic Shock.
- If Septic Shock presentation is more than six hours after *Severe Sepsis Presentation Time*, choose Value "2."
- Disregard documentation of Septic Shock in a discharge note or discharge summary.
- If criteria for Septic Shock are not met, but there is physician/APN/PA documentation of Septic Shock, choose Value "1."
- The title or heading of an order set, protocol, checklist, alert, screening tool, etc. reflecting an infection, SIRS, Sepsis, Severe Sepsis, or Septic Shock should not be used to meet criteria.
- Documentation of a criterion or Septic Shock ***within an*** order set, protocol, checklist, alert, screening tool, etc., may be used if the following is true:
  - The documentation or value and recorded date and time is present and is the earliest date and time recorded for the criteria.
- If there is documentation of clinical criteria being met or there is physician/APN/PA documentation of Septic Shock and within 6 hours after this documentation there is additional physician/APN/PA documentation indicating the patient is not septic, does not have Sepsis, Severe Sepsis, Septic Shock, or Septic Shock is due to a viral, fungal or parasitic infection choose Value "2."

- For documentation of Septic Shock accompanied by a qualifier, the table below should be used. Documentation containing a positive qualifier should be used to meet criteria, documentation containing a negative qualifier should not be used to meet criteria.

Positive Qualifiers	Negative Qualifiers
Possible	Impending
Rule out (r/o)	Unlikely
Suspected	Doubt
Likely	Risk for
Probable	Ruled out
Differential Diagnosis	Evolving
Suspicious for	Questionable
Concern for	

Suggested Data Sources:

- Any physician/APN/PA documentation
- Entire ED record
- Hourly output record
- Intake/Output record
- Laboratory results
- Nurses notes
- Vital signs record or flow sheet

Inclusion Guidelines for Abstraction:

- Septic Shock
- Severe Sepsis with Shock

Exclusion Guidelines for Abstraction:

- Bacteremia
- Septicemia
- Shock (not referenced as related to Severe Sepsis or Septic Shock)

Data Element Name: *Septic Shock Presentation Date*

Collected For CMS: SEP-1

Definition: The earliest date on which the final criterion was met to establish the presence of septic shock.

Suggested Data Collection Question: What was the date on which the last criterion was met to establish the presence of septic shock?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Use the earliest date on which the final criterion for septic shock was noted (see *Septic Shock Present* data element for criteria list) or the earliest date the physician/APN/PA documented septic shock.
- Septic Shock identified by severe sepsis present and persistent hypotension (*Septic Shock Present* criteria a):
  - Use the later date of either severe sepsis presentation or persistent hypotension.
  - For persistent hypotension, use the date of the last consecutive blood pressure reading that identifies the presence of persistent hypotension.
- Septic Shock identified by severe sepsis present and initial lactate >=4 (*Septic Shock Present* criteria b):
  - Use the later date of either severe sepsis presentation or the initial lactate level result.
- For patients with multiple septic shock presentation dates, only abstract the earliest presentation date.
- If septic shock is present on arrival to the Emergency Department or if the physician/APN/PA note states septic shock was present on arrival, use the earliest documented arrival date.
- If the physician/APN/PA note states septic shock was present on admission, use the earliest documented hospital observation/inpatient admission date.
- If septic shock is in a physician/APN/PA note without a specific date documented within the note or documented using the acronym POA, use the date the note was started or opened.

Suggested Data Sources:

- Any physician/APN/PA documentation
- Entire ED record
- Hourly output record
- Intake/Output record
- Laboratory results
- Nurses notes
- Vital signs record or flow sheet

Inclusion Guidelines for Abstraction:

None

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Septic Shock Presentation Time*

Collected For CMS: SEP-1

Definition: The earliest time at which the final criterion was met to establish the presence of septic shock.

Suggested Data Collection Question: What was the time at which the last criterion was met to establish the presence of septic shock?

Format:

Length: 5 - HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

- Use the earliest time at which the final criterion for septic shock was noted (see *Septic Shock Present* data element for criteria list) or the earliest time the physician/APN/PA documented septic shock.
- Septic Shock identified by severe sepsis present and persistent hypotension (*Septic Shock Present* criteria a):
  - Use the later time of either severe sepsis presentation or persistent hypotension.
  - For persistent hypotension, use the time of the last consecutive blood pressure reading that identifies the presence of persistent hypotension.
- Septic Shock identified by severe sepsis present and initial lactate >=4 (*Septic Shock Present* criteria b):
  - Use the later time of either severe sepsis presentation or the initial lactate level result.
- For patients with multiple septic shock presentation times, only abstract the earliest presentation time.
- If septic shock is present on arrival to the Emergency Department or if the physician/APN/PA note states septic shock was present on arrival, use the earliest documented arrival time.
- If the physician/APN/PA note states septic shock was present on admission, use the earliest documented hospital observation/inpatient admission time.

- If septic shock is in a physician/APN/PA note without a specific time documented within the note or documented using the acronym POA, use the time the note was started or opened.

Suggested Data Sources:
- Any physician/APN/PA documentation
- Entire ED record
- Hourly output record
- Intake/Output record
- Laboratory results
- Nurses notes
- Vital signs record or flow sheet

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Administrative Contraindication to Care, Septic Shock*

Collected For CMS: SEP-1

Definition: Documentation of refusal of blood draw, IV fluid administration, or vasopressor administration prior to or within 6 hours following presentation of septic shock.

Suggested Data Collection Question: Did the patient or surrogate decision-maker decline consent for blood draw, IV fluid administration, or vasopressor administration prior to or within 6 hours following presentation of septic shock?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes) There is documentation by a physician/APN/PA or nurse that the patient or decision-maker has refused either blood draw, IV fluid administration, or vasopressor administration prior to or within 6 hours following presentation of septic shock.

2 (No) There is no physician/APN/PA or nurse documentation that the patient or decision-maker has refused either blood draw, IV fluid administration, or vasopressor administration prior to or within 6 hours following presentation of septic shock.

Notes for Abstraction:

- Only acceptable sources are physician/APN/PA or nursing documentation.
- Documentation indicating patient or authorized patient advocate has refused blood draws, IV or IO fluid administration, or vasopressor administration prior to or within 6 hours following presentation of septic shock can be used to select Value "1."
- Documentation of refusal of care that would result in blood draws, IV or IO fluids or vasopressors not being administered is acceptable.
- If intraosseous access or placement of a central line is refused, consider this refusal of vasopressors.
- For refusal of blood draws:
  - Documented refusal of blood draws is acceptable.
  - Refusal of specific blood draws or blood tests that do not impact the ability to meet the requirements of the SEP-1 measure data elements should not be used.

    Examples:
    - Patient refused HIV blood test.
    - Patient refused arterial blood gas (ABG).
- For refusal of IV or IO fluids:
  - Documented refusal of fluids or IV or IO fluids is acceptable.
- For refusal of vasopressor:
  - Documented refusal of medications or vasopressors is acceptable.

Suggested Data Sources:

- Consultation reports
- History and physical
- Physician/APN/PA notes

Inclusion Guidelines for Abstraction:

- Declined
- Refused
- Requests not to be given

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Directive for Comfort Care or Palliative Care, Septic Shock*

Collected For CMS: SEP-1

Definition: Directive for Comfort Care refers to medical treatment of a dying person where the natural dying process is permitted to occur while assuring maximum comfort. It includes attention to the psychological and spiritual needs of the patient and support for both the dying patient and the patient's family. It is not equivalent to a physician order to withhold emergency resuscitative measures such as Do Not Resuscitate (DNR).

Palliative Care is the identification, prevention, and treatment of suffering by means of assessment of the physical, psychosocial, intellectual, and spiritual needs of the patient with a goal of supporting and optimizing the patient's quality of life. Palliative care ensures a partnership between practitioner, patient, and family to provide support in decision making at any stage in the patient's care.

Suggested Data Collection Question: Did physician/APN/PA documentation of comfort measures only or palliative care occur?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Physician/APN/PA documentation of comfort measures only or palliative care was prior to or within 6 hours of the presentation of septic shock.
2 (No)	Physician/APN/PA documentation of comfort measures only or palliative care was not prior to or within 6 hours of presentation of septic shock, or not documented or time is unclear.

Notes for Abstraction:

- Only accept terms identified in the list of inclusions. No other terminology will be accepted.
- The earliest physician/APN/PA documentation of an inclusion term mentioned in the following contexts suffices:
  - Comfort measures only recommendation
  - Order for consultation or evaluation by a hospice care service
  - Patient or patient representative request for comfort measures only
  - Plan for comfort measures only
  - Referral to hospice care service
- State-authorized portable orders (SAPOs):
  - SAPOs are specialized forms or identifiers authorized by state law that translate a patient's preferences about specific end-of-life treatment decisions into portable medical orders.
    Examples:

        - DNR-Comfort Care form
        - MOLST (Medical Orders for Life-Sustaining Treatment)
        - POLST (Physician Orders for Life-Sustaining Treatment)
        - Out-of-Hospital DNR (OOH DNR)
    - If there is a SAPO in the record that is dated and signed prior to arrival with an option in which an inclusion term is found that is checked, select Value "1."
    - If a SAPO lists different options for CMO and any CMO option is checked, select Value "1."
    - If one or more dated SAPOs are included in the record (and signed by the physician/APN/PA), use only the most recent one. Disregard undated SAPOs.
    - For cases where there is a SAPO in the record with a CMO option selected: If the SAPO is dated prior to arrival and there is documentation on the day of arrival up to septic shock presentation that the patient or patient representative does not want CMO, and there is no other documentation regarding CMO found in the record, disregard the SAPO.

      Example:
      Patient has a POLST dated prior to arrival in his chart and ED physician states in current record "Patient is refusing comfort measures, wants to receive full treatment and be a full code."
- Documentation of an inclusion term in the following situations should be **disregarded**. Continue to review the remaining physician/APN/PA documentation for acceptable inclusion terms. If the **ONLY** documentation found is an inclusion term in the following situations, select Value "2."
    - Documentation (other than SAPOs) that is dated prior to arrival or documentation which refers to the pre-arrival time period.

      Examples:
        - Comfort measures only or palliative care order in previous hospitalization record.
        - "Pt. on hospice at home" in MD ED note.
    - Inclusion term clearly described as negative or conditional.

      Examples:
        - "No comfort care"
        - "Not appropriate for hospice care"
        - "Comfort care would also be reasonable - defer decision for now"
        - "DNRCCA" (Do Not Resuscitate – Comfort Care Arrest)
        - "Family requests comfort measures only should the patient arrest."
    - Documentation of "CMO" should be disregarded if documentation makes clear it is not being used as an acronym for Comfort Measures Only (e.g., "hx dilated CMO" – Cardiomyopathy context).
- If there is physician/APN/PA documentation of an inclusion term in one source that indicates the patient is Comfort Measures Only or Palliative Care, AND there is physician/APN/PA documentation of an inclusion term in another source that indicates the patient is NOT CMO or Palliative Care, the source that indicates the patient is CMO or Palliative Care would be used to select Value "1."

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Discharge summary
- DNR/MOLST/POLST forms
- Emergency Department record
- History and physical
- Physician orders
- Progress notes

Excluded Data Sources:
Restraint order sheet

Inclusion Guidelines for Abstraction:

- Brain dead
- Brain death
- Comfort care
- Comfort measures
- Comfort measures only (CMO)
- Comfort only
- DNR-CC
- End of life care
- Hospice
- Hospice care
- Organ harvest
- Palliative Care
- Terminal care
- Terminal extubation
- Withdraw care
- Withhold care

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Discharge Disposition*

Collected For CMS/The Joint Commission: IMM-2; **The Joint Commission Only:** SUB-3, TOB-3; **CMS Only:** SEP-1

Definition: The final place or setting to which the patient was discharged on the day of discharge.

Suggested Data Collection Question: What was the patient's discharge disposition on the day of discharge?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 Home

2 Hospice - Home

3 Hospice – Health Care Facility

4 Acute Care Facility

5 Other Health Care Facility

6 Expired

7 Left Against Medical Advice/AMA

8 Not Documented or Unable to Determine (UTD)

Notes for Abstraction:

- Only use documentation written on the day prior to discharge through 30 days after discharge when abstracting this data element.

  Example:
  Documentation in the Discharge Planning notes on 04-01-20xx state that the patient will be discharged back home. On 04-06-20xx the physician orders and nursing discharge notes on the day of discharge reflect that the patient was being transferred to skilled care. The documentation from 04-06-20xx would be used to select Value "5" (Other Health Care Facility).
- The medical record must be abstracted as documented (taken at "face value"). Inferences should not be made based on internal knowledge.
- If there is documentation that further clarifies the level of care that documentation should be used to determine the correct value to abstract. If documentation is contradictory, use the latest documentation.

Examples:

- o Discharge summary dictated 2 days after discharge states patient went “home.” Physician note on day of discharge further clarifies that the patient will be going "home with hospice.” Select Value “2” (“Hospice - Home”).
- o Discharge planner note from day before discharge states “XYZ Nursing Home.” Discharge order from day of discharge states “Discharge home.” Contradictory documentation, use latest. Select Value “1” (“Home”).
- o Physician order on discharge states “Discharge to ALF.” Discharge instruction sheet completed after the physician order states patient discharged to “SNF.” Contradictory documentation, use latest. Select Value “5” (“Other Health Care Facility”).

- If documentation is contradictory, and you are unable to determine the latest documentation, select the disposition ranked highest (top to bottom) in the following list. See Inclusion lists for examples.
  - o Acute Care Facility
  - o Hospice – Health Care Facility
  - o Hospice – Home
  - o Other Health Care Facility
  - o Home
- Hospice (Values “2” and “3”) includes discharges with hospice referrals and evaluations.
- If the medical record states only that the patient is being discharged to another hospital and does not reflect the level of care that the patient will be receiving, select Value “4” (“Acute Care Facility”).
- If the medical record states the patient is being discharged to assisted living care or an assisted living facility (ALF) and the documentation also includes nursing home, intermediate care or skilled nursing facility, select Value “1” (“Home”).
- If the medical record states the patient is being discharged to nursing home, intermediate care or skilled nursing facility without mention of assisted living care or assisted living facility (ALF), select Value “5” (“Other Health Care Facility”).
- If the medical record identifies the facility the patient is being discharged to by name only (e.g., “Park Meadows”), and does not reflect the type of facility or level of care, select Value “5” (“Other Health Care Facility”).
- If the medical record states only that the patient is being “discharged” and does not address the place or setting to which the patient was discharged, select Value “1” (“Home”).
- When determining whether to select Value “7” (“Left Against Medical Advice/AMA”):
  - o Explicit “left against medical advice” documentation is not required. E.g., “Patient is refusing to stay for continued care” – Select Value “7.”
  - o Documentation suggesting that the patient left before discharge instructions could be given does not count.
  - o A signed AMA form is not required, for the purposes of this data element.
  - o Do not consider AMA documentation and other disposition documentation as “contradictory.” If any source states the patient left against medical advice, select Value “7,” regardless of whether the AMA documentation was

written last. E.g., AMA form signed and discharge instruction sheet states "Discharged home with belongings" – Select "7."

Suggested Data Sources:
- Discharge instruction sheet
- Discharge planning notes
- Discharge summary
- Nursing discharge notes
- Physician orders
- Progress notes
- Social service notes
- Transfer record

Excluded Data Sources:
- Any documentation prior to the last two days of hospitalization
- Coding documents
- UB-04

Inclusion Guidelines for Abstraction:
Home (Value 1):
- Assisted Living Facilities (ALFs) – Includes ALFs and assisted living care at: nursing home, intermediate care, and skilled nursing facilities
- Court/Law Enforcement – includes detention facilities, jails, and prison
- Home – includes board and care, foster or residential care, group or personal care homes, retirement communities, and homeless shelters
- Home with Home Health Services
- Outpatient Services including outpatient procedures at another hospital, Outpatient Chemical Dependency Programs and Partial Hospitalization

Hospice – Home (Value 2):
Hospice in the home (or other "Home" setting as above in Value 1)

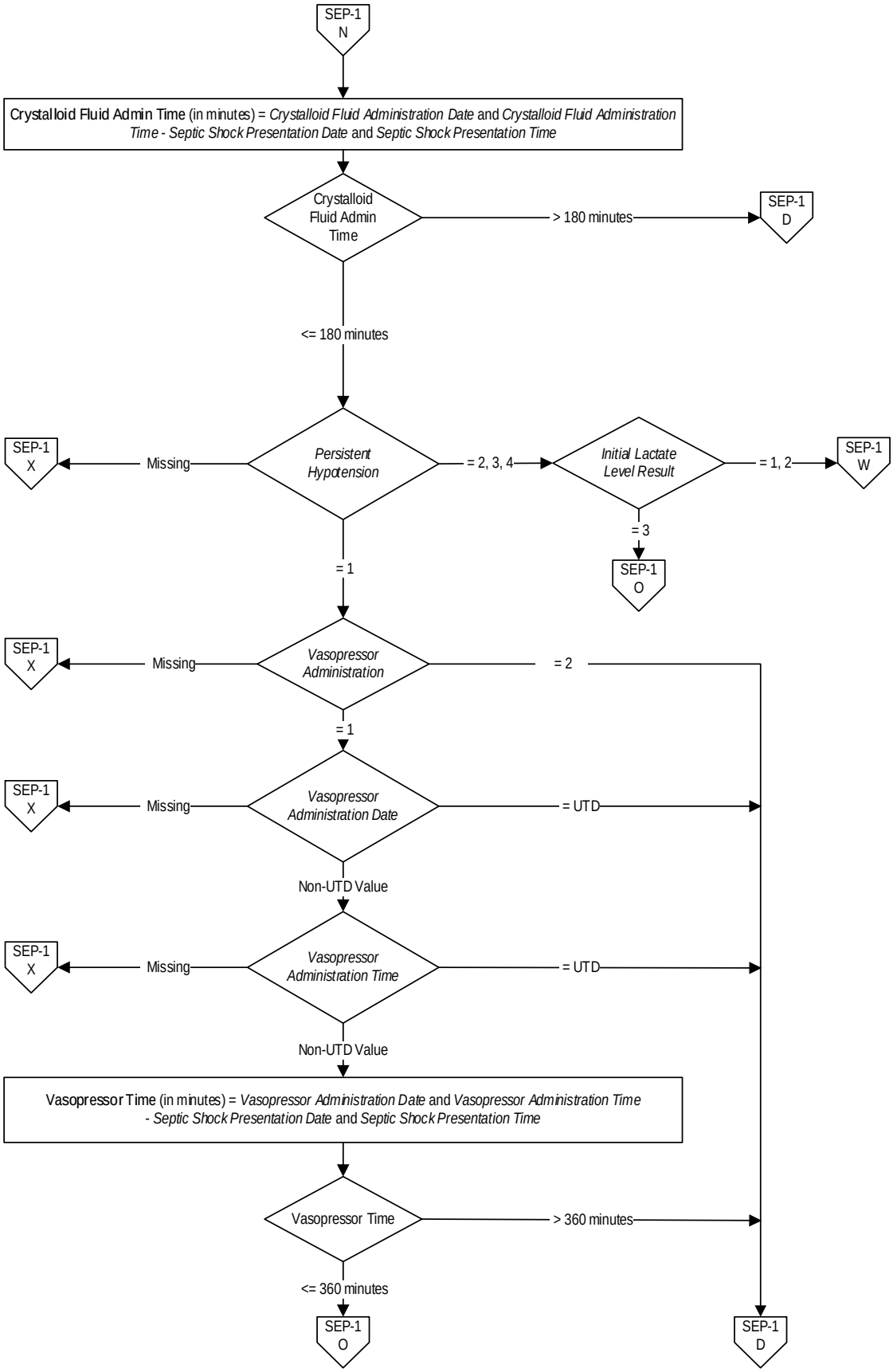
Hospice – Health Care Facility (Value 3):
- Hospice - General Inpatient and Respite
- Hospice - Residential and Skilled Facilities
- Hospice - Other Health Care Facilities

Acute Care Facility (Value 4):
- Acute Short Term General and Critical Access Hospitals
- Cancer and Children's Hospitals
- Department of Defense and Veteran's Administration Hospitals

Other Health Care Facility (Value 5):
- Extended or Intermediate Care Facility (ECF/ICF)
- Long Term Acute Care Hospital (LTACH)
- Nursing Home or Facility including Veteran's Administration Nursing Facility
- Psychiatric Hospital or Psychiatric Unit of a Hospital

- Rehabilitation Facility including Inpatient Rehabilitation Facility/Hospital or Rehabilitation Unit of a Hospital
- Skilled Nursing Facility (SNF), Sub-Acute Care or Swing Bed
- Transitional Care Unit (TCU)
- Veterans Home

Exclusion Guidelines for Abstraction:
None


SEP-1 N
Crystalloid Fluid Admin Time (in minutes) = Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Crystalloid Fluid Admin Time
> 180 minutes
SEP-1 D
<= 180 minutes
Persistent Hypotension
Missing
SEP-1 X
= 2, 3, 4
Initial Lactate Level Result
= 1, 2
SEP-1 W
= 3
SEP-1 O
= 1
Vasopressor Administration
Missing
SEP-1 X
= 2
= 1
Vasopressor Administration Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Vasopressor Administration Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Vasopressor Time (in minutes) = Vasopressor Administration Date and Vasopressor Administration Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Vasopressor Time
> 360 minutes
<= 360 minutes
SEP-1 O
SEP-1 D

Data Element Name: *Persistent Hypotension*

Collected For CMS: SEP-1

Definition: Documentation of the presence of persistent hypotension or new onset of hypotension following the administration of the target ordered volume (30 mL/kg or up to 10% less than 30 mL/kg)of crystalloid fluids.

Suggested Data Collection Question: Was persistent hypotension or new onset of hypotension present within one hour of the conclusion of crystalloid fluid administration?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Persistent hypotension or new onset of hypotension was present within one hour of conclusion of crystalloid fluid administration at the target ordered volume.
2 (No)	Persistent hypotension or new onset of hypotension was not present within one hour of the conclusion of crystalloid fluid administration at the target ordered volume.
3 (No) or UTD	The patient was not assessed for persistent hypotension or new onset of hypotension within one hour after the conclusion of crystalloid fluid administration at the target ordered volume, or Unable to Determine.
4 (Not applicable)	Crystalloid fluids were administered but at a volume less than the target ordered volume.

Notes for Abstraction:

- The criteria for determining that persistent hypotension or new onset of hypotension was present are as follows:
  - In the one hour following conclusion of administration of the target ordered volume of crystalloid fluids, two consecutive documented blood pressure readings of either:
    - systolic blood pressure <90, or
    - mean arterial pressure (MAP) <65 or
    - a decrease in systolic blood pressure by >40 mm/Hg. Physician/APN/PA documentation must be present in the medical record indicating a >40 mmHg decrease in SBP has occurred and is related to infection, severe sepsis or septic shock and not other causes.
- Determining presence of persistent hypotension (low is SBP <90 or MAP <65):
  - If there were no blood pressures or only one blood pressure recorded within the hour:

        - If the only blood pressure within the hour is normal, select Value “2.”
        - If there is no blood pressure or the only blood pressure within the hour is low, select Value “3.”
    - If there is more than one blood pressure documented, refer to the last two within the hour:
        - If there is a normal blood pressure followed by another normal blood pressure, select Value “2.”
        - If there is a normal blood pressure followed by a low blood pressure, select Value “3.”
        - If there is a low blood pressure followed by a normal blood pressure, select Value “2.”
        - If there is a low blood pressure followed by another low blood pressure, select Value “1.”
- If there is physician/APN/PA documentation prior to or within 24 hours after *Severe Sepsis Presentation Time* indicating hypotension or low blood pressure (SBP <90 mmHg or MAP <65 mmHg) is due to the following, it should not be used. Inferences should not be made.
    - It is required that the same physician/APN/PA documentation must also include either the abnormal value or reference the abnormal value.
        - Normal for that patient
        - Is due to a chronic condition
        - Is due to a medication
- If there is physician/APN/PA documentation prior to or within 24 hours after *Severe Sepsis Presentation Time* indicating hypotension or low blood pressure (SBP <90 mmHg or MAP <65 mmHg) is due to the following, the criteria value should be used.
    - Acute condition
    - Acute injury on a chronic condition

        Example:

        Hypotension due to acute exacerbation on chronic heart failure.
- If there is physician/APN/PA documentation prior to or within 24 hours of *Severe Sepsis Presentation Time* indicating the acute condition is due to a non-infectious source/process, it should not be used (Refer to *Severe Sepsis Present* to determine if a condition is an infection).

    Examples:

    - Hypotension due to acute blood loss secondary to trauma.
    - Hypotension due to acute exacerbation of chronic heart failure due to worsening heart failure.
- Begin abstracting at the time the target ordered volume concludes; abstract for the time period that follows for the next hour only. Choose Value “1” if persistent hypotension or new onset of hypotension was present, choose Value “2” if persistent hypotension or new onset of hypotension was not present.
- If the completion time of the target ordered volume is documented in the medical record use that time as the start for the one hour within which to determine presence of persistent hypotension or new onset of hypotension.
- If the completion time of the target ordered volume is not documented in the medical record use the following criteria to determine the conclusion time.

- If the order includes a time frame over which to infuse the crystalloid fluid, identify the time the fluids are started and add to that the duration identified in the order. This will represent the conclusion of crystalloid fluids.

  Example:
  An order for 1500 mL over 1 hour and the infusion is started at 10:00. Add 1 hour to the start time to determine infusion conclusion time of 11:00.
- If the order includes a rate at which to infuse the crystalloid fluids, the end time can be calculated based on the volume, the rate and the start time.

  Example:
  An order for 1500 mL at 1000 mL/hour and the infusion is started at 10:00. The time over which 1500 mL is infused is the volume divided by the rate. 1500 mL divided by 1000 mL/hour is 1.5 hours. Add 1.5 hours to the start time to determine infusion conclusion time of 11:30.
- If the order is for more than 30 mL/kg, 30 mL/kg will have been infused before the entire volume ordered is infused.

  Example:
  An order for 3000 mL over 2 hours, infusion started at 10:00. Patient weighs 80 kg, 30 mL/kg target volume is 2400 mL (as determined for *Crystalloid Fluid Administration*). Divide the total volume ordered by the infusion duration in minutes to determine the infusion rate (3000 mL/120 minutes = 25 mL/minute). Divide the 30 mL/kg target volume by the infusion rate to determine the number of minutes it takes to infuse the target volume (2400 mL/25 mL/min = 96 minutes). Add the number of minutes to infuse the target volume to the infusion start time to determine the time 30 mL/kg was completed (10:00 + 96 minutes = 11:36).
- If the order states “bolus” or “wide open” and does not include an infusion rate or time over which to infuse the fluids, an infusion rate recorded in the medical record by a nurse OR fluid bolus completed time or end time can be used to determine when the target ordered volume was completed.

- Acceptable crystalloid fluids are identified in the *Crystalloid Fluid Administration* data element.
- If the end time of the target ordered volume of crystalloid fluids cannot be determined, select Value “3.”
- If crystalloid fluids were administered but at a volume less than the target ordered volume, choose Value “4.”
- Blood pressure readings documented in the operating room (OR) should not be used.
- Use of documentation in pre-hospital records (e.g., ambulance records, nursing home records) that are considered part of the medical record is acceptable for determining the presence of persistent hypotension.
- If there is physician/APN/PA or nursing documentation indicating a low blood pressure reading is erroneous or questioning the validity of a low blood pressure reading, do not consider that reading for determining the presence of persistent or new onset of hypotension.

Suggested Data Sources:

- Entire ED record
- Nurses notes
- Physician/APN/PA notes
- Vital signs record or flow sheet

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Initial Lactate Level Result*

Collected For CMS: SEP-1

Definition: Documentation of the initial lactate level result.

Suggested Data Collection Question: What was the initial lactate level result?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (<=2)	The initial lactate level was less than or equal to 2 mmol/L, or there is no result in the chart, or unable to determine the result.
2 (>2 and <4.0)	The initial lactate level was greater than 2 mmol/L and less than 4 mmol/L.
3 (>=4)	The initial lactate level was 4 mmol/L or more.

Notes for Abstraction:

- Lactate levels may be reported as mmol/L or mg/dL. Use the following to cross reference mmol/L and mg/dL equivalents.
  - 2 mmol/L is equivalent to 18 mg/dL
  - 4 mmol/L is equivalent to 36 mg/dL
- Use the result for the initial lactate level drawn in the data element *Initial Lactate Level Collection*.
- If there was an initial lactate level collected but there is no result or the result cannot be determined, choose Value “1.”
- If point of care (POC) results and laboratory results are obtained from the same sample, use the results that are recorded first.
- If there is physician/APN/PA documentation prior to or within 24 hours after the initial lactate level result that indicates the initial lactate value is due to a condition that is not an infection, or is due to a medication, select Value “1.”

Suggested Data Sources:

- Laboratory results
- Physician/APN/PA notes

Inclusion Guidelines for Abstraction:

- Lactate results
- Lactic acid results

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Vasopressor Administration*

Collected For CMS: SEP-1

Definition: Documentation of administration of an intravenous or intraosseous vasopressor in the time window beginning at septic shock presentation and ending 6 hours after the presentation of septic shock, demonstrated by persistent hypotension after crystalloid fluid administration.

Suggested Data Collection Question: Was an intravenous or intraosseous vasopressor administered in the time window beginning at septic shock presentation and ending 6 hours after the presentation of septic shock, demonstrated by persistent hypotension after crystalloid fluid administration?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	The patient was given an intravenous or intraosseous vasopressor in the time window beginning at septic shock presentation and ending 6 hours after the presentation of septic shock.
2 (No)	The patient was not given an intravenous or intraosseous vasopressor in the time window beginning at septic shock presentation and ending 6 hours after the time of presentation of septic shock.

Notes for Abstraction:

- The list of acceptable vasopressors is contained in Appendix C, Table 5.2. These are the only medications that can be abstracted.
- Only abstract a vasopressor given via the IV or intraosseous (IO) route.
- Vasopressor administration information should only be abstracted from documentation that demonstrates actual administration of the vasopressor.
    - Do not abstract doses from a physician order unless they are clearly designated as given on the physician order form.
    - Acceptable examples of administration include: “vasopressor running” and “vasopressor given.”
- If a vasopressor was infusing at the time of presentation of septic shock, demonstrated by persistent hypotension after crystalloid fluid administration, choose Value “1.” For example, septic shock patient was triaged in the ED at 08:00. The patient was receiving Levophed via an IV at the time of triage – choose Value “1.”
- If a vasopressor was not started or running within the acceptable time frame, select Value “2.”

- A dose can be abstracted that is given by one person and documented as being given by another person if that dose is not documented by the person that actually administered it.
- Authentication on one side/page of a multi-side or multi-page form applies to all pages of the form. The sides/pages of the form must be identifiable as being from the same form.
- The method of designation of administration on hand-written or pre-printed forms, such as MARs or eMARs, must be clearly designated as given. The methods may vary. Whatever method is used, it must be clear that the dose was administered.
- Use of documentation in pre-hospital records (e.g., ambulance records, nursing home records) that are considered part of the medical record is acceptable.
- Do not abstract test doses of vasopressors.
- Do not abstract vasopressors from narrative charting unless there is no other documentation that reflects that the same vasopressor was given during the specified timeframe.

Suggested Data Sources:
- Entire Emergency Department record
- IV flow sheets
- Medication Administration record (MAR)
- Nursing notes
- Physician/APN/PA notes
- Transport records

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Vasopressor Administration Date*

Collected For CMS: SEP-1

Definition: The date on which an intravenous or intraosseous vasopressor was administered within 6 hours following the presentation of septic shock, demonstrated by persistent hypotension after crystalloid fluid administration.

Suggested Data Collection Question: What was the date on which an intravenous or intraosseous vasopressor was administered within 6 hours following the presentation of septic shock, demonstrated by persistent hypotension after crystalloid fluid administration?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- The list of acceptable vasopressors is contained in Appendix C, Table 5.2. These are the only medications that can be abstracted.
- Only abstract a vasopressor given via the IV or intraosseous (IO) route.
- Vasopressor administration information should only be abstracted from documentation that demonstrates actual administration of the vasopressor.
  - Do not abstract doses from a physician order unless they are clearly designated as given on the physician order form.
  - Acceptable examples of administration include: “vasopressor running” and “vasopressor given.”
- If a vasopressor was infusing at the time of presentation of septic shock, demonstrated by persistent hypotension after crystalloid fluid administration, or the vasopressor was infusing at the time of septic shock and multiple doses were subsequently given, abstract the date the vasopressor that was infusing at the time of presentation of septic shock was initiated.

  Example:
  Septic shock patient was triaged in the ED at 08:00. At the time of triage, the patient was receiving Levophed via an IV started prior to arrival, abstract the date the Levophed was started prior to arrival.
- If the patient received multiple doses of a vasopressor and there was no vasopressor infusing at the time of presentation of septic shock, abstract the dose given closest to the time of presentation of septic shock.

- A dose can be abstracted that is given by one person and documented as being given by another person if that dose is not documented by the person that actually administered it.
- Only abstract from an undated MAR if it has a patient sticker on it and it is titled first day or initial MAR. If an undated MAR is designated as the initial or first day MAR and it does not have a patient sticker on it, use UTD for the date.
- Authentication on one side/page of a multi-side or multi-page form applies to all pages of the form. The sides/pages of the form must be identifiable as being from the same form.
- The method of designation of administration on hand-written such as MARs or eMARs, must be clearly designated as given. The methods may vary. Whatever method is used, it must be clear that the dose was administered.
- Use of documentation in pre-hospital records (e.g., ambulance records, nursing home records) that are considered part of the medical record is acceptable.
- Do not abstract test doses of vasopressors.
- Do not abstract vasopressors from sources that do not represent actual administration.
- Do not abstract vasopressors from narrative charting unless there is no other documentation that reflects that the same vasopressor was given during the specified timeframe.

Suggested Data Sources:
- Entire Emergency Department record
- IV flow sheets
- Medication Administration record (MAR)
- Nursing notes
- Physician/APN/PA notes
- Transport records

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Vasopressor Administration Time*

Collected For CMS: SEP-1

Definition: The time at which an intravenous or intraosseous vasopressor was administered within 6 hours following the presentation of septic shock, demonstrated by persistent hypotension after crystalloid fluid administration.

Suggested Data Collection Question: What was the time at which an intravenous or intraosseous vasopressor was administered within 6 hours following the presentation of septic shock, demonstrated by persistent hypotension after crystalloid fluid administration?

Format:

Length: 5 - HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

- The list of acceptable vasopressors is contained in Appendix C, Table 5.2. These are the only medications that can be abstracted.
- Only abstract a vasopressor given via the IV or intraosseous (IO) route.
- Vasopressor administration information should only be abstracted from documentation that demonstrates actual administration of the vasopressor.
  - Do not abstract doses from a physician order unless they are clearly designated as given on the physician order form.
  - Acceptable examples of administration include: “vasopressor running” and “vasopressor given.”
- If a vasopressor was infusing at the time of presentation of septic shock, demonstrated by persistent hypotension after crystalloid fluid administration, or the vasopressor was infusing at the time of septic shock and multiple doses were subsequently given, abstract the time the vasopressor that was infusing at the time of presentation of septic shock was initiated.

Example:
Septic shock patient was triaged in the ED at 08:00. At the time of triage, the patient was receiving Levophed via an IV started prior to arrival at 07:45, abstract the time the Levophed was started prior to arrival, 07:45.

- If the patient received multiple doses of a vasopressor and there was no vasopressor infusing at the time of presentation of septic shock, abstract the dose given closest to the time of presentation of septic shock.
- A dose can be abstracted that is given by one person and documented as being given by another person if that dose is not documented by the person that actually administered it.
- Only abstract from an undated MAR if it has a patient sticker on it and it is titled first day or initial MAR. If an undated MAR is designated as the initial or first day MAR and it does not have a patient sticker on it, use UTD for the time.
- Authentication on one side/page of a multi-side or multi-page form applies to all pages of the form. The sides/pages of the form must be identifiable as being from the same form.
- The method of designation of administration on hand-written such as MARs or eMARs, must be clearly designated as given. The methods may vary. Whatever method is used, it must be clear that the dose was administered.
- Use of documentation in pre-hospital records (e.g., ambulance records, nursing home records) that are considered part of the medical record is acceptable.
- Do not abstract test doses of vasopressors.
- Do not abstract vasopressors from narrative charting unless there is no other documentation that reflects that the same vasopressor was given during the specified timeframe.

Suggested Data Sources:

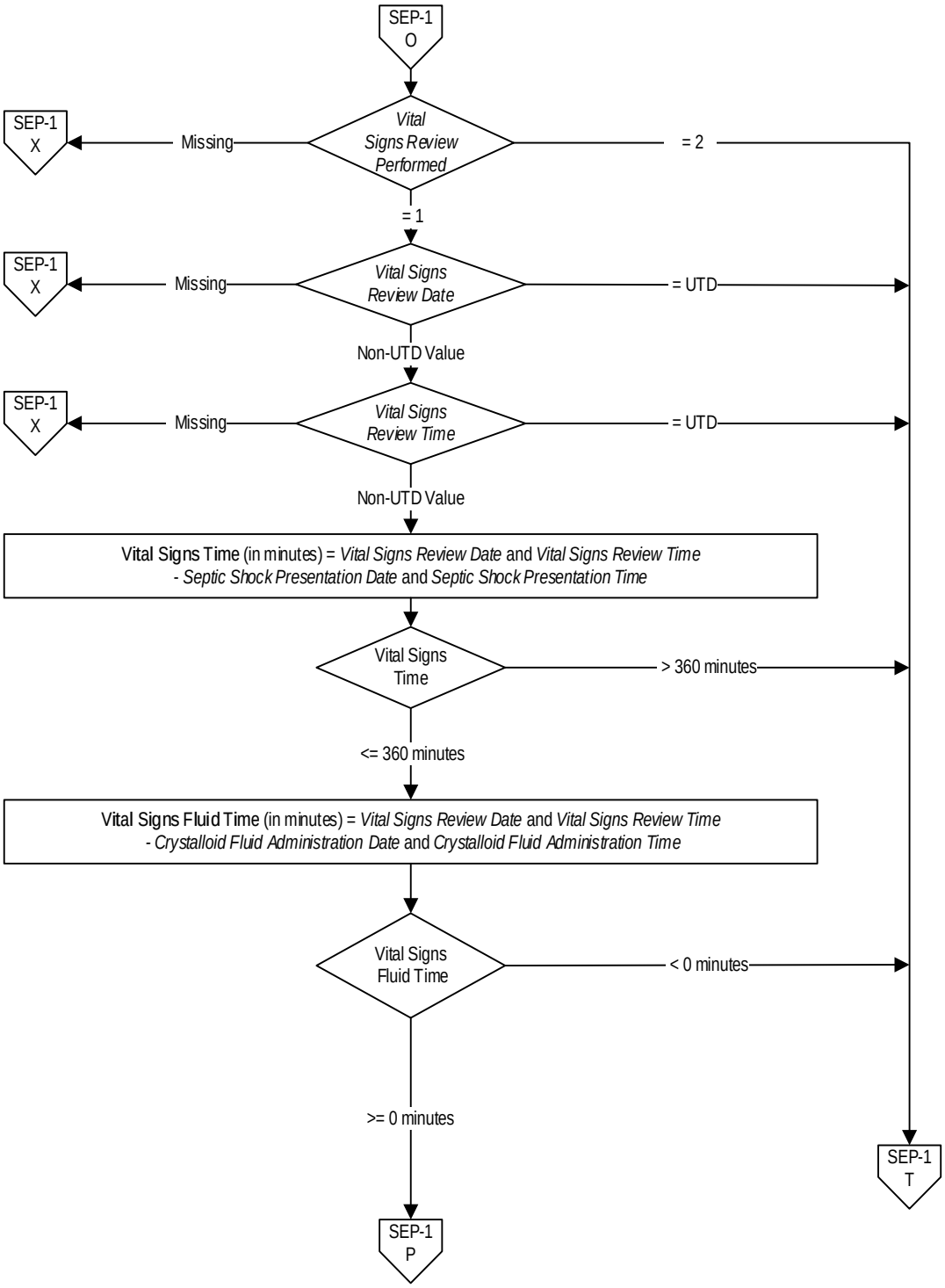
- Entire Emergency Department record
- IV flow sheets
- Medication Administration record (MAR)
- Nursing notes
- Physician/APN/PA notes
- Transport records

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Table 5.2: Vasopressors for Septic Shock

Generic Name	Brand Name
Norepinephrine	Levophed
Epinephrine	Adrenalin
Phenylephrine	Neosynephrine Vazculep
Dopamine	Inotropin
Vasopressin	Pitressin


SEP-1 O
Vital Signs Review Performed
Missing
SEP-1 X
= 2
= 1
Vital Signs Review Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Vital Signs Review Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Vital Signs Time (in minutes) = Vital Signs Review Date and Vital Signs Review Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Vital Signs Time
> 360 minutes
<= 360 minutes
Vital Signs Fluid Time (in minutes) = Vital Signs Review Date and Vital Signs Review Time - Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time
Vital Signs Fluid Time
< 0 minutes
>= 0 minutes
SEP-1 P
SEP-1 T

Data Element Name: *Vital Signs Review Performed*

Collected For CMS: SEP-1

Definition: Documentation of a vital signs review by a physician/APN/PA.

Suggested Data Collection Question: Was a vital signs review documented by a physician/APN/PA?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Vital signs review was documented by a physician/APN/PA in the time window beginning at the crystalloid fluid administration date and time and ending six hours after the presentation of septic shock date and time.
2 (No)	Vital signs review was not documented by a physician/APN/PA in the time window beginning at the crystalloid fluid administration date and time and ending six hours after the presentation of septic shock date and time, or unable to determine.

Notes for Abstraction:

- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Vital signs review can be documented by **any one of the following 3 ways**:
  - Physician/APN/PA documentation of temperature, pulse (also referred to as heart rate), respirations, and blood pressure.
    - All four elements (Temperature, pulse or heart rate, respirations, blood pressure) must be referenced in a single note.
  - Physician/APN/PA documentation that vital signs were reviewed, performed, or attested to reviewing or performing.
    - Listing each vital sign element (Temperature, pulse or heart rate, respirations, blood pressure) is not required.

      Example:
      Physician/APN/PA documents “Reviewed nurse’s documentation of vital signs.”
  - Physician/APN/PA documentation of performing or attesting to performing a physical exam, perfusion (re-perfusion) assessment, or sepsis (severe sepsis or septic shock) focused exam.

    Example:
    Physician/APN/PA documents “sepsis exam done.”
    - A title or heading of a form, section, or assessment should not be used.

Example:
In the H&P there is a heading called “physical exam.”

- If there are no vital signs reviews documented or documentation reflects the assessment was not performed in the allowable time window, choose Value “2.”
- If the vital signs review is in a physician/APN/PA note without a specific time, use the time the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:

- Blood Pressure
- BP
- Heart Rate
- HR
- P
- Pulse
- R
- Respirations
- T
- Temperature
- Vital signs review

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Vital Signs Review Date*

Collected For CMS: SEP-1

Definition: Documentation of the date indicating a vital signs review was performed.

Suggested Data Collection Question: On what date was a vital signs review documented by a physician/APN/PA?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Documentation of what constitutes or is acceptable for a vital signs review is defined in the *Vital Signs Review Performed* data element.
- If there are multiple vital signs reviews performed, abstract the date of the latest measurement documented within the allowable time window.
- If the vital signs review is in a physician note without a specific date documented within the note, use the date the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Vital Signs Review Time*

Collected For CMS: SEP-1

Definition: Documentation of the time indicating a vital signs review was performed.

Suggested Data Collection Question: At what time was a vital signs review documented by a physician/APN/PA?

Format:

Length: 5 - HH-MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

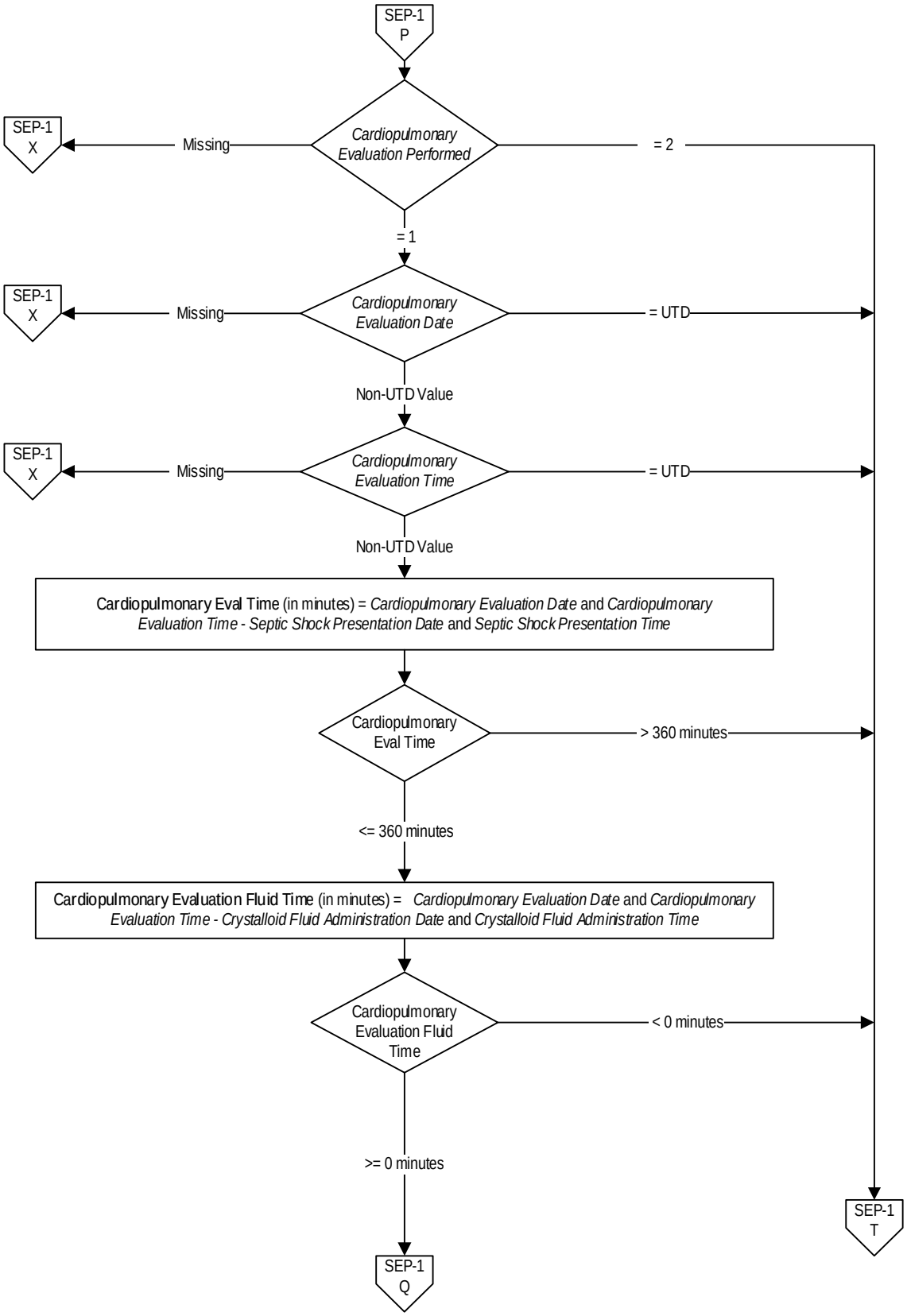
- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Documentation of what constitutes or is acceptable for a vital signs review is defined in the *Vital Signs Review Performed* data element.
- If there are multiple vital signs reviews performed, abstract the time of the latest measurement documented within the allowable time window.
- If the vital signs review is in a physician note without a specific time documented within the note, use the time the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None


SEP-1 P
Cardiopulmonary Evaluation Performed
Missing
SEP-1 X
= 2
= 1
Cardiopulmonary Evaluation Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Cardiopulmonary Evaluation Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Cardiopulmonary Eval Time (in minutes) = Cardiopulmonary Evaluation Date and Cardiopulmonary Evaluation Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Cardiopulmonary Eval Time
> 360 minutes
<= 360 minutes
Cardiopulmonary Evaluation Fluid Time (in minutes) = Cardiopulmonary Evaluation Date and Cardiopulmonary Evaluation Time - Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time
Cardiopulmonary Evaluation Fluid Time
< 0 minutes
>= 0 minutes
SEP-1 Q
SEP-1 T

Data Element Name: *Cardiopulmonary Evaluation Performed*

Collected For CMS: SEP-1

Definition: Documentation of a cardiopulmonary evaluation to assess the status of the heart and lungs by a physician/APN/PA.

Suggested Data Collection Question: Was a cardiopulmonary evaluation documented by a physician/APN/PA?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Cardiopulmonary evaluation was documented by a physician/APN/PA.
2 (No)	Cardiopulmonary evaluation was not documented by a physician/APN/PA, or unable to determine.

Notes for Abstraction:

- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Cardiopulmonary evaluation can be documented by **any one of the following 3 ways:**
  - Physician/APN/PA documentation must reference the heart, lungs and the findings.

    Example:
    Physician/APN/PA documents "Lungs clear, heart within normal limits."
  - Physician/APN/PA documentation that a cardiopulmonary evaluation was reviewed, performed, or attested to reviewing or performing.
    - Referencing the heart, lungs and the findings are not required.

      Example:
      Physician/APN/PA documents "Reviewed and agree with the nurse's cardiopulmonary assessment."
  - Physician/APN/PA documentation of performing or attesting to performing a physical exam, perfusion (re-perfusion) assessment, or sepsis (severe sepsis or septic shock) focused exam.

    Example:
    Physician/APN/PA documents "sepsis exam done."
    - A title or heading of a form, section, or assessment should not be used.

Example:
In the H&P there is a heading called "physical exam."

- If there are no cardiopulmonary evaluations documented or documentation reflects the assessment was not in the allowable time window, choose Value "2."
- If cardiopulmonary evaluation is in a physician/APN/PA note without a specific time, use the time the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:
Assessment of Lungs/Respiratory/Pulmonary System: (Examples)

- Clear
- Crackling at bases
- Dullness
- Rhonchi
- Wheezes noted
- Within normal limits

Assessment of Heart/Cardiac System: (Examples)

- Bigeminy
- Gallop rhythm
- Heart irregular
- Heart rate or rhythm erratic
- Regular rate and rhythm (can be abbreviated as RRR)
- Trigeminy
- Within normal limits

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Cardiopulmonary Evaluation Date*

Collected For CMS: SEP-1

Definition: Documentation of the date indicating a cardiopulmonary evaluation was performed.

Suggested Data Collection Question: On what date was a cardiopulmonary evaluation documented by a physician/APN/PA?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time.*
- Documentation of what constitutes or is acceptable for a cardiopulmonary evaluation is defined in the *Cardiopulmonary Evaluation Performed* data element.
- If there are multiple cardiopulmonary evaluations performed, abstract the date of the latest measurement documented within the allowable time window.
- If the cardiopulmonary evaluation is in a physician note without a specific date documented within the note, use the date the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Cardiopulmonary Evaluation Time*

Collected For CMS: SEP-1

Definition: Documentation of the time indicating a cardiopulmonary evaluation was performed.

Suggested Data Collection Question: At what time was a cardiopulmonary evaluation documented by a physician/APN/PA?

Format:

Length: 5 - HH-MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

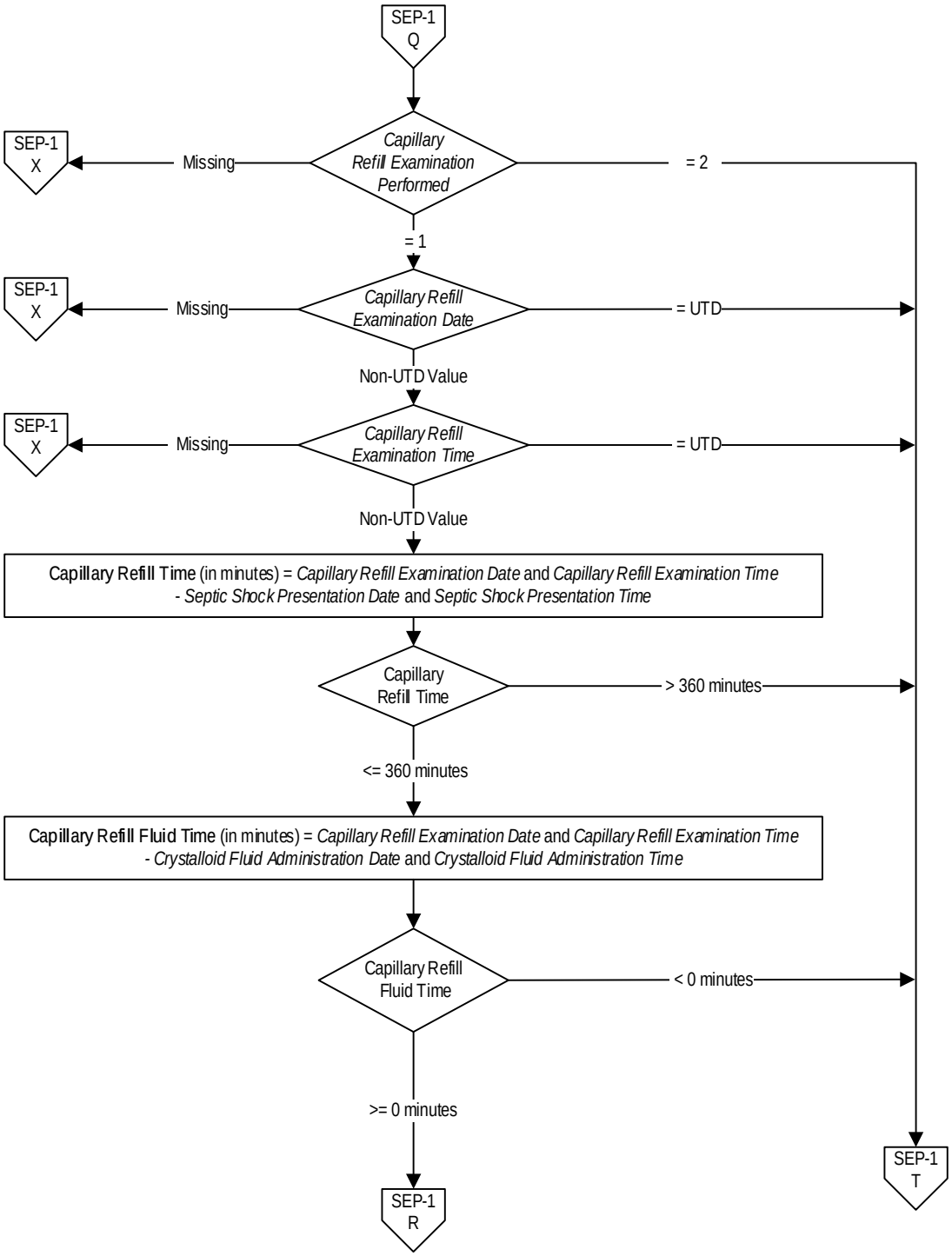
- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Documentation of what constitutes or is acceptable for a cardiopulmonary evaluation is defined in the *Cardiopulmonary Evaluation Performed* data element.
- If there are multiple cardiopulmonary evaluations performed, abstract the time of the latest measurement documented within the allowable time window.
- If the cardiopulmonary evaluation is in a physician note without a specific time documented within the note, use the time the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None


SEP-1 Q
Capillary Refill Examination Performed
Missing
SEP-1 X
= 2
= 1
Capillary Refill Examination Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Capillary Refill Examination Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Capillary Refill Time (in minutes) = Capillary Refill Examination Date and Capillary Refill Examination Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Capillary Refill Time
> 360 minutes
<= 360 minutes
Capillary Refill Fluid Time (in minutes) = Capillary Refill Examination Date and Capillary Refill Examination Time - Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time
Capillary Refill Fluid Time
< 0 minutes
>= 0 minutes
SEP-1 R
SEP-1 T

Data Element Name: *Capillary Refill Examination Performed*

Collected For CMS: SEP-1

Definition: Documentation of performance of a capillary refill examination.

Suggested Data Collection Question: Was a capillary refill examination documented by a physician/APN/PA?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Capillary refill examination was documented by a physician/APN/PA.
2 (No)	Capillary refill examination was not documented by a physician/APN/PA, or unable to determine.

Notes for Abstraction:

- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Capillary refill examination can be documented by **any one of the following 3 ways**:
  - Physician/APN/PA documentation of an inclusion term.

    Example:
    Physician/APN/PA documentation of "capillary refill less than 3 seconds" would be sufficient.
  - Physician/APN/PA documentation that a capillary refill exam was reviewed, performed, or attested to reviewing or performing.

    Example:
    Physician/APN/PA documents "nurse's capillary refill exam reviewed" would be sufficient.
  - Physician/APN/PA documentation of performing or attesting to performing a physical exam, perfusion (re-perfusion) assessment, or sepsis (severe sepsis or septic shock) focused exam.

    Example:
    Physician/APN/PA documents "sepsis exam done."
    - A title or heading of a form, section, or assessment should not be used.

      Example:
      In the H&P there is a heading called "physical exam."

- If there are no capillary refill examinations documented or documentation reflects the assessment was not performed in the allowable time window, choose Value "2."
- If the capillary refill examination is in a physician/APN/PA note without a specific time, use the time the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY
- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:
- Cap refill
- Capillary fill
- Capillary refill
- Nail bed refill
- Peripheral perfusion

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Capillary Refill Examination Date*

Collected For CMS: SEP-1

Definition: Documentation of the date indicating a capillary refill examination was performed.

Suggested Data Collection Question: On what date was a capillary refill examination documented by a physician/APN/PA?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Documentation of what constitutes or is acceptable for a capillary refill examination is defined in the *Capillary Refill Examination Performed* data element.
- If there are multiple capillary refill examinations performed, abstract the date of the latest measurement documented within the allowable time window.
- If the capillary refill exam is in a physician note without a specific date documented within the note, use the date the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Capillary Refill Examination Time*

Collected For CMS: SEP-1

Definition: Documentation of the time indicating a capillary refill examination was performed.

Suggested Data Collection Question: At what time was a capillary refill examination documented by a physician/APN/PA?

Format:

Length: 5 - HH-MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

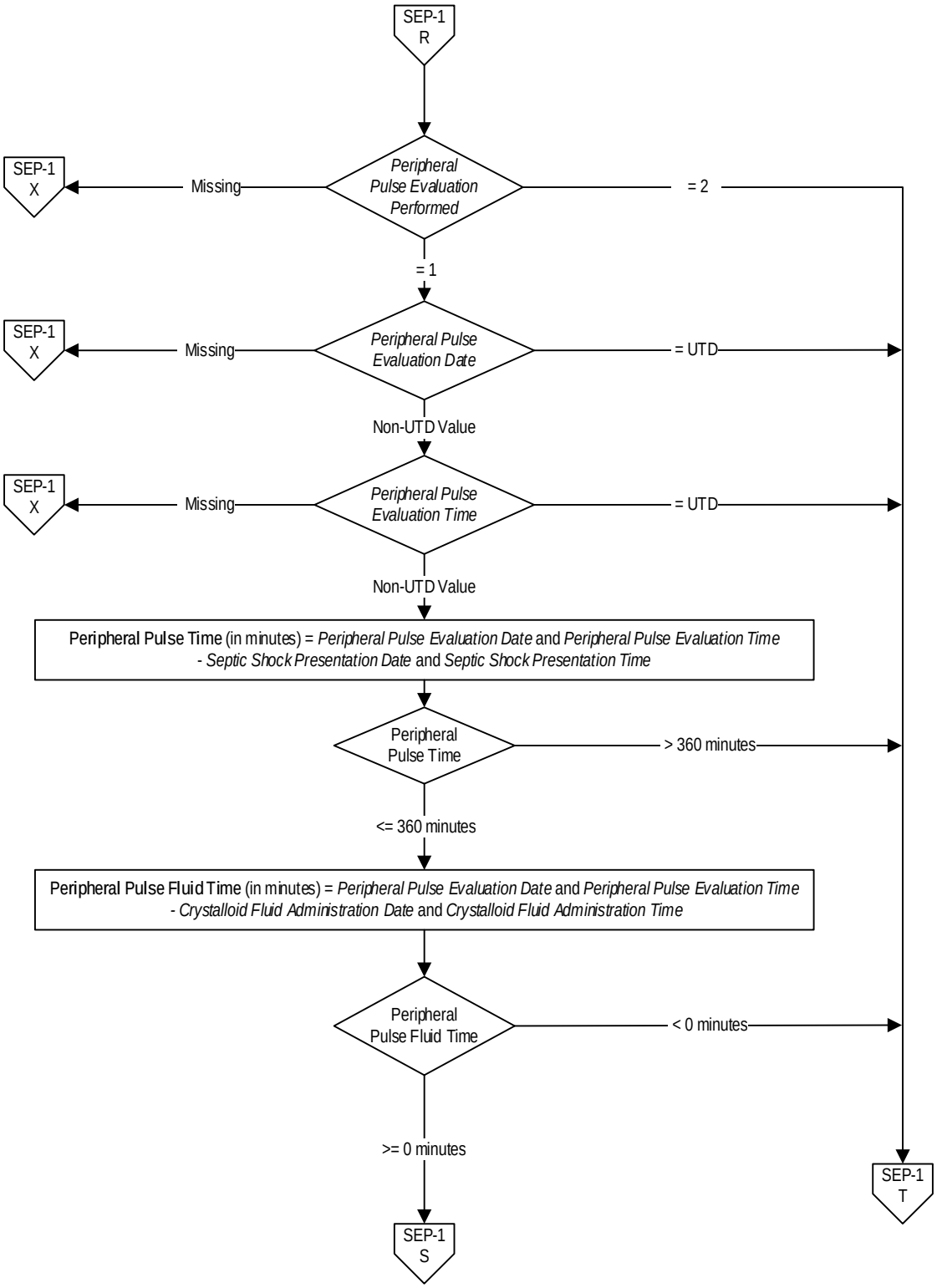
- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Documentation of what constitutes or is acceptable for a capillary refill examination is defined in the *Capillary Refill Examination Performed* data element.
- If there are multiple capillary refill examinations performed, abstract the time of the latest measurement documented within the allowable time window.
- If the capillary refill exam is in a physician note without a specific time documented within the note, use the time the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes**.**

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None


SEP-1 R
Peripheral Pulse Evaluation Performed
Missing
SEP-1 X
= 2
= 1
Peripheral Pulse Evaluation Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Peripheral Pulse Evaluation Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Peripheral Pulse Time (in minutes) = Peripheral Pulse Evaluation Date and Peripheral Pulse Evaluation Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Peripheral Pulse Time
> 360 minutes
<= 360 minutes
Peripheral Pulse Fluid Time (in minutes) = Peripheral Pulse Evaluation Date and Peripheral Pulse Evaluation Time - Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time
Peripheral Pulse Fluid Time
< 0 minutes
>= 0 minutes
SEP-1 S
SEP-1 T

Data Element Name: *Peripheral Pulse Evaluation Performed*

Collected For CMS: SEP-1

Definition: Documentation of a peripheral pulse evaluation.

Suggested Data Collection Question: Was a peripheral pulse evaluation documented by a physician/APN/PA?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Peripheral pulse evaluation was documented by a physician/APN/PA in the time window beginning at the crystalloid fluid administration date and time and ending six hours after the presentation of septic shock date and time.
2 (No)	Peripheral pulse evaluation was not documented by a physician/APN/PA in the time window beginning at the crystalloid fluid administration date and time and ending six hours after the presentation of septic shock date and time, or unable to determine.

Notes for Abstraction:

- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Peripheral pulse evaluation can be documented by **any one of the following 3 ways**:
  - Physician/APN/PA documentation of an inclusion term or similar terms that reference peripheral pulses.

    Example:
    Physician/APN/PA documentation of "pulses present in all extremities."
  - Physician/APN/PA documentation that a peripheral pulse evaluation was reviewed, performed, or attested to reviewing or performing.

    Example:
    Physician/APN/PA documents "Agree with nurse's peripheral pulse assessment."
  - Physician/APN/PA documentation of performing or attesting to performing a physical exam, perfusion (re-perfusion) assessment, or sepsis (severe sepsis or septic shock) focused exam.

    Example:
    Physician/APN/PA documents "sepsis exam done."

- A title or heading of a form, section, or assessment should not be used.

  Example:
  In the H&P there is a heading called “physical exam.”

- If there are no peripheral pulse evaluations documented or documentation reflects the assessment was not performed in the allowable time window, choose Value “2.”
- If the peripheral pulse evaluation is in a physician/APN/PA note without a specific time, use the time the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:

- Dorsalis pedis pulse
- DP pulse
- Peripheral pulse(s)
- Posterior tibialis pulse
- PT pulse
- Radial pulse

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Peripheral Pulse Evaluation Date*

Collected For CMS: SEP-1

Definition: Documentation of the date indicating a peripheral pulse evaluation was performed.

Suggested Data Collection Question: On what date was a peripheral pulse evaluation documented by a physician/APN/PA?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Documentation of what constitutes or is acceptable for a peripheral pulse evaluation is defined in the *Peripheral Pulse Evaluation Performed* data element.
- If there are multiple peripheral pulse evaluations performed, abstract the date of the latest measurement documented within the allowable time window.
- If the peripheral pulse evaluation is in a physician note without a specific date documented within the note, use the date the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Peripheral Pulse Evaluation Time*

Collected For CMS: SEP-1

Definition: Documentation of the time indicating a peripheral pulse evaluation was performed.

Suggested Data Collection Question: At what time was a peripheral pulse evaluation documented by a physician/APN/PA?

Format:

Length: 5 - HH-MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

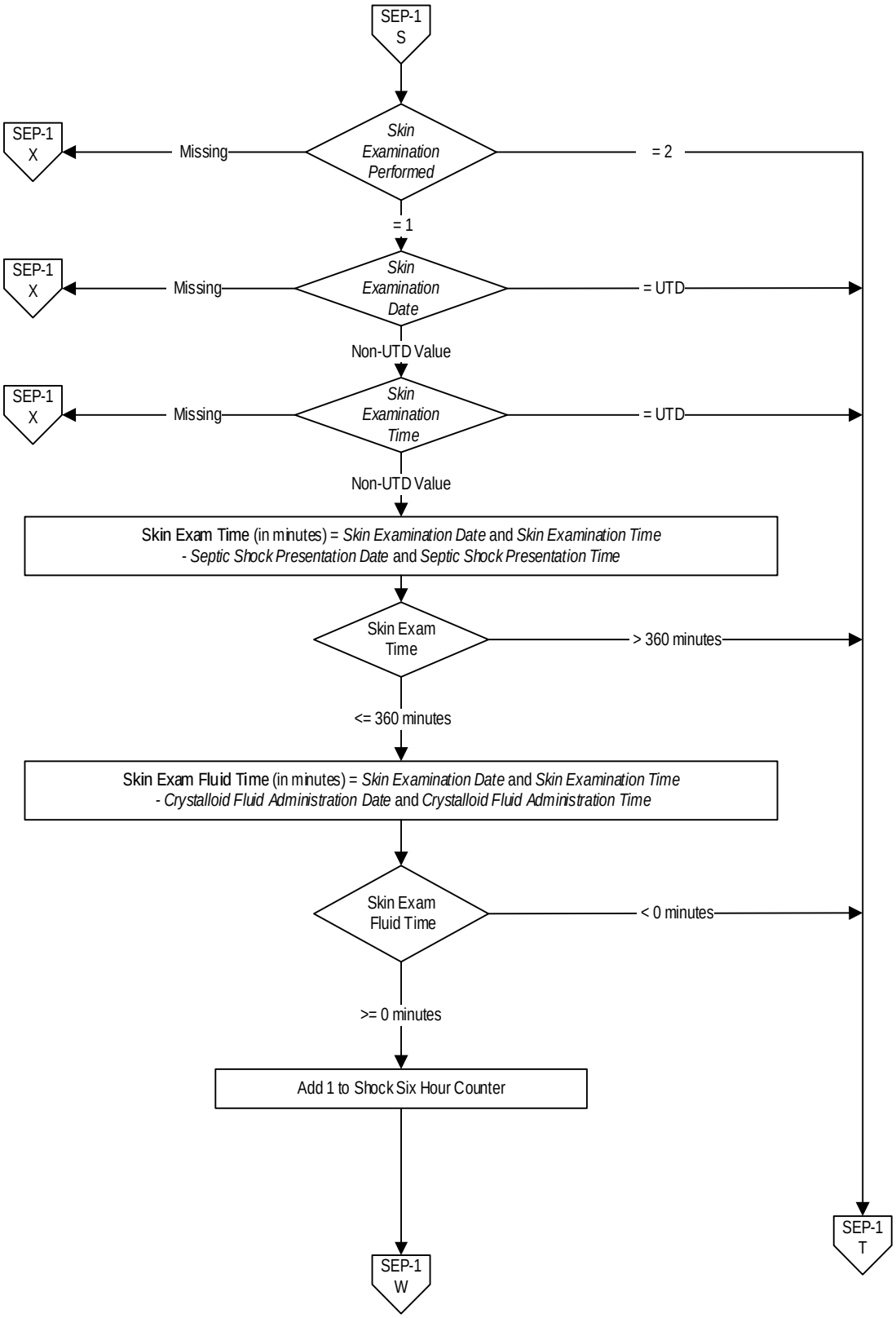
- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Documentation of what constitutes or is acceptable for a peripheral pulse evaluation is defined in the *Peripheral Pulse Evaluation Performed* data element.
- If there are multiple peripheral pulse evaluations performed, abstract the time of the latest measurement documented within the allowable time window.
- If the peripheral pulse evaluation is in a physician note without a specific time documented within the note, use the time the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None


SEP-1 S
Skin Examination Performed
Missing
SEP-1 X
= 2
= 1
Skin Examination Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Skin Examination Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Skin Exam Time (in minutes) = Skin Examination Date and Skin Examination Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Skin Exam Time
> 360 minutes
<= 360 minutes
Skin Exam Fluid Time (in minutes) = Skin Examination Date and Skin Examination Time - Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time
Skin Exam Fluid Time
< 0 minutes
>= 0 minutes
Add 1 to Shock Six Hour Counter
SEP-1 W
SEP-1 T

Data Element Name: *Skin Examination Performed*

Collected For CMS: SEP-1

Definition: Documentation of a skin examination.

Suggested Data Collection Question: Was a skin examination documented by a physician/APN/PA?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Skin examination was documented by a physician/APN/PA
2 (No)	Skin examination was not documented by a physician/APN/PA, or unable to determine

Notes for Abstraction:

- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Skin Examination can be documented by **any one of the following 3 ways**:
  - Physician/APN/PA documentation of skin color or appearance or condition.
    - This can be documented as any one of the three (color, appearance, or condition).
    - Documentation of an inclusion term or similar terminology is acceptable.

      Example:
      Physician/APN/PA documents in the skin section “pink, warm and dry.”
    - Documentation of an inclusion term that is not identified as or references the skin, is acceptable.
  - Physician/APN/PA documentation that a skin exam was reviewed, performed, or attested to reviewing or performing.
    - If documented this way, reference to skin color, appearance, or condition is not required.

      Example:
      Physician/APN/PA documents “Reviewed the nurse’s skin assessment.”
  - Physician/APN/PA documentation of performing or attesting to performing a physical exam, perfusion (re-perfusion) assessment, or sepsis (severe sepsis or septic shock) focused exam.

    Example:
    Physician/APN/PA documents “sepsis exam done.”

- A title or heading of a form, section, or assessment should not be used.

  Example:
  In the H&P there is a heading called “physical exam.”

- If there are no skin examinations documented or documentation reflects the assessment was not performed in the allowable time window, choose Value “2.”
- If the skin examination is in a physician/APN/PA note without a specific time, use the time the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:

- Clammy
- Cool
- Cyanotic
- Dry
- Edema
- Flushed
- Moist
- Mottled
- No cyanosis
- Pale
- Pallor
- Pink
- Turgor
- Warm

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Skin Examination Date*

Collected For CMS: SEP-1

Definition: Documentation of the date indicating a skin examination was performed.

Suggested Data Collection Question: On what date was a skin examination documented by a physician/APN/PA?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Documentation of what constitutes or is acceptable for a skin examination is defined in the *Skin Examination Performed* data element.
- If there are multiple skin examinations performed, abstract the date of the latest measurement documented within the allowable time window.
- If the skin examination is in a physician note without a specific date documented within the note, use the date the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Skin Examination Time*

Collected For CMS: SEP-1

Definition: Documentation of the time indicating a skin examination was performed.

Suggested Data Collection Question: At what time was a skin examination documented by a physician/APN/PA?

Format:

Length: 5 - HH-MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

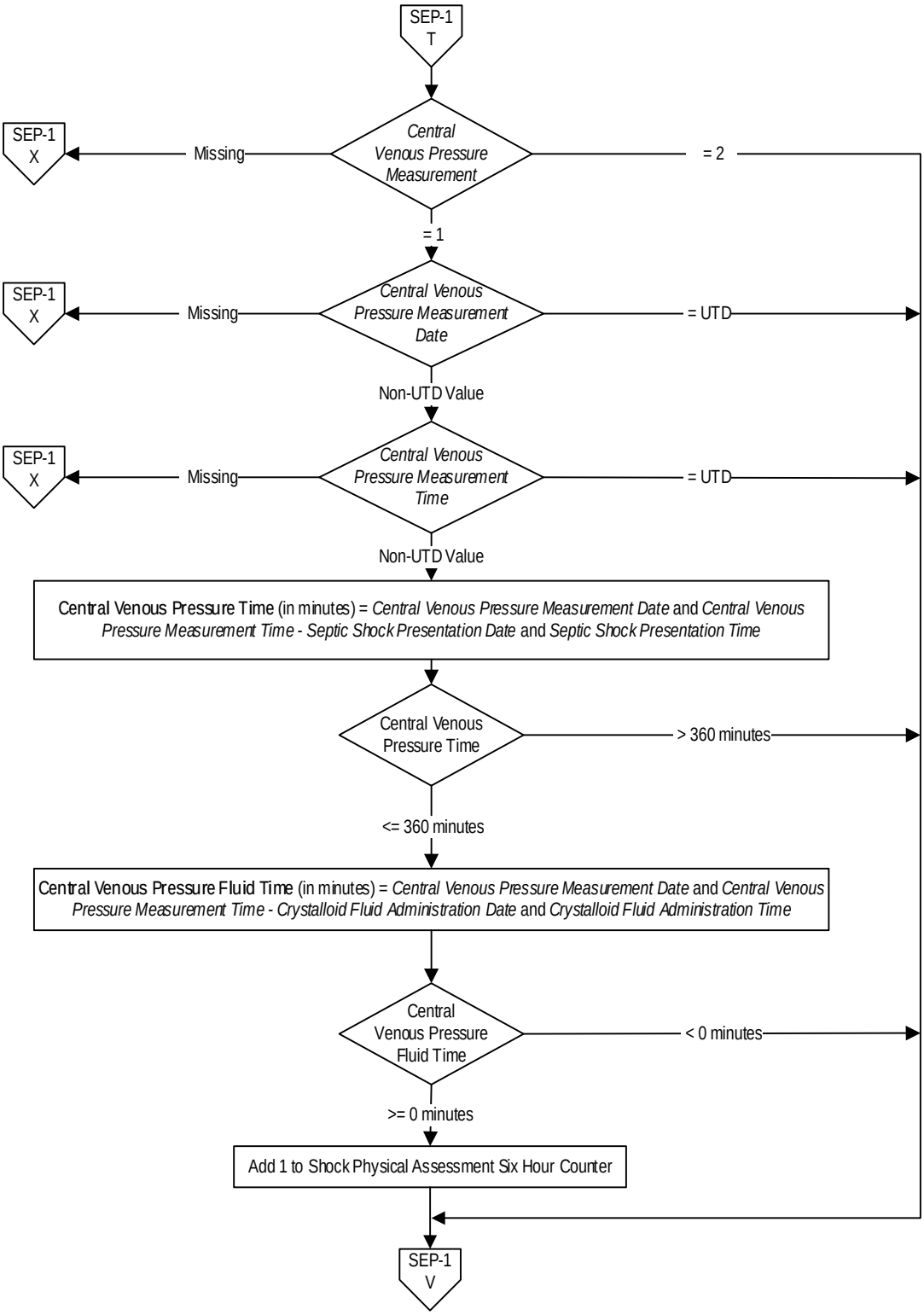
- Physician/APN/PA documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Documentation of what constitutes or is acceptable for a skin examination is defined in the *Skin Examination Performed* data element.
- If there are multiple skin examinations performed, abstract the time of the latest measurement documented within the allowable time window.
- If the skin examination is in a physician note without a specific time documented within the note, use the time the note was started or opened.

Suggested Data Sources:
PHYSICIAN/APN/PA DOCUMENTATION ONLY

- Consultation notes
- Emergency Department record
- History and physical
- Progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None


SEP-1 T
Central Venous Pressure Measurement
Missing
SEP-1 X
= 2
= 1
Central Venous Pressure Measurement Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Central Venous Pressure Measurement Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Central Venous Pressure Time (in minutes) = Central Venous Pressure Measurement Date and Central Venous Pressure Measurement Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Central Venous Pressure Time
> 360 minutes
<= 360 minutes
Central Venous Pressure Fluid Time (in minutes) = Central Venous Pressure Measurement Date and Central Venous Pressure Measurement Time - Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time
Central Venous Pressure Fluid Time
< 0 minutes
>= 0 minutes
Add 1 to Shock Physical Assessment Six Hour Counter
SEP-1 V

Data Element Name: *Central Venous Pressure Measurement*

Collected For CMS: SEP-1

Definition: Documentation of measurement of central venous pressure.

Suggested Data Collection Question: Was a central venous pressure measurement obtained?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Central Venous Pressure Measurement was obtained within 6 hours after the presentation of septic shock.
2 (No)	Central Venous Pressure Measurement was not obtained within 6 hours after the presentation of septic shock, or unable to determine.

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Central Venous Pressure measurement may be expressed as CVP, central venous pressure, or RAP, right atrial pressure. Measurements from PICC lines (peripherally inserted central catheters) are acceptable.
- There must be an indication that the reading was obtained via central venous catheter; the indication may be a notation such as “via central catheter” or “via CVP” after a pressure reading, or the pressure reading may be recorded on a flow sheet in an area designated for central venous catheter readings.
- If there are no central venous pressure measurements documented or documentation reflects the assessment was not performed in the allowable time window, choose Value “2.”

Suggested Data Sources:

- Critical Care flow sheet
- Nurses notes
- Physician/APN/PA notes
- Procedure notes
- Respiratory Therapy notes or flow sheet
- Vital signs flow sheet

Inclusion Guidelines for Abstraction:

- Central venous pressure
- CVP
- RAP
- Right atrial pressure

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Central Venous Pressure Measurement Date*

Collected For CMS: SEP-1

Definition: The date on which a central venous pressure measurement was obtained.

Suggested Data Collection Question: What was the date on which a central venous pressure measurement was obtained?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- If there are multiple central venous pressure measurements performed, abstract the date of the latest measurement documented within the allowable time window.
- Central Venous Pressure measurement may be expressed as CVP, central venous pressure, or RAP, right atrial pressure.

Suggested Data Sources:

- Critical Care flow sheet
- Nurses notes
- Physician/APN/PA notes
- Procedure notes
- Respiratory Therapy notes or flow sheet
- Vital signs flow sheet

Inclusion Guidelines for Abstraction:

- Central venous pressure
- CVP
- RAP
- Right atrial pressure

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Central Venous Pressure Measurement Time*

Collected For CMS: SEP-1

Definition: The time at which a central venous pressure measurement was obtained.

Suggested Data Collection Question: What was the time at which a central venous pressure measurement was obtained?

Format:

Length: 5 – HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- If there are multiple central venous pressure measurements performed, abstract the time of the latest measurement documented within the allowable time window.
- Central Venous Pressure measurement may be expressed as CVP, central venous pressure, or RAP, right atrial pressure.

Suggested Data Sources:

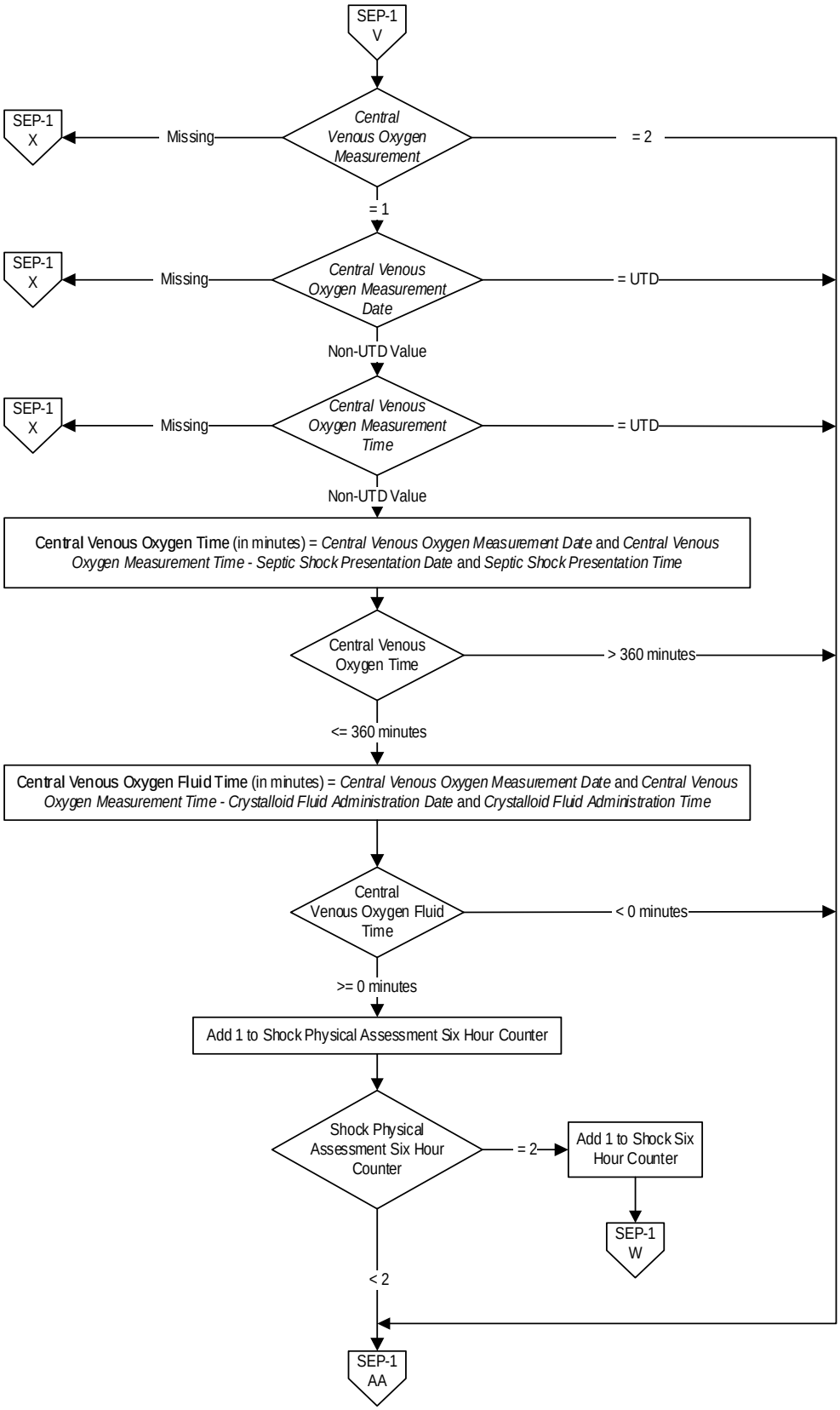
- Critical Care flow sheet
- Nurses notes
- Physician/APN/PA notes
- Procedure notes
- Respiratory Therapy notes or flow sheet
- Vital signs flow sheet

Inclusion Guidelines for Abstraction:

- Central venous pressure
- CVP
- RAP
- Right atrial pressure

Exclusion Guidelines for Abstraction:

None


SEP-1 V
Central Venous Oxygen Measurement
Missing
SEP-1 X
= 2
= 1
Central Venous Oxygen Measurement Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Central Venous Oxygen Measurement Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Central Venous Oxygen Time (in minutes) = Central Venous Oxygen Measurement Date and Central Venous Oxygen Measurement Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Central Venous Oxygen Time
> 360 minutes
<= 360 minutes
Central Venous Oxygen Fluid Time (in minutes) = Central Venous Oxygen Measurement Date and Central Venous Oxygen Measurement Time - Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time
Central Venous Oxygen Fluid Time
< 0 minutes
>= 0 minutes
Add 1 to Shock Physical Assessment Six Hour Counter
Shock Physical Assessment Six Hour Counter
= 2
Add 1 to Shock Six Hour Counter
SEP-1 W
< 2
SEP-1 AA

Data Element Name: *Central Venous Oxygen Measurement*

Collected For CMS: SEP-1

Definition: Documentation of measurement of central venous oxygen.

Suggested Data Collection Question: Was a central venous oxygen measurement obtained?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1(Yes)	Central Venous Oxygen Measurement was obtained within 6 hours after the presentation of septic shock.
2 (No)	Central Venous Oxygen Measurement was not obtained within 6 hours after the presentation of septic shock, or unable to determine.

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Central Venous Oxygen measurement may be expressed as SvO_2 or $ScvO_2$.
- There must be documentation reflecting the oxygen reading was obtained via central venous catheter. A notation such as via “central catheter” or “CVP catheter” or “central venous oximetry catheter” with an oxygen reading or the oxygen reading recorded on a flow sheet in an area designated for central venous catheter readings is acceptable. Measurements from PICC lines (peripherally inserted central catheters) are acceptable.
- If there are no central venous oxygen measurements documented or documentation reflects the assessment was not performed in the allowable time window, choose Value “2.”

Suggested Data Sources:

- Critical Care flow sheet
- Nurses notes
- Physician/APN/PA notes
- Procedure notes
- Respiratory Therapy notes or flow sheet
- Vital signs flow sheet

Inclusion Guidelines for Abstraction:

- Oxygen saturation via central catheter
- SvO_2 or $ScvO_2$

Exclusion Guidelines for Abstraction:

- Oxygen saturation
- O_2 sats

Data Element Name: *Central Venous Oxygen Measurement Date*

Collected For CMS: SEP-1

Definition: The date on which the central venous oxygen measurement was obtained.

Suggested Data Collection Question: What was the date on which the central venous oxygen measurement was obtained?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- If there are multiple central venous oxygen measurements performed, abstract the date of the latest measurement documented within the allowable time window.
- Central Venous Oxygen Measurement may be expressed as SvO_2 or $ScvO_2$.
- There must be documentation reflecting the oxygen reading was obtained via central venous catheter. A notation such as via “central catheter” or “CVP catheter” or “central venous oximetry catheter” with an oxygen reading or the oxygen reading recorded on a flow sheet in an area designated for central venous catheter readings is acceptable.

Suggested Data Sources:

- Critical Care flow sheet
- Nurses notes
- Physician/APN/PA notes
- Procedure notes
- Respiratory Therapy notes or flow sheet
- Vital signs flow sheet

Inclusion Guidelines for Abstraction:

- Oxygen saturation via central catheter
- SvO_2 or $ScvO_2$

Exclusion Guidelines for Abstraction:

- Oxygen saturation
- O_2 sats

Data Element Name: *Central Venous Oxygen Measurement Time*

Collected For CMS: SEP-1

Definition: The time at which a central venous oxygen measurement was obtained.

Suggested Data Collection Question: What was the time at which a central venous oxygen measurement was obtained?

Format:

Length: 5 - HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- If there are multiple central venous oxygen measurements performed, abstract the time of the latest measurement documented within the allowable time window.
- Central Venous Oxygen measurement may be expressed as SvO_2 or $ScvO_2$.
- There must be documentation reflecting the oxygen reading was obtained via central venous catheter. A notation such as via “central catheter” or “CVP catheter” or “central venous oximetry catheter” with an oxygen reading or the oxygen reading recorded on a flow sheet in an area designated for central venous catheter readings is acceptable.

Suggested Data Sources:

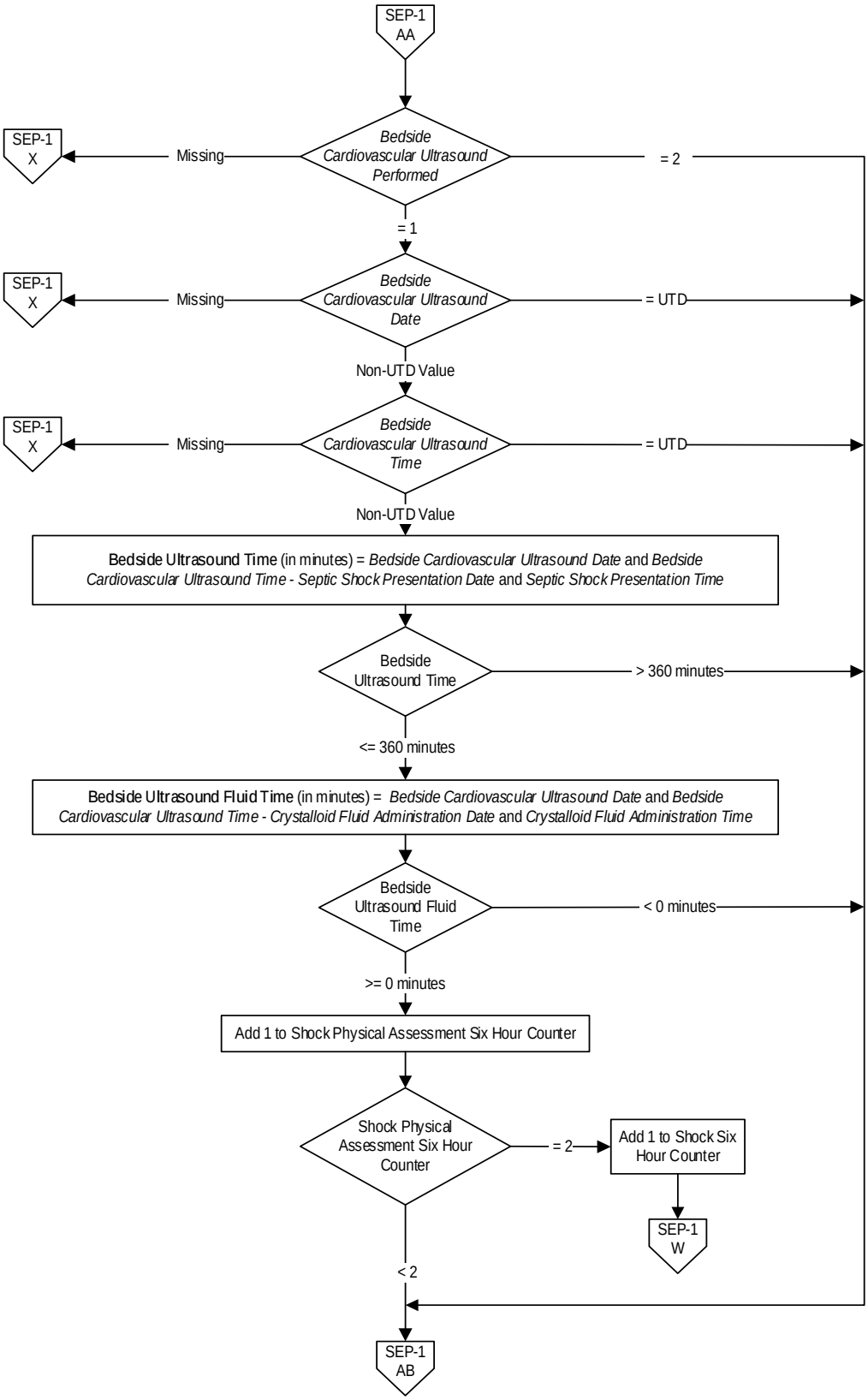
- Critical Care flow sheet
- Nurses notes
- Physician/APN/PA notes
- Procedure notes
- Respiratory Therapy notes or flow sheet Vital signs flow sheet
- Vital signs flow sheet

Inclusion Guidelines for Abstraction:

- Oxygen saturation via central catheter
- SvO_2 or $ScvO_2$

Exclusion Guidelines for Abstraction:

- Oxygen saturation
- O_2 sats


SEP-1 AA
Bedside Cardiovascular Ultrasound Performed
Missing
SEP-1 X
= 2
= 1
Bedside Cardiovascular Ultrasound Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Bedside Cardiovascular Ultrasound Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Bedside Ultrasound Time (in minutes) = Bedside Cardiovascular Ultrasound Date and Bedside Cardiovascular Ultrasound Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Bedside Ultrasound Time
> 360 minutes
<= 360 minutes
Bedside Ultrasound Fluid Time (in minutes) = Bedside Cardiovascular Ultrasound Date and Bedside Cardiovascular Ultrasound Time - Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time
Bedside Ultrasound Fluid Time
< 0 minutes
>= 0 minutes
Add 1 to Shock Physical Assessment Six Hour Counter
Shock Physical Assessment Six Hour Counter
= 2
Add 1 to Shock Six Hour Counter
SEP-1 W
< 2
SEP-1 AB

Data Element Name: *Bedside Cardiovascular Ultrasound Performed*

Collected For CMS: SEP-1

Definition: Documentation of performance of a bedside cardiovascular ultrasound.

Suggested Data Collection Question: Was a bedside cardiovascular ultrasound performed?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Bedside cardiovascular ultrasound was performed in the time window beginning at the crystalloid fluid administration date and time and ending six hours after the presentation of septic shock date and time.
2 (No)	Bedside cardiovascular ultrasound was not performed in the time window beginning at the crystalloid fluid administration date and time and ending six hours after the presentation of septic shock date and time, or unable to determine.

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Bedside cardiovascular ultrasound may be referred to in alternate terms as echocardiogram, trans-thoracic echo, trans-esophageal echo, IVC Ultrasound, 2D echo, cardiac echo, Doppler echocardiogram, echocardiogram with Doppler, or Doppler ultrasound of the heart.
- If the cardiovascular ultrasound is performed in a location other than the bedside, for example in the imaging department or ultrasound department, choose Value "1."
- Only abstract documentation indicating actual performance of the ultrasound. Terms such as "EKG here" or "ultrasound at bedside" do not indicate actual performance of the test. "Bedside cardiac echo done" and similar terms are acceptable if they document actual performance of the procedure.
- If no bedside cardiovascular ultrasounds were documented or documentation reflects the assessment was not performed in the allowable time window, choose Value "2."

Suggested Data Sources:

- Bedside cardiovascular ultrasound report
- Nurses notes

Inclusion Guidelines for Abstraction:

- 2D echo
- Bedside cardiac echo (or other allowable term above) done
- Cardiac echo
- Doppler echocardiogram
- Doppler ultrasound of the heart
- Echocardiogram
- Echocardiogram with Doppler
- Inferior Vena Cava Ultrasound
- IVC Ultrasound
- TEE
- Trans-thoracic echo
- Trans-esophageal echo
- TTE

Exclusion Guidelines for Abstraction:

- EKG here
- Ultrasound here
- Ultrasound ordered

Data Element Name: *Bedside Cardiovascular Ultrasound Date*

Collected For CMS: SEP-1

Definition: Documentation of the date of performance of a bedside cardiovascular ultrasound.

Suggested Data Collection Question: On what date was a bedside cardiovascular ultrasound performed?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- If there are multiple bedside cardiovascular ultrasounds performed, abstract the date and time of the latest measurement documented within the allowable time window.
- Use the bedside cardiovascular ultrasound date and time documented in nursing notes or on bedside cardiovascular ultrasound report documents. Only abstract documentation indicating actual performance of the ultrasound. Terms such as “EKG here” or “ultrasound at bedside” do not indicate actual performance of the test. “Bedside cardiac echo done” and similar terms are acceptable if they document actual performance of the procedure. See the data element *Bedside Cardiovascular Ultrasound Performed* for similar terms for this procedure.
- Do not use physician orders to determine that a bedside cardiovascular ultrasound was performed as orders do not demonstrate actual performance.

Suggested Data Sources:

- Bedside cardiovascular ultrasound report
- Nursing notes
- Physician/APN/PA progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Bedside Cardiovascular Ultrasound Time*

Collected For CMS: SEP-1

Definition: Documentation of the time of performance of a bedside cardiovascular ultrasound.

Suggested Data Collection Question: At what time was a bedside cardiovascular ultrasound performed?

Format:

Length: 5 – HH:MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

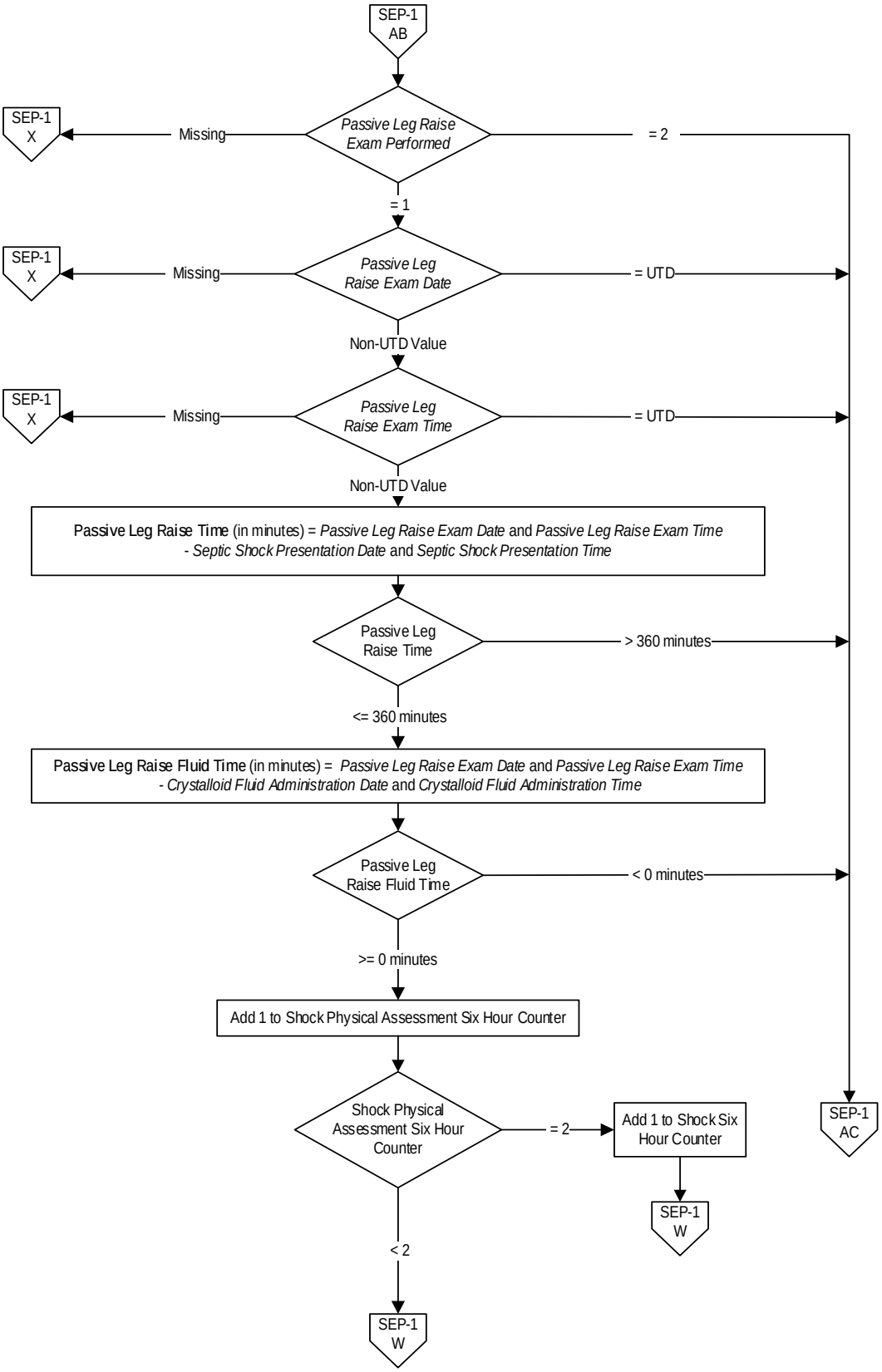
- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- If there are multiple bedside cardiovascular ultrasounds performed, abstract the time of the latest measurement documented within the allowable time window.
- Use the bedside cardiovascular ultrasound time documented in nursing notes or on bedside cardiovascular ultrasound report documents. Only abstract documentation indicating actual performance of the ultrasound. Terms such as “EKG here” or “ultrasound at bedside” do not indicate actual performance of the test. “Bedside cardiac echo done” and similar terms are acceptable if they document actual performance of the procedure. See the data element *Bedside Cardiovascular Ultrasound Performed* for similar terms for this procedure.
- Do not use physician orders to determine that a bedside cardiovascular ultrasound was performed as orders do not demonstrate actual performance.

Suggested Data Sources:

- Bedside cardiovascular ultrasound report
- Nursing notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None


SEP-1 AB
Passive Leg Raise Exam Performed
Missing
SEP-1 X
= 2
= 1
Passive Leg Raise Exam Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Passive Leg Raise Exam Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Passive Leg Raise Time (in minutes) = Passive Leg Raise Exam Date and Passive Leg Raise Exam Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Passive Leg Raise Time
> 360 minutes
<= 360 minutes
Passive Leg Raise Fluid Time (in minutes) = Passive Leg Raise Exam Date and Passive Leg Raise Exam Time - Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time
Passive Leg Raise Fluid Time
< 0 minutes
>= 0 minutes
Add 1 to Shock Physical Assessment Six Hour Counter
Shock Physical Assessment Six Hour Counter
= 2
Add 1 to Shock Six Hour Counter
SEP-1 W
SEP-1 AC
< 2
SEP-1 W

Data Element Name: *Passive Leg Raise Exam Performed*

Collected For CMS: SEP-1

Definition: Documentation of performance of a passive leg raise examination.

Suggested Data Collection Question: Was there documentation that a passive leg raise examination was performed?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Passive leg raise examination was documented in the time window beginning at the crystalloid fluid administration date and time and ending six hours after the presentation of septic shock date and time.
2 (No)	Passive leg raise examination was not documented in the time window beginning at the crystalloid fluid administration date and time and ending six hours after the presentation of septic shock date and time, or unable to determine.

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- Passive leg raise examination may be referred to in alternate terms as PLR or leg raise and is commonly noted to be either positive or negative. With the patient in a semi-recumbent position, both legs are raised to a 45 degree angle to evaluate the vital sign response to additional fluid load.
- If there are no passive leg raise examinations documented or documentation reflects the assessment was not performed in the allowable time window, choose Value “2.”

Suggested Data Sources:

- Consultation notes
- Critical Care flow sheet
- Emergency Department record
- History and physical
- Nurses notes
- Progress notes

Inclusion Guidelines for Abstraction:

- Leg raise
- Passive leg raise examination result
- PLR result

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Passive Leg Raise Exam Date*

Collected For CMS: SEP-1

Definition: Documentation of the date indicating a passive leg raise examination was performed.

Suggested Data Collection Question: On what date was a passive leg raise examination documented?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- If there are multiple passive leg raise exams performed, abstract the date and time of the latest measurement documented within the allowable time window.
- Only abstract documentation indicating actual performance of a passive leg raise exam.

Suggested Data Sources:

- Consultation notes
- Critical Care flow sheet
- Emergency Department record
- History and physical
- Nurses notes
- Progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Passive Leg Raise Exam Time*

Collected For CMS: SEP-1

Definition: Documentation of the time indicating a passive leg raise examination was performed.

Suggested Data Collection Question: At what time was a passive leg raise examination documented?

Format:

Length: 5 - HH-MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 p.m. – 23:59

Notes for Abstraction:

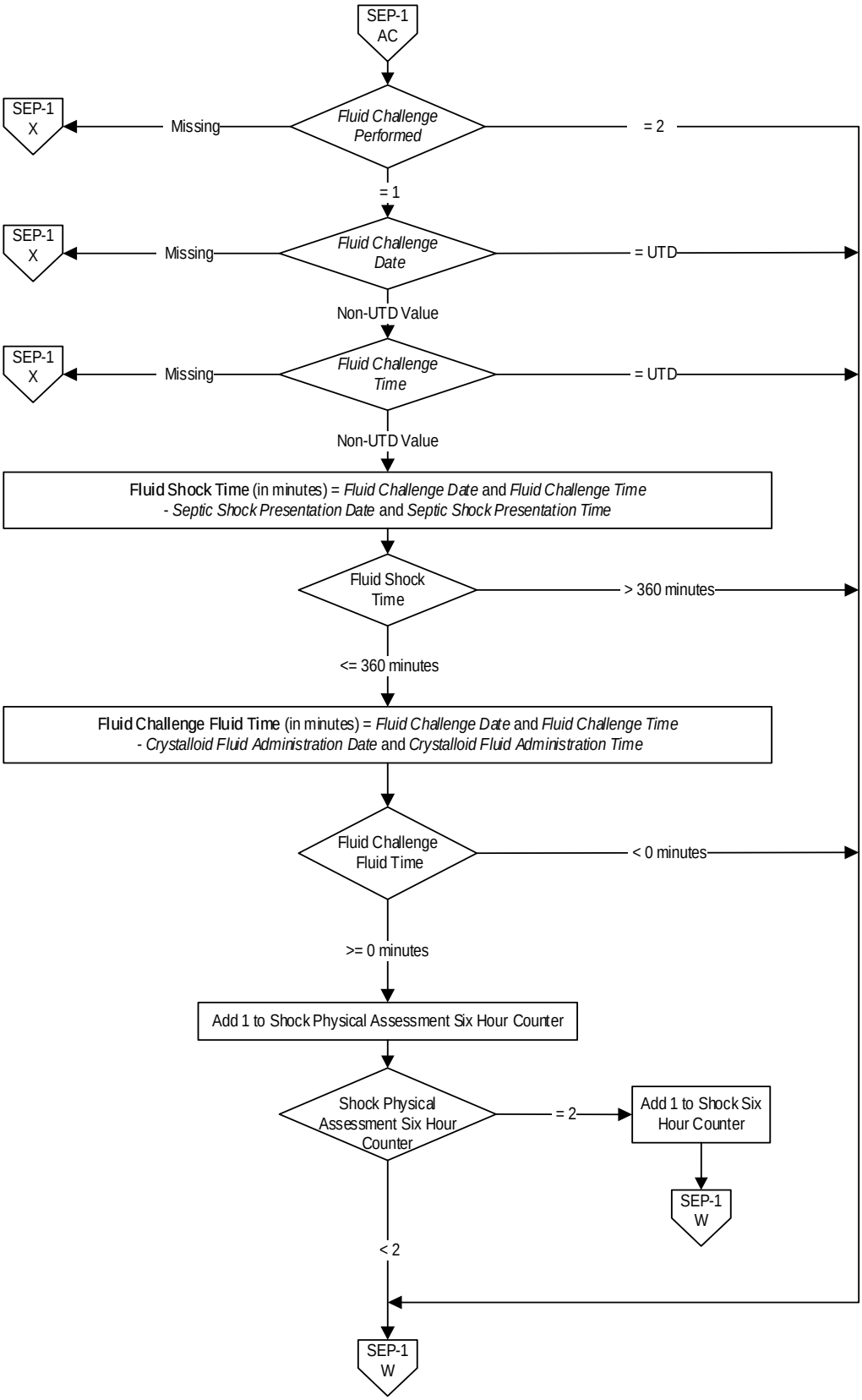
- Documentation must occur or reflect the assessment was performed between *Crystalloid Fluid Administration Date, Crystalloid Fluid Administration Time* and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time*.
- If there are multiple passive leg raise exams performed, abstract the date and time of the latest measurement documented within the allowable time window.
- Only abstract documentation indicating actual performance of a passive leg raise exam.

Suggested Data Sources:

- Consultation notes
- Critical Care flow sheet
- Emergency Department record
- History and physical
- Nurses notes
- Progress notes

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None


SEP-1 AC
Fluid Challenge Performed
Missing
SEP-1 X
= 2
= 1
Fluid Challenge Date
Missing
SEP-1 X
= UTD
Non-UTD Value
Fluid Challenge Time
Missing
SEP-1 X
= UTD
Non-UTD Value
Fluid Shock Time (in minutes) = Fluid Challenge Date and Fluid Challenge Time - Septic Shock Presentation Date and Septic Shock Presentation Time
Fluid Shock Time
> 360 minutes
<= 360 minutes
Fluid Challenge Fluid Time (in minutes) = Fluid Challenge Date and Fluid Challenge Time - Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time
Fluid Challenge Fluid Time
< 0 minutes
>= 0 minutes
Add 1 to Shock Physical Assessment Six Hour Counter
Shock Physical Assessment Six Hour Counter
= 2
Add 1 to Shock Six Hour Counter
SEP-1 W
< 2
SEP-1 W

Data Element Name: *Fluid Challenge Performed*

Collected For CMS: SEP-1

Definition: Documentation of performance of a fluid challenge.

Suggested Data Collection Question: Was a fluid challenge performed?

Format:

Length: 1
Type: Alphanumeric
Occurs: 1

Allowable Values:

1 (Yes)	Fluid challenge was performed in the time window beginning at the completion of the crystalloid fluid administration and ending six hours after the presentation of septic shock date and time
2 (No)	Fluid challenge was not performed in the time window beginning at the completion of the crystalloid fluid administration and ending six hours after the presentation of septic shock date and time, or unable to determine

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between the completion of the crystalloid fluid administration and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time.*
- A fluid challenge is done after the target ordered volume (30mL/kg or up to 10% less than 30mL/kg) of crystalloid fluid is administered.
- Refer to the *Crystalloid Fluid Administration* data element for acceptable crystalloid fluids.
- A fluid challenge could be documented **any one of the following 3 ways** and requires a review of the IV fluid administration record to determine if a physician/APN/PA order or physician/APN/PA documentation of a fluid challenge was carried out.
  - An order including one of the terms in the Inclusion Guidelines for Abstraction or a similar term and identifies the IV fluid, volume, and time to infuse.
  - An order for 500mL-1000 mL to be given over 15 to 30 minutes.
  - Physician/APN/PA documentation of “fluid challenge infused” or “fluid challenge completed,” or similar terms indicating that a fluid challenge was done.
- If there are no fluid challenges documented or documentation reflects the assessment was not performed in the allowable time window, choose Value “2.”

Suggested Data Sources:

- IV therapy record
- MAR
- Nurses notes
- Physician/APN/PA order

Inclusion Guidelines for Abstraction:

- Fluid bolus
- Fluid challenge
- Rapid fluid infusion

Exclusion Guidelines for Abstraction:

None

Data Element Name: *Fluid Challenge Date*

Collected For CMS: SEP-1

Definition: Documentation of the date of performance of a fluid challenge.

Suggested Data Collection Question: On what date was a fluid challenge performed?

Format:

Length: 10 – MM-DD-YYYY (includes dashes) or UTD
Type: Date
Occurs: 1

Allowable Values:

MM = Month (01-12)
DD = Day (01-31)
YYYY = Year (20xx)
UTD = Unable to Determine

Notes for Abstraction:

- Documentation must occur or reflect the assessment was performed between the completion of the crystalloid fluids and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time.*
- If there are multiple fluid challenges performed, abstract the latest fluid challenge done within the allowable time window.
- Abstract the date and time the fluid challenge was initiated or started. Do not abstract when the IV line was started or when the order for the fluid challenge was received.
- If a physician/APN/PA note documents “fluid challenge infused” or “fluid challenge completed,” or similar terms indicating that a fluid challenge was done, consult the IV therapy record to determine the date the infusion was begun.

Suggested Data Sources:

- IV therapy record
- MAR
- Nurses notes
- Physician/APN/PA order

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None

Data Element Name: *Fluid Challenge Time*

Collected For CMS: SEP-1

Definition: Documentation of the time of performance of a fluid challenge examination.

Suggested Data Collection Question: At what time was a fluid challenge performed?

Format:

Length: 5 - HH-MM (with or without colon) or UTD
Type: Time
Occurs: 1

Allowable Values:

HH = Hour (00-23)
MM = Minutes (00-59)
UTD = Unable to Determine

Time must be recorded in military time format.
With the exception of Midnight and Noon:

- If the time is in the a.m., conversion is not required
- If the time is in the p.m., add 12 to the clock time hour

Examples:

Midnight – 00:00	Noon – 12:00
5:31 am – 05:31	5:31 pm – 17:31
11:59 am – 11:59	11:59 pm – 23:59

Notes for Abstraction:

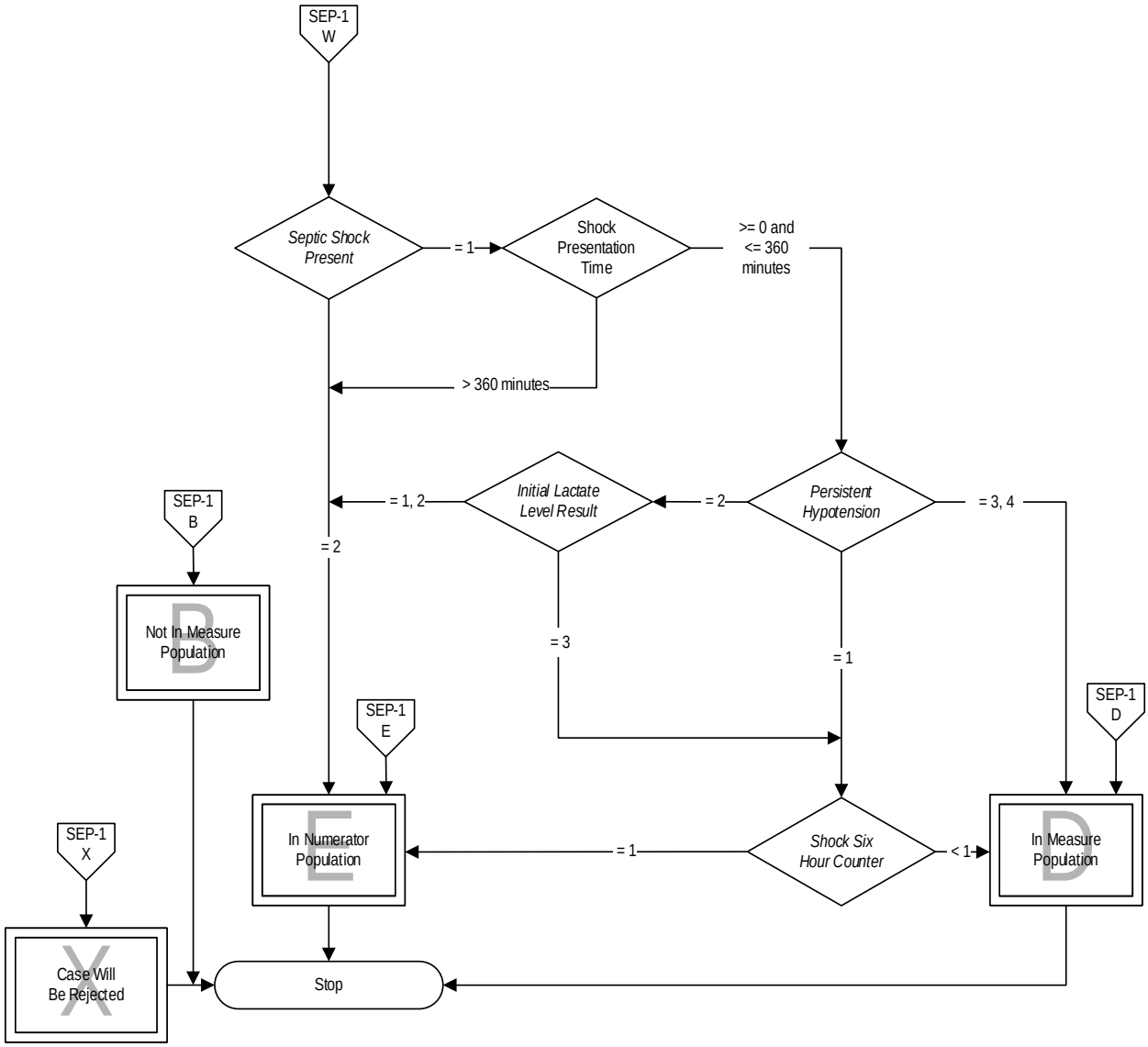
- Documentation must occur or reflect the assessment was performed between the completion of the crystalloid fluids and six hours after *Septic Shock Presentation Date, Septic Shock Presentation Time.*
- If there are multiple fluid challenges performed, abstract the latest fluid challenge done within the allowable time window.
- Abstract the date and time the fluid challenge was initiated or started. Do not abstract when the IV line was started or when the order for fluid challenge was received.
- If a physician/APN/PA note documents “fluid challenge infused” or “fluid challenge completed,” or similar terms indicating that a fluid challenge was done, consult the IV therapy record to determine the time the infusion was begun.

Suggested Data Sources:

- IV therapy record
- MAR
- Nurses notes
- Physician/APN/PA order

Inclusion Guidelines for Abstraction:
None

Exclusion Guidelines for Abstraction:
None


SEP-1 W
Septic Shock Present
= 1
Shock Presentation Time
>= 0 and <= 360 minutes
> 360 minutes
= 2
Initial Lactate Level Result
= 1, 2
= 2
Persistent Hypotension
= 3, 4
SEP-1 B
Not In Measure Population
B
= 3
= 1
SEP-1 E
In Numerator Population
E
SEP-1 D
In Measure Population
D
Shock Six Hour Counter
= 1
< 1
SEP-1 X
Case Will Be Rejected
X
Stop

Algorithm Narrative
Sepsis (SEP) Initial Patient Population

Variable Key: Patient Age, Initial Patient Population Reject Case Flag, and Length of Stay

1. Start SEP Initial Patient Population logic sub-routine. Process all cases that have successfully reached the point in the Transmission Data Processing Flow: Clinical which calls this Initial Patient Population Algorithm. Do not process cases that have been rejected before this point in the Transmission Data Processing Flow: Clinical.
2. Check ICD-10-CM Principal or Other Diagnosis Codes
    a. If the ICD-10-CM Principal or Other Diagnosis Codes is not on Table 4.01, the patient is not in the SEP Initial Patient Population and is not eligible to be sampled for the SEP measure set. Set the Initial Patient Population Reject Case Flag to equal Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If the ICD-10-CM Principal or Other Diagnosis Codes is on Table 4.01, continue processing and proceed to the patient age calculation.
3. Calculate Patient Age. Patient Age, in years, is equal to the Admission Date minus the Birthdate. Use the month and day portion of admission date and birthdate to yield the most accurate age.
4. Check Patient Age
    a. If the Patient Age is less than 18 years, the patient is not in the SEP Initial Patient Population and is not eligible to be sampled for the SEP measure set. Set the Initial Patient Population Reject Case Flag to equal Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If the Patient Age is greater than or equal to 18 years, continue processing and proceed to Length of Stay Calculation.
5. Calculate the Length of Stay. Length of Stay, in days, is equal to the Discharge Date minus the Admission Date.
6. Check Length of Stay
    a. If the Length of Stay is greater than 120 days, the patient is not in the SEP Initial Patient Population and is not eligible to be sampled for the SEP measure set. Set the Initial Patient Population Reject Case Flag to equal Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
    b. If the Length of Stay is less than or equal to 120 days, the patient is in the SEP Initial Patient Population and is eligible to be sampled for the SEP measure set. Set Initial Patient Population Reject Case Flag to equal No. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

Algorithm Narrative
Sepsis (SEP)-1: Early Management Bundle, Severe Sepsis/Septic Shock

Numerator: Patients who received ALL of the following:
Received within three hours of presentation of severe sepsis:

- Initial lactate level measurement
- Broad spectrum or other antibiotics administered
- Blood cultures drawn prior to antibiotics

AND received within six hours of presentation of severe sepsis:

- Repeat lactate level measurement only if initial lactate level is elevated

AND ONLY if:

Initial Hypotension present initiated within three hours of Initial Hypotension:

- Resuscitation with 30 mL/kg crystalloid fluids

OR

Septic Shock Present initiated within three hours of septic shock presentation:

- Resuscitation with 30 mL/kg crystalloid fluids

AND ONLY IF hypotension persists after fluid administration, received within six hours of presentation of septic shock:

- Vasopressors

AND ONLY if hypotension persists after fluid administration or initial lactate >= 4 mmol/L, received within six hours of presentation of septic shock:

- Repeat volume status and tissue perfusion assessment

Denominator: Inpatients age 18 and over with an ICD-10-CM Principal or Other Diagnosis Code of Sepsis, Severe Sepsis or Septic Shock as defined in Appendix A, Table 4.01

Variable Key: Sepsis Discharge Time, Shock Discharge Time, Shock Six Hour Counter, Shock Physical Assessment Six Hour Counter, Initial Lactate Time, Broad Spectrum Antibiotic Time, Blood Culture Time, Blood Culture Antibiotic Time, Repeat Lactate Time, Shock Presentation Time, Crystalloid Fluid Admin Time, Vasopressor Time, Vital Signs Time, Vital Signs Fluid Time, Cardiopulmonary Eval Time, Cardiopulmonary Evaluation Fluid Time, Capillary Refill Time, Capillary Refill Fluid Time, Peripheral Pulse Time, Peripheral Pulse Fluid Time, Skin Exam Time, Skin Exam Fluid Time, Central Venous Pressure Time, Central Venous Pressure Fluid Time, Central Venous Oxygen Time, Central Venous Oxygen Fluid Time, Bedside Ultrasound Time, Bedside Ultrasound Fluid Time, Passive Leg Raise Time, Passive Leg Raise Fluid Time, Fluid Shock Time, Fluid Challenge Fluid Time

1. Start processing. Run cases that are included in the Sepsis Initial Patient Population and pass the edits defined in the Transmission Data Processing Flow: Clinical through this measure.
2. Check Transfer from Another Hospital or ASC
    a. If Transfer from Another Hospital or ASC is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

b. If Transfer from Another Hospital or ASC equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
c. If Transfer from Another Hospital or ASC equals No, continue processing and proceed to Clinical Trial.

3. Check Clinical Trial

a. If Clinical Trial is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Clinical Trial equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
c. If Clinical Trial equals No, continue processing and proceed to Severe Sepsis Present.

4. Check Severe Sepsis Present

a. If Severe Sepsis Present is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Severe Sepsis Present equals 2, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
c. If Severe Sepsis Present equals 1, continue processing and proceed to Severe Sepsis Presentation Date.

5. Check Severe Sepsis Presentation Date

a. If Severe Sepsis Presentation Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Severe Sepsis Presentation Date equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
c. If Severe Sepsis Presentation Date equals a Non Unable to Determine Value, continue processing and proceed to Severe Sepsis Presentation Time.

6. Check Severe Sepsis Presentation Time

a. If Severe Sepsis Presentation Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Severe Sepsis Presentation Time equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
c. If Severe Sepsis Presentation Time equals a Non Unable to Determine Value, continue processing and proceed to Administrative Contraindication to Care, Severe Sepsis.

7. Check Administrative Contraindication to Care, Severe Sepsis

   a. If Administrative Contraindication to Care, Severe Sepsis is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Administrative Contraindication to Care, Severe Sepsis equals 1, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
   c. If Administrative Contraindication to Care, Severe Sepsis equals 2, continue processing and proceed to Directive for Comfort Care or Palliative Care, Severe Sepsis.

8. Check Directive for Comfort Care or Palliative Care, Severe Sepsis

   a. If Directive for Comfort Care or Palliative Care, Severe Sepsis is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Directive for Comfort Care or Palliative Care, Severe Sepsis equals 1, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
   c. If Directive for Comfort Care or Palliative Care, Severe Sepsis equals 2, continue processing and proceed to Discharge Disposition.

9. Check Discharge Disposition

   a. If Discharge Disposition is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Discharge Disposition equals 8 continue processing and proceed to Step 13.
   c. If Discharge Disposition equals 1, 2, 3, 4, 5, 6 or 7, continue processing and proceed to Discharge Time.

10. Check Discharge Time

   a. If Discharge Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Discharge Time equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
   c. If Discharge Time equals a Non Unable to Determine Value, continue processing and proceed to Sepsis Discharge Time calculation.

11. Calculate Sepsis Discharge Time. Sepsis Discharge Time, in minutes, is equal to the Discharge Date and Discharge Time minus the Severe Sepsis Presentation Date and Severe Sepsis Presentation Time.

12. Check Sepsis Discharge Time

   a. If Sepsis Discharge Time is less than 0 minutes, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Sepsis Discharge Time is greater than or equal to 0 minutes and less than or equal to 360 minutes, the case will proceed to a Measure

Category Assignment of B and will not be in the Measure Population. Stop processing.

c. If Sepsis Discharge Time is greater than 360 minutes, continue processing and proceed to Initialization step.

13. Initialize the following variables: Initialize Shock Six Hour Counter = 0, Initialize Shock Physical Assessment Six Hour Counter = 0.

14. Check Broad Spectrum or Other Antibiotic Administration

    a. If Broad Spectrum or Other Antibiotic Administration is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Broad Spectrum or Other Antibiotic Administration equals 2, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Broad Spectrum or Other Antibiotic Administration equals 1, continue processing and proceed to Broad Spectrum or Other Antibiotic Administration Date.

15. Check Broad Spectrum or Other Antibiotic Administration Date

    a. If Broad Spectrum or Other Antibiotic Administration Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Broad Spectrum or Other Antibiotic Administration Date equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Broad Spectrum or Other Antibiotic Administration Date equals a Non Unable to Determine Value, continue processing and proceed to Broad Spectrum or Other Antibiotic Administration Time.

16. Check Broad Spectrum or Other Antibiotic Administration Time

    a. If Broad Spectrum or Other Antibiotic Administration Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Broad Spectrum or Other Antibiotic Administration Time equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Broad Spectrum or Other Antibiotic Administration Time equals a Non Unable to Determine Value, continue processing and proceed to Broad Spectrum Antibiotic Time calculation.

17. Calculate Broad Spectrum Antibiotic Time. Broad Spectrum Antibiotic Time, in minutes, is equal to the Broad Spectrum or Other Antibiotic Administration Date and Broad Spectrum or Other Antibiotic Administration Time minus the Severe Sepsis Presentation Date and Severe Sepsis Presentation Time.

18. Check Broad Spectrum Antibiotic Time

    a. If Broad Spectrum Antibiotic Time is less than -1440 minutes, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
    b. If Broad Spectrum Antibiotic Time is greater than 180 minutes, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Broad Spectrum Antibiotic Time is greater than or equal to -1440 minutes and less than 0 minutes, continue processing and proceed to Step 20.
    d. If Broad Spectrum Antibiotic Time is greater than or equal to 0 minutes and less than or equal to 180 minutes, continue processing and proceed to Broad Spectrum or Other Antibiotic Administration Selection.

19. Check Broad Spectrum or Other Antibiotic Administration Selection

    a. If Broad Spectrum or Other Antibiotic Administration Selection is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Broad Spectrum or Other Antibiotic Administration Selection equals 2, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Broad Spectrum or Other Antibiotic Administration Selection equals 1, continue processing and proceed to Blood Culture Collection.

20. Check Blood Culture Collection

    a. If Blood Culture Collection is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Blood Culture Collection Selection equals 2, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Blood Culture Collection Selection equals 1, continue processing and proceed to Blood Culture Collection Date.

21. Check Blood Culture Collection Date

    a. If Blood Culture Collection Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Blood Culture Collection Date equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Blood Culture Collection Date equals a Non Unable to Determine Value, continue processing and proceed to Blood Culture Collection Time.

22. Check Blood Culture Collection Time

    a. If Blood Culture Collection Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

b. If Blood Culture Collection Time equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
c. If Blood Culture Collection Time equals a Non Unable to Determine Value, continue processing and proceed to Blood Culture Time calculation.

23. Calculate Blood Culture Time. Blood Culture Time, in minutes, is equal to the Blood Culture Collection Date and Blood Culture Collection Time minus the Severe Sepsis Presentation Date and Severe Sepsis Presentation Time.

24. Check Blood Culture Time

    a. If Blood Culture Time is less than -2880 minutes or greater than 180 minutes, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    b. If Blood Culture Time is greater than or equal to -2880 minutes and less than or equal to 180 minutes, continue processing and proceed to Blood Culture Antibiotic Time calculation.

25. Calculate Blood Culture Antibiotic Time. Blood Culture Antibiotic Time, in minutes, is equal to the Broad Spectrum or Other Antibiotic Administration Date and Broad Spectrum or Other Antibiotic Administration Time minus the Blood Culture Collection Date and Blood Culture Collection Time.

26. Check Blood Culture Antibiotic Time

    a. If Blood Culture Antibiotic Time is greater than or equal to 0 minutes, continue processing and proceed to Step 28.
    b. If Blood Culture Antibiotic Time is less than 0 minutes, continue processing and proceed to Blood Culture Collection Acceptable Delay.

27. Check Blood Culture Collection Acceptable Delay

    a. If Blood Culture Collection Acceptable Delay is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Blood Culture Collection Acceptable Delay equals 2, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Blood Culture Collection Acceptable Delay equals 1, continue processing and proceed to Initial Lactate Level Collection.

28. Check Initial Lactate Level Collection

    a. If Initial Lactate Level Collection is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Initial Lactate Level Collection equals 2, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Initial Lactate Level Collection equals 1, continue processing and proceed to Initial Lactate Level Date.

29. Check Initial Lactate Level Date

    a. If Initial Lactate Level Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Initial Lactate Level Date equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Initial Lactate Level Date equals a Non Unable to Determine Value, continue processing and proceed to Initial Lactate Level Time.

30. Check Initial Lactate Level Time

    a. If Initial Lactate Level Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Initial Lactate Level Time equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Initial Lactate Level Time equals a Non Unable to Determine Value, continue processing and proceed to Initial Lactate Time calculation.

31. Calculate Initial Lactate Time. Initial Lactate Time, in minutes, is equal to the Initial Lactate Level Date and Initial Lactate Level Time minus the Severe Sepsis Presentation Date and Severe Sepsis Presentation Time.

32. Check Initial Lactate Time

    a. If Initial Lactate Time is less than -360 minutes or greater than 180 minutes, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    b. If Initial Lactate Time is greater than or equal to -360 minutes and less than or equal to 180 minutes, continue processing and proceed to Initial Lactate Level Result.

33. Check Initial Lactate Level Result

    a. If Initial Lactate Level Result is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Initial Lactate Level Result equals 1, continue processing and proceed to Step 39.
    c. If Initial Lactate Level Result equals 2 or 3, continue processing and proceed to Repeat Lactate Level Collection.

34. Check Repeat Lactate Level Collection

    a. If Repeat Lactate Level Collection is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Repeat Lactate Level Collection equals 2, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Repeat Lactate Level Collection equals 1, continue processing and proceed to Repeat Lactate Level Date.

35. Check Repeat Lactate Level Date

    a. If Repeat Lactate Level Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Repeat Lactate Level Date equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Repeat Lactate Level Date equals a Non Unable to Determine Value, continue processing and proceed to Repeat Lactate Level Time.

36. Check Repeat Lactate Level Time

    a. If Repeat Lactate Level Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Repeat Lactate Level Time equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Repeat Lactate Level Time equals a Non Unable to Determine Value, continue processing and proceed to Repeat Lactate Time calculation.

37. Calculate Repeat Lactate Time. Repeat Lactate Time, in minutes, is equal to the Repeat Lactate Level Date and Repeat Lactate Level Time minus the Severe Sepsis Presentation Date and Severe Sepsis Presentation Time.

38. Check Repeat Lactate Time

    a. If Repeat Lactate Time is greater than 360 minutes, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    b. If Repeat Lactate Time is less than or equal to 360 minutes, continue processing and proceed to Initial Hypotension.

39. Check Initial Hypotension

    a. If Initial Hypotension is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Initial Hypotension equals 1, continue processing and proceed to Step 42.
    c. If Initial Hypotension equals 2, continue processing and proceed to Initial Lactate Level Result.

40. Check Initial Lactate Level Result

    a. If Initial Lactate Level Result equals 3, continue processing and proceed to Step 42.
    b. If Initial Lactate Level Result equals 1 or 2, continue processing and proceed to Documentation of Septic Shock.

41. Check Documentation of Septic Shock

    a. If Documentation of Septic Shock is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

b. If Documentation of Septic Shock equals 2, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
c. If Documentation of Septic Shock equals 1, continue processing and proceed to Crystalloid Fluid Administration.

42. Check Crystalloid Fluid Administration

a. If Crystalloid Fluid Administration is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Crystalloid Fluid Administration equals 2 or 3, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
c. If Crystalloid Fluid Administration equals 4, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
d. If Crystalloid Fluid Administration equals 1, continue processing and proceed to Crystalloid Fluid Administration Date.

43. Check Crystalloid Fluid Administration Date

a. If Crystalloid Fluid Administration Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Crystalloid Fluid Administration Date equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
c. If Crystalloid Fluid Administration Date equals a Non Unable to Determine Value, continue processing and proceed to Crystalloid Fluid Administration Time.

44. Check Crystalloid Fluid Administration Time

a. If Crystalloid Fluid Administration Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Crystalloid Fluid Administration Time equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
c. If Crystalloid Fluid Administration Time equals a Non Unable to Determine Value, continue processing and proceed to Septic Shock Present.

45. Check Septic Shock Present

a. If Septic Shock Present is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Septic Shock Present equals 2, continue processing and proceed to Step 138.
c. If Septic Shock Present equals 1, continue processing and proceed to Septic Shock Presentation Date.

46. Check Septic Shock Presentation Date

    a. If Septic Shock Presentation Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Septic Shock Presentation Date equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Septic Shock Presentation Date equals a Non Unable to Determine Value, continue processing and proceed to Septic Shock Presentation Time.

47. Check Septic Shock Presentation Time

    a. If Septic Shock Presentation Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Septic Shock Presentation Time equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    c. If Septic Shock Presentation Time equals a Non Unable to Determine Value, continue processing and proceed to Shock Presentation Time calculation.

48. Calculate Shock Presentation Time. Shock Presentation Time, in minutes, is equal to the Septic Shock Presentation Date and Septic Shock Presentation Time minus the Severe Sepsis Presentation Date and Severe Sepsis Presentation Time.

49. Check Shock Presentation Time

    a. If Shock Presentation Time is greater than 360 minutes, continue processing and proceed to Step 138.
    b. If Shock Presentation Time is less than 0 minutes, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    c. If Shock Presentation Time is greater than or equal to 0 minutes and less than or equal to 360 minutes, continue processing and proceed to Administrative Contraindication to Care, Septic Shock.

50. Check Administrative Contraindication to Care, Septic Shock

    a. If Administrative Contraindication to Care, Septic Shock is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Administrative Contraindication to Care, Septic Shock equals 1, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
    c. If Administrative Contraindication to Care, Septic Shock equals 2, continue processing and proceed to Directive for Comfort Care or Palliative Care, Septic Shock.

51. Check Directive for Comfort Care or Palliative Care, Septic Shock

    a. If Directive for Comfort Care or Palliative Care, Septic Shock is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Directive for Comfort Care or Palliative Care, Septic Shock equals 1, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
    c. If Directive for Comfort Care or Palliative Care, Septic Shock equals 2, continue processing and proceed to Discharge Disposition.

52. Check Discharge Disposition

    a. If Discharge Disposition equals 8 continue processing and proceed to Step 55.
    b. If Discharge Disposition equals 1, 2, 3, 4, 5, 6 or 7, continue processing and proceed to Shock Expired Time calculation.

53. Calculate Shock Discharge Time. Shock Discharge Time, in minutes, is equal to the Discharge Date and Discharge Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

54. Check Shock Discharge Time

    a. If Shock Discharge Time is greater than or equal to 0 minutes and less than or equal to 360 minutes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population.
    b. If Shock Discharge Time is less than 0 minutes, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    c. If Shock Discharge Time is greater than 360 minutes, continue processing and proceed to the Crystalloid Fluid Admin Time calculation.

55. Calculate Crystalloid Fluid Admin Time. Crystalloid Fluid Admin Time, in minutes, is equal to the Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

56. Check Crystalloid Fluid Admin Time

    a. If Crystalloid Fluid Admin Time is greater than 180 minutes, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    b. If Crystalloid Fluid Admin Time is less than or equal to 180 minutes, continue processing and proceed to Persistent Hypotension.

57. Check Persistent Hypotension

    a. If Persistent Hypotension is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Persistent Hypotension equals 1, continue processing and proceed to Step 59.

c. If Persistent Hypotension equals 2, 3 or 4, continue processing and proceed to Initial Lactate Level Result.

58. Check Initial Lactate Level Result

a. If Initial Lactate Level Result equals 1 or 2, continue processing and proceed to Step 138.
b. If Initial Lactate Level Result equals 3, continue processing and proceed to Step 64.

59. Check Vasopressor Administration

a. If Vasopressor Administration is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Vasopressor Administration equals 2, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
c. If Vasopressor Administration equals 1, continue processing and proceed to Vasopressor Administration Date.

60. Check Vasopressor Administration Date

a. If Vasopressor Administration Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Vasopressor Administration Date equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
c. If Vasopressor Administration Date equals a Non Unable to Determine Value, continue processing and proceed to Vasopressor Administration Time.

61. Check Vasopressor Administration Time

a. If Vasopressor Administration Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Vasopressor Administration Time equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
c. If Vasopressor Administration Time equals a Non Unable to Determine Value, continue processing and proceed to Vasopressor Time calculation.

62. Calculate Vasopressor Time. Vasopressor Time, in minutes, is equal to the Vasopressor Administration Date and Vasopressor Administration Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

63. Check Vasopressor Time

a. If Vasopressor Time is greater than 360 minutes, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
b. If Vasopressor Time is less than or equal to 360 minutes, continue processing and proceed to Vital Signs Review Performed.

64. Check Vital Signs Review Performed

    a. If Vital Signs Review Performed is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Vital Signs Review Performed equals 2, continue processing and proceed to Step 99.
    c. If Vital Signs Review Performed equals 1, continue processing and proceed to Vital Signs Review Date.

65. Check Vital Signs Review Date

    a. If Vital Signs Review Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Vital Signs Review Date equals Unable to Determine, continue processing and proceed to Step 99.
    c. If Vital Signs Review Date equals a Non Unable to Determine Value, continue processing and proceed to Vital Signs Review Time.

66. Check Vital Signs Review Time

    a. If Vital Signs Review Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Vital Signs Review Time equals Unable to Determine, continue processing and proceed to Step 99.
    c. If Vital Signs Review Time equals a Non Unable to Determine Value, continue processing and proceed to Vital Signs Time calculation.

67. Calculate Vital Signs Time. Vital Signs Time, in minutes, is equal to the Vital Signs Review Date and Vital Signs Review Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

68. Check Vital Signs Time

    a. If Vital Signs Time is greater than 360 minutes, continue processing and proceed to Step 99.
    b. If Vital Signs Time is less than or equal to 360 minutes, continue processing and proceed to Vital Signs Fluid Time calculation.

69. Calculate Vital Signs Fluid Time. Vital Signs Fluid Time, in minutes, is equal to the Vital Signs Review Date and Vital Signs Review Time minus the Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time.

70. Check Vital Signs Fluid Time

    a. If Vital Signs Fluid Time is less than 0 minutes, continue processing and proceed to Step 99.
    b. If Vital Signs Fluid Time is greater than or equal to 0 minutes, continue processing and proceed to Cardiopulmonary Evaluation Performed.

71. Check Cardiopulmonary Evaluation Performed

    a. If Cardiopulmonary Evaluation Performed is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Cardiopulmonary Evaluation Performed equals 2, continue processing and proceed to Step 99.
    c. If Cardiopulmonary Evaluation Performed equals 1, continue processing and proceed to Cardiopulmonary Evaluation Date.

72. Check Cardiopulmonary Evaluation Date

    a. If Cardiopulmonary Evaluation Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Cardiopulmonary Evaluation Date equals Unable to Determine, continue processing and proceed to Step 99.
    c. If Cardiopulmonary Evaluation Date equals a Non Unable to Determine Value, continue processing and proceed to Cardiopulmonary Evaluation Time.

73. Check Cardiopulmonary Evaluation Time

    a. If Cardiopulmonary Evaluation Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Cardiopulmonary Evaluation Time equals Unable to Determine, continue processing and proceed to Step 99.
    c. If Cardiopulmonary Evaluation Time equals a Non Unable to Determine Value, continue processing and proceed to Cardiopulmonary Eval Time calculation.

74. Calculate Cardiopulmonary Eval Time. Cardiopulmonary Eval Time, in minutes, is equal to the Cardiopulmonary Evaluation Date and Cardiopulmonary Evaluation Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

75. Check Cardiopulmonary Eval Time

    a. If Cardiopulmonary Eval Time is greater than 360 minutes, continue processing and proceed to Step 99.
    b. If Cardiopulmonary Eval Time is less than or equal to 360 minutes, continue processing and proceed to Cardiopulmonary Evaluation Fluid Time calculation.

76. Calculate Cardiopulmonary Evaluation Fluid Time. Cardiopulmonary Evaluation Fluid Time, in minutes, is equal to the Cardiopulmonary Evaluation Date and Cardiopulmonary Evaluation Time minus the Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time.

77. Check Cardiopulmonary Evaluation Fluid Time

    a. If Cardiopulmonary Evaluation Fluid Time is less than 0 minutes, continue processing and proceed to Step 99.

b. If Cardiopulmonary Evaluation Fluid Time is greater than or equal to 0 minutes, continue processing and proceed to Capillary Refill Examination Performed.

78. Check Capillary Refill Examination Performed

a. If Capillary Refill Examination Performed is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Capillary Refill Examination Performed equals 2, continue processing and proceed to Step 99.
c. If Capillary Refill Examination Performed equals 1, continue processing and proceed to Capillary Refill Examination Date.

79. Check Capillary Refill Examination Date

a. If Capillary Refill Examination Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Capillary Refill Examination Date equals Unable to Determine, continue processing and proceed to Step 99.
c. If Capillary Refill Examination Date equals a Non Unable to Determine Value, continue processing and proceed to Capillary Refill Examination Time.

80. Check Capillary Refill Examination Time

a. If Capillary Refill Examination Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Capillary Refill Examination Time equals Unable to Determine, continue processing and proceed to Step 99.
c. If Capillary Refill Examination Time equals a Non Unable to Determine Value, continue processing and proceed to Capillary Refill Time calculation.

81. Calculate Capillary Refill Time. Capillary Refill Time, in minutes, is equal to the Capillary Refill Examination Date and Capillary Refill Examination Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

82. Check Capillary Refill Time

a. If Capillary Refill Time is greater than 360 minutes, continue processing and proceed to Step 99.
b. If Capillary Refill Time is less than or equal to 360 minutes, continue processing and proceed to Capillary Refill Fluid Time calculation.

83. Calculate Capillary Refill Fluid Time. Capillary Refill Fluid Time, in minutes, is equal to the Capillary Refill Examination Date and Capillary Refill Examination Time minus the Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time.

84. Check Capillary Refill Fluid Time

    a. If Capillary Refill Fluid Time is less than 0 minutes, continue processing and proceed to Step 99.
    b. If Capillary Refill Fluid Time is greater than or equal to 0 minutes, continue processing and proceed to Peripheral Pulse Evaluation Performed.

85. Check Peripheral Pulse Evaluation Performed

    a. If Peripheral Pulse Evaluation Performed is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Peripheral Pulse Evaluation Performed equals 2, continue processing and proceed to Step 99.
    c. If Peripheral Pulse Evaluation Performed equals 1, continue processing and proceed to Peripheral Pulse Evaluation Date.

86. Check Peripheral Pulse Evaluation Date

    a. If Peripheral Pulse Evaluation Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Peripheral Pulse Evaluation Date equals Unable to Determine, continue processing and proceed to Step 99.
    c. If Peripheral Pulse Evaluation Date equals a Non Unable to Determine Value, continue processing and proceed to Peripheral Pulse Evaluation Time.

87. Check Peripheral Pulse Evaluation Time

    a. If Peripheral Pulse Evaluation Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Peripheral Pulse Evaluation Time equals Unable to Determine, continue processing and proceed to Step 99.
    c. If Peripheral Pulse Evaluation Time equals a Non Unable to Determine Value, continue processing and proceed to Peripheral Pulse Time calculation.

88. Calculate Peripheral Pulse Time. Peripheral Pulse Time, in minutes, is equal to the Peripheral Pulse Evaluation Date and Peripheral Pulse Evaluation Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

89. Check Peripheral Pulse Time

    a. If Peripheral Pulse Time is greater than 360 minutes, continue processing and proceed to Step 99.
    b. If Peripheral Pulse Time is less than or equal to 360 minutes, continue processing and proceed to Peripheral Pulse Fluid Time calculation.

90. Calculate Peripheral Pulse Fluid Time. Peripheral Pulse Fluid Time, in minutes, is equal to the Peripheral Pulse Evaluation Date and Peripheral Pulse Evaluation Time minus the Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time.

91. Check Peripheral Pulse Fluid Time

    a. If Peripheral Pulse Fluid Time is less than 0 minutes, continue processing and proceed to Step 99.
    b. If Peripheral Pulse Fluid Time is greater than or equal to 0 minutes, continue processing and proceed to Skin Examination Performed.

92. Check Skin Examination Performed

    a. If Skin Examination Performed is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Skin Examination Performed equals 2, continue processing and proceed to Step 99.
    c. If Skin Examination Performed equals 1, continue processing and proceed to Skin Examination Date.

93. Check Skin Examination Date

    a. If Skin Examination Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Skin Examination Date equals Unable to Determine, continue processing and proceed to Step 99.
    c. If Skin Examination Date equals a Non Unable to Determine Value, continue processing and proceed to Skin Examination Time.

94. Check Skin Examination Time

    a. If Skin Examination Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Skin Examination Time equals Unable to Determine, continue processing and proceed to Step 99.
    c. If Skin Examination Time equals a Non Unable to Determine Value, continue processing and proceed to Skin Exam Time calculation.

95. Calculate Skin Exam Time. Skin Exam Time, in minutes, is equal to the Skin Examination Date and Skin Examination Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

96. Check Skin Exam Time

    a. If Skin Exam Time is greater than 360 minutes, continue processing and proceed to Step 99.
    b. If Skin Exam Time is less than or equal to 360 minutes, continue processing and proceed to Skin Exam Fluid Time calculation.

97. Calculate Skin Exam Fluid Time. Skin Exam Fluid Time, in minutes, is equal to the Skin Examination Date and Skin Examination Time minus the Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time.

98. Check Skin Exam Fluid Time

   a. If Skin Exam Fluid Time is less than 0 minutes, continue processing and proceed to Step 99.
   b. If Skin Exam Fluid Time is greater than or equal to 0 minutes, add 1 to the Shock Six Hour Counter, continue processing and proceed to step 138.

99. Check Central Venous Pressure Measurement

   a. If Central Venous Pressure Measurement is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Central Venous Pressure Measurement equals 2, continue processing and proceed to Step 106.
   c. If Central Venous Pressure Measurement equals 1, continue processing and proceed to Central Venous Pressure Measurement Date.

100. Check Central Venous Pressure Measurement Date

   a. If Central Venous Pressure Measurement Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Central Venous Pressure Measurement Date equals Unable to Determine, continue processing and proceed to Step 106.
   c. If Central Venous Pressure Measurement Date equals a Non Unable to Determine Value, continue processing and proceed to Central Venous Pressure Measurement Time.

101. Check Central Venous Pressure Measurement Time

   a. If Central Venous Pressure Measurement Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Central Venous Pressure Measurement Time equals Unable to Determine, continue processing and proceed to Step 106.
   c. If Central Venous Pressure Measurement Time equals a Non Unable to Determine Value, continue processing and proceed to Central Venous Pressure Time calculation.

102. Calculate Central Venous Pressure Time. Central Venous Pressure Time, in minutes, is equal to the Central Venous Pressure Measurement Date and Central Venous Pressure Measurement Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

103. Check Central Venous Pressure Time

   a. If Central Venous Pressure Time is greater than 360 minutes, continue processing and proceed to Step 106.
   b. If Central Venous Pressure Time is less than or equal to 360 minutes, continue processing and proceed to Central Venous Pressure Fluid Time calculation.

104. Calculate Central Venous Pressure Fluid Time. Central Venous Pressure Fluid Time, in minutes, is equal to the Central Venous Pressure Measurement Date and Central Venous Pressure Measurement Time minus the Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time.

105. Check Central Venous Pressure Fluid Time

    a. If Central Venous Pressure Fluid Time is less than 0 minutes, continue processing and proceed to Step 106.
    b. If Central Venous Pressure Fluid Time is greater than or equal to 0 minutes, add 1 to the Shock Physical Assessment Six Hour Counter, continue processing and proceed to Central Venous Oxygen Measurement.

106. Check Central Venous Oxygen Measurement

    a. If Central Venous Oxygen Measurement is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Central Venous Oxygen Measurement equals 2, continue processing and proceed to Step 114.
    c. If Central Venous Oxygen Measurement equals 1, continue processing and proceed to Central Venous Oxygen Measurement Date.

107. Check Central Venous Oxygen Measurement Date

    a. If Central Venous Oxygen Measurement Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Central Venous Oxygen Measurement Date equals Unable to Determine, continue processing and proceed to Step 114.
    c. If Central Venous Oxygen Measurement Date equals a Non Unable to Determine Value, continue processing and proceed to Central Venous Oxygen Measurement Time.

108. Check Central Venous Oxygen Measurement Time

    a. If Central Venous Oxygen Measurement Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
    b. If Central Venous Oxygen Measurement Time equals Unable to Determine, continue processing and proceed to Step 114.
    c. If Central Venous Oxygen Measurement Time equals a Non Unable to Determine Value, continue processing and proceed to Central Venous Oxygen Time calculation.

109. Calculate Central Venous Oxygen Time. Central Venous Oxygen Time, in minutes, is equal to the Central Venous Oxygen Measurement Date and Central Venous Oxygen Measurement Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time

110. Check Central Venous Oxygen Time

   a. If Central Venous Oxygen Time is greater than 360 minutes, continue processing and proceed to Step 114.
   b. If Central Venous Oxygen Time is less than or equal to 360 minutes, continue processing and proceed to Central Venous Oxygen Fluid Time calculation.

111. Calculate Central Venous Oxygen Fluid Time. Central Venous Oxygen Fluid Time, in minutes, is equal to the Central Venous Oxygen Measurement Date and Central Venous Oxygen Measurement Time minus the Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time.

112. Check Central Venous Oxygen Fluid Time

   a. If Central Venous Oxygen Fluid Time is less than 0 minutes, continue processing and proceed to Step 114.
   b. If Central Venous Oxygen Fluid Time is greater than or equal to 0 minutes, add 1 to the Shock Physical Assessment Six Hour Counter, continue processing and proceed to Shock Physical Assessment Six Hour Counter.

113. Check Shock Physical Assessment Six Hour Counter

   a. If Shock Physical Assessment Six Hour Counter equals 2, add 1 to the Shock Six Hour Counter, continue processing and proceed to Step 138.
   b. If Shock Physical Assessment Six Hour Counter is less than 2, continue processing and proceed to Bedside Cardiovascular Ultrasound Performed.

114. Check Bedside Cardiovascular Ultrasound Performed

   a. If Bedside Cardiovascular Ultrasound Performed is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Bedside Cardiovascular Ultrasound Performed equals 2, continue processing and proceed to Step 122.
   c. If Bedside Cardiovascular Ultrasound Performed equals 1, continue processing and proceed to Bedside Cardiovascular Ultrasound Date.

115. Check Bedside Cardiovascular Ultrasound Date

   a. If Bedside Cardiovascular Ultrasound Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Bedside Cardiovascular Ultrasound Date equals Unable to Determine, continue processing and proceed to Step 122.
   c. If Bedside Cardiovascular Ultrasound Date equals a Non Unable to Determine Value, continue processing and proceed to Bedside Cardiovascular Ultrasound Time.

116. Check Bedside Cardiovascular Ultrasound Time

   a. If Bedside Cardiovascular Ultrasound Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Bedside Cardiovascular Ultrasound Time equals Unable to Determine, continue processing and proceed to Step 122.
   c. If Bedside Cardiovascular Ultrasound Time equals a Non Unable to Determine Value, continue processing and proceed to Bedside Ultrasound Time calculation.

117. Calculate Bedside Ultrasound Time. Bedside Ultrasound Time, in minutes, is equal to the Bedside Cardiovascular Ultrasound Date and Bedside Cardiovascular Ultrasound Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

118. Check Bedside Ultrasound Time

   a. If Bedside Ultrasound Time is greater than 360 minutes, continue processing and proceed to Step 122.
   b. If Bedside Ultrasound Time is less than or equal to 360 minutes, continue processing and proceed to Bedside Ultrasound Fluid Time calculation.

119. Calculate Bedside Ultrasound Fluid Time. Bedside Ultrasound Fluid Time, in minutes, is equal to the Bedside Cardiovascular Ultrasound Date and Bedside Cardiovascular Ultrasound Time minus the Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time.

120. Check Bedside Ultrasound Fluid Time

   a. If Bedside Ultrasound Fluid Time is less than 0 minutes, continue processing and proceed to Step 122.
   b. If Bedside Ultrasound Fluid Time is greater than or equal to 0 minutes, add 1 to the Shock Physical Assessment Six Hour Counter, continue processing and proceed to Shock Physical Assessment Six Hour Counter.

121. Check Shock Physical Assessment Six Hour Counter

   a. If Shock Physical Assessment Six Hour Counter equals 2, add 1 to the Shock Six Hour Counter, continue processing and proceed to Step 138.
   b. If Shock Physical Assessment Six Hour Counter is less than 2, continue processing and proceed to Passive Leg Raise Exam Performed.

122. Check Passive Leg Raise Exam Performed

   a. If Passive Leg Raise Exam Performed is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Passive Leg Raise Exam Performed equals 2, continue processing and proceed to Step 130.
   c. If Passive Leg Raise Exam Performed equals 1, continue processing and proceed to Passive Leg Raise Exam Date.

123. Check Passive Leg Raise Exam Date

   a. If Passive Leg Raise Exam Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Passive Leg Raise Exam Date equals Unable to Determine, continue processing and proceed to Step 130.
   c. If Passive Leg Raise Exam Date equals a Non Unable to Determine Value, continue processing and proceed to Passive Leg Raise Exam Time.

124. Check Passive Leg Raise Exam Time

   a. If Passive Leg Raise Exam Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Passive Leg Raise Exam Time equals Unable to Determine, continue processing and proceed to Step 130.
   c. If Passive Leg Raise Exam Time equals a Non Unable to Determine Value, continue processing and proceed to Passive Leg Raise Time calculation.

125. Calculate Passive Leg Raise Time. Passive Leg Raise Time, in minutes, is equal to the Passive Leg Raise Exam Date and Passive Leg Raise Exam Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

126. Check Passive Leg Raise Time

   a. If Passive Leg Raise Time is greater than 360 minutes, continue processing and proceed to Step 130.
   b. If Passive Leg Raise Time is less than or equal to 360 minutes, continue processing and proceed to Passive Leg Raise Fluid Time calculation.

127. Calculate Passive Leg Raise Fluid Time. Passive Leg Raise Fluid Time, in minutes, is equal to the Passive Leg Raise Exam Date and Passive Leg Raise Exam Time minus the Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time.

128. Check Passive Leg Raise Fluid Time

   a. If Passive Leg Raise Fluid Time is less than 0 minutes, continue processing and proceed to Step 130.
   b. If Passive Leg Raise Fluid Time is greater than or equal to 0 minutes, add 1 to the Shock Physical Assessment Six Hour Counter, continue processing and proceed to Shock Physical Assessment Six Hour Counter.

129. Check Shock Physical Assessment Six Hour Counter

   a. If Shock Physical Assessment Six Hour Counter equals 2, add 1 to the Shock Six Hour Counter, continue processing and proceed to Step 138.
   b. If Shock Physical Assessment Six Hour Counter is less than 2, continue processing and proceed to Step 138.

130. Check Fluid Challenge Performed

   a. If Fluid Challenge Performed is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Fluid Challenge Performed equals 2, continue processing and proceed to Step 138.
   c. If Fluid Challenge Performed equals 1, continue processing and proceed to Fluid Challenge Date.

131. Check Fluid Challenge Date

   a. If Fluid Challenge Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Fluid Challenge Date equals Unable to Determine, continue processing and proceed to Step 138.
   c. If Fluid Challenge Date equals a Non Unable to Determine Value, continue processing and proceed to Fluid Challenge Time.

132. Check Fluid Challenge Time

   a. If Fluid Challenge Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Fluid Challenge Time equals Unable to Determine, continue processing and proceed to Step 138.
   c. If Fluid Challenge Time equals a Non Unable to Determine Value, continue processing and proceed to Fluid Shock Time calculation.

133. Calculate Fluid Shock Time. Fluid Shock Time, in minutes, is equal to the Fluid Challenge Date and Fluid Challenge Exam Time minus the Septic Shock Presentation Date and Septic Shock Presentation Time.

134. Check Fluid Shock Time

   a. If Fluid Shock Time is greater than 360 minutes, continue processing and proceed to Step 138.
   b. If Fluid Shock Time is less than or equal to 360 minutes, continue processing and proceed to Fluid Challenge Fluid Time calculation.

135. Calculate Fluid Challenge Fluid Time. Fluid Challenge Fluid Time, in minutes, is equal to the Fluid Challenge Date and Fluid Challenge Time minus the Crystalloid Fluid Administration Date and Crystalloid Fluid Administration Time.

136. Check Fluid Challenge Fluid Time

   a. If Fluid Challenge Fluid Time is less than 0 minutes, continue processing and proceed to Step 138.
   b. If Fluid Challenge Fluid Time is greater than or equal to 0 minutes, add 1 to the Shock Physical Assessment Six Hour Counter, continue processing and proceed to Shock Physical Assessment Six Hour Counter.

137. Check Shock Physical Assessment Six Hour Counter

   a. If Shock Physical Assessment Six Hour Counter equals 2, add 1 to the Shock Six Hour Counter, continue processing and proceed to Step 138.
   b. If Shock Physical Assessment Six Hour Counter is less than 2, continue processing and proceed to Septic Shock Present.

138. Check Septic Shock Present

   a. If Septic Shock Present equals 2, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
   b. If Septic Shock Present equals 1, continue processing and proceed to Shock Presentation Time.

139. Check Shock Presentation Time

   a. If Shock Presentation Time is greater than 360 minutes, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
   b. If Shock Presentation Time is greater than or equal to 0 minutes and less than or equal to 360 minutes, continue processing and proceed to Persistent Hypotension.

140. Check Persistent Hypotension

   a. If Persistent Hypotension equals 3 or 4, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
   b. If Persistent Hypotension equals 1, continue processing and proceed to Step 142.
   c. If Persistent Hypotension equals 2, continue processing and proceed to Initial Lactate Level Result.

141. Check Initial Lactate Level Result

   a. If Initial Lactate Level Result equals 1 or 2, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
   b. If Initial Lactate Level Result equals 3, continue processing and proceed to Shock Six Hour Counter.

142. Check Shock Six Hour Counter

   a. If Shock Six Hour Counter is less than 1, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
   b. If Shock Six Hour Counter equals 1, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.

Sepsis Sample Size Requirements

Hospitals that choose to sample have the option of sampling quarterly or sampling monthly. A hospital may choose to use a larger sample size than is required. Hospitals whose Initial Patient Population size is less than the minimum number of cases per quarter/month cannot sample. Hospitals that have five or fewer sepsis discharges for the entire measure set (both Medicare and non-Medicare combined) in a quarter are not required, but are encouraged to submit sepsis patient level data to the CMS Clinical Warehouse.

Regardless of the option used, hospital samples must be monitored to ensure that sampling procedures consistently produce statistically valid and useful data. Due to exclusions, hospitals selecting sample cases MUST submit AT LEAST the minimum required sample size.

The following sample size tables for each option automatically build in the number of cases needed to obtain the required sample sizes. For information concerning how to perform sampling, refer to the Population and Sampling Specifications section in this manual.

Quarterly Sampling

Hospitals selecting sample cases for the sepsis measure must ensure that the population and quarterly sample size meets the following conditions:

Quarterly Sample Size
Based on Hospital's Initial Patient Population Size for the Sepsis Measure

Average Quarterly Initial Patient Population Size *"N"*	Minimum Required Sample Size *"n"*
≥ 301	60
151 - 300	20% of Initial Patient Population size
30 - 150	30
6 - 29	No sampling; 100% Initial Patient Population required
0 - 5	Submission of patient level data is encouraged but not required. If submission occurs, 1 – 5 cases of the Initial Patient Population may be submitted

Monthly Sampling

Hospitals selecting sample cases for the sepsis measure must ensure that the population and monthly sample size meets the following conditions:

Monthly Sample Size
Based on Hospital's Initial Patient Population Size for the Sepsis Measure

Average Monthly Initial Patient Population Size *"N"*	Minimum Required Sample Size *"n"*
≥ 101	20
51 - 100	20% of Initial Patient Population size
10 - 50	10
< 10	No sampling; 100% Initial Patient Population required

Sample Size Examples

Note:

All of the sepsis measure's specific exclusion criteria are used to filter out cases that do not belong in the measure denominator.

- *Quarterly Sampling:*
  When applicable, larger hospitals must also abide by the required quarterly sample sizes with a minimum of 30 required sample cases when the Initial Patient Population size is 30 or greater.
  - The sepsis Initial Patient Population size for a hospital is 405 patients for the quarter. Since the total Initial Patient Population is greater than 5, the hospital must submit patient level data. The required quarterly sample size would be 60 cases.
  - The sepsis Initial Patient Population size for a hospital is 5 patients for the quarter. Since the total Initial Patient Population is 5, the hospital may choose to not submit patient level data. If the hospital chooses to submit patient level data, the quarterly sample size for each would be 1 - 5 cases.
- *Monthly Sampling:*
  When applicable, larger hospitals must also abide by the required monthly sample sizes with a minimum of 10 required sample cases when the Initial Patient Population size is 10 or greater.
  - The sepsis Initial Patient Population sizes for a hospital are 6, 49, and 75 patients respectively for July, August, and September. The required monthly sample sizes would be 6, 10, and 15 respectively for July, August, and September.

NQF-ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE

Measure Information Form
Collected For: CMS Only

Measure Set: Sepsis

Set Measure ID #: SEP-1

Performance Measure Name: Early Management Bundle, Severe Sepsis/Septic Shock

Description: This measure focuses on adults 18 years and older with a diagnosis of severe sepsis or septic shock. Consistent with Surviving Sepsis Campaign guidelines, it assesses measurement of lactate, obtaining blood cultures, administering broad spectrum antibiotics, fluid resuscitation, vasopressor administration, reassessment of volume status and tissue perfusion, and repeat lactate measurement. As reflected in the data elements and their definitions, the first three interventions should occur within 3 hours of presentation of severe sepsis, while the remaining interventions are expected to occur within 6 hours of presentation of septic shock.

Rationale: The evidence cited for all components of this measure is directly related to decreases in organ failure, overall reductions in hospital mortality, length of stay, and costs of care.

A principle of sepsis care is that clinicians must rapidly treat patients with an unknown causative organism and unknown antibiotic susceptibility. Since patients with severe sepsis have little margin for error regarding antimicrobial therapy, initial treatment should be broad spectrum to cover all likely pathogens. As soon as the causative organism is identified, based on subsequent culture and susceptibility testing, de-escalation is encouraged by selecting the most appropriate antimicrobial therapy to cover the identified pathogen, safely and cost effectively (Dellinger, 2012).

Multicenter efforts to promote bundles of care for severe sepsis and septic shock were associated with improved guideline compliance and lower hospital mortality (Ferrer, 2008 and Rhodes, 2015). Even with compliance rates of less than 30%, absolute reductions in mortality of 4-6% have been noted (Levy, 2010 and Ferrer, 2008). Absolute reductions in mortality of over 20% have been seen with compliance rates of 52% (Levy, 2010). Coba et al. has shown that when all bundle elements are completed and compared to patients who do not have bundle completion, the mortality difference is 14% (2011). Thus, there is a direct association between bundle compliance and improved mortality. Without a continuous quality initiative (CQI), even these compliance rates will not improve and will decrease over time (Ferrer, 2008). Multiple studies have shown that, for patients with severe sepsis, standardized order sets, enhanced bedside monitor display, telemedicine, and comprehensive CQI feedback is feasible, modifies clinician behavior, and is associated with decreased hospital mortality (Thiel, 2009; Micek, 2006; Winterbottom, 2011; Schramm, 2011; Nguyen, 2007; Loyola, 2011).