Surviving Sepsis: How CDI Can Improve Sepsis Core Measure Compliance

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Learning Objectives

• At the completion of this educational activity, the learner will be able to:
  – Define sepsis, severe sepsis, and septic shock
  – Describe key elements of the sepsis core measure (SEP)
  – Identify key stakeholders so a SEP team can be gathered
  – Outline a plan to educate providers
  – Determine current state and track progress

A Note About the New Sepsis Definition

• New consensus statement released in March 2016
• Makes the term “severe sepsis” obsolete
• Effect on sepsis core measure not clear at this time
• Response to new definition determined by facility
Sepsis and Severe Sepsis

**Sepsis**
- Localized infection plus signs of systemic response (SIRS)
  - Elevated or depressed WBCs or > 10% bands
  - Abnormal temperature
  - Tachycardia (>90 BPM)
  - Tachypnea (>20 BPM)

**Severe sepsis**
- Infection plus SIRS plus acute organ dysfunction
  - Hypotension
  - Acute lung injury
  - Decreased urine output
  - Elevated creatinine
  - Elevated lactic acid

Septic Shock

- Clinical definition:
  - Sepsis-induced hypotension persisting despite ADEQUATE fluid resuscitation
- Measure definition:
  - Sepsis-induced hypotension
    - Hypotension not explained by another condition (hemorrhage, cardiogenic, etc.)
    - Lactic acid level of 4 or more

Sepsis: A Case Study

An 88-year-old woman presents to the ER from local nursing home with 3-day history of painful urination, decreased PO intake, and very little urine output today. PMH of HTN, CKD, and atrial fibrillation, currently in sinus rhythm. Triage vitals: Pulse 101, respirations 26, BP 110/61, oxygen saturation 92% on 2 liters nasal cannula, temperature 99.4.

- What do you suspect this patient has?
Case Study (cont.)

Initial labs come back and reveal:
• BUN 50, creatinine 3.2
• WBC 14.7
• Lactate 2.4

Case Study (cont.)

While attempting to draw blood cultures, patient’s blood pressure drops to 85/41. Heart rate is now 120 and irregular. Patient is started on normal saline wide open, blood cultures are drawn and IV antibiotics given.

Sepsis Core Measure
Patient Population

Included
• Only patients over 18
• Admitted with sepsis, severe sepsis, or septic shock
• OR develop the above at any point during hospitalization

Excluded
• Patients transferred from another hospital
• Patients on IV antibiotics for 24 hours before developing sepsis
• Patients who are made COMFORT MEASURES ONLY within 3 hours of presentation of severe sepsis or within 6 hours of septic shock

Presentation Time (“Time Zero”)
• NOT time diagnosis is documented by provider
• Severe sepsis: The time all three criteria (infection, SIRS, acute organ dysfunction) are present
  – Must be within 6 hours of each other
  – Presentation time will be the time final criterion found in chart
  – If all criteria found during ER stay, presentation time is time of triage
• Septic shock: Time at which sepsis-induced hypotension is identified

Severe Sepsis Bundle

Within 3 hours:
• Initial lactate level
• Blood culture collection
• Broad spectrum or other antibiotic
  – MUST be started after blood cultures drawn to be compliant

Within 6 hours:
• Repeat lactate level if initial level is > 2

Note: The repeat lactate level must be drawn within 6 hours of presentation, not within 6 hours of final level.
**Septic Shock Bundle**

- Crystalloid fluid administration within 3 hours of presentation (time at which hypotension is found)
  - Volume MUST be 30 mL/kg
  - Must be administered at a rate that is “faster than usual”; for example, 1 liter over 8 hours not compliant
  - Can begin 2 hours before presentation up to 3 hours after presentation
  - Blood pressure must be reassessed within 1 hour of fluid completion

**Septic Shock (cont.)**

*If hypotension persists after fluids OR initial lactate >= 4:*

- Start vasopressors (only for persistent hypotension)
- A focused exam including:
  - Vital signs
  - Cardiopulmonary exam
  - Capillary refill
  - Peripheral pulse evaluation
  - Skin exam

*Please note:*

- These elements MUST be PERFORMED and DOCUMENTED by a provider within the 6-hour window.

**Septic Shock (cont.)**

*OR 2 of the following 4*

- CVP measurement
- Central venous oxygen measurement
- Bedside cardiovascular ultrasound
- Passive leg raise or fluid challenge
Key Stakeholders

1. ER providers
2. EMS
3. All providers who manage inpatients
4. Intensivists
5. Clinical informatics/quality
6. CDI
7. CDI physician champion
8. Coders
9. IT
10. Chief medical officer
11. Medical committees
12. Nursing staff and nurse leaders

Putting It All Together
Emergency Department: Protocols

• Develop a screening protocol
  – Triage screening
  – Leadership will need to decide which screening tool to use
    (new criteria or SIRS criteria)
• Develop order sets
  – Get provider input
  – Provide education, education, education
    • Reminders posted on computers, provider lounge
    • Presentations at medical staff meetings

Emergency Department: Training

• Enlist a physician who is invested in sepsis care
• Educate ED nurse leaders
  – Charge nurses
  – Clinical nurse specialists
  – Nurse educators
  – Department directors
  – Solicit nurses to volunteer to be sepsis champions
• Educate ED providers about documenting sepsis

Medical Staff

• Enlist a physician champion from your medical staff
  who manages inpatients
  – Should be someone different from ED champion
  – CDI physician champion may be best choice
  – Get their input to develop inpatient orders/protocols
• Work with your CMO (or other physician leader) on a
  strategy to monitor compliance
• CMO should give individualized feedback to providers
  when measure is failed
• Intensivists and hospitalists are most likely to manage
  these patients
Information Services

- IS will be vital to measure compliance
- Review sepsis screening tools for ED and inpatients (most hospitals already have these in place) for measure compliance
- Work with IS to develop progress note templates or other tools for provider documentation
- CDI colleagues can bridge the gap between IS and providers

Coding Staff

- Accurate coding crucial to process
- Coders should have basic understanding of sepsis
  - Clinical indicators (SIRS or new criteria, decided by your facility)
- Decide when a sepsis diagnosis will be queried
- CDI, coding, and your quality department should all be aware when a sepsis diagnosis is queried

Quality Department

- Clinical informatics will be abstracting charts
- Often have clinical backgrounds, but not always
- Need solid understanding of all stages of sepsis
- Can help identify common problems with compliance
- May be “siloed”; CDI can help to communicate measure requirements to providers
Nursing Staff

- Nursing buy-in is key to compliance
- Nursing documentation in screening tools
- IV fluid documentation (problematic at many hospitals)
- Nurses notice changes!
  - Often see subtle changes in patients when providers are not around
- Want to save lives and are invested in best practices

Nursing Staff (cont.)

- Identify nurse leaders
  - Educators
  - Charge nurses
  - Clinical nurse specialists
- Educate them about the measure
  - Give them the WHY
  - Show them how they can make a difference to their patients
- Nurse leaders can help hardwire best practice for measure compliance

CDI: The Bridge Builders

- CDI staff often already have relationships with key stakeholders
- With their blend of clinical and coding knowledge, CDI can be the bridge between different departments
- We are already comfortable educating providers
- We work in the EMR constantly so we can help IS make it work better for providers
Lessons Learned

Your patient may have survived sepsis, but did your hospital survive the measure?

Lessons Learned

• Get ready for a lengthy process!
  – Complexity of measure will likely expose several process problems
  – Interdisciplinary diversity of stakeholders makes coordination a challenge
• Compliance will be low
• Educate, educate, educate
  – Education should be in several different formats, and reinforced over and over
  – Peer-to-peer feedback can be very helpful

Lessons Learned (cont.)

• Use of order sets inconsistent
  – Using the order sets consistently would improve compliance
• IV fluid documentation not standardized
• Repeat lactates getting cancelled
• Lack of designated leadership will cause delays in improvement
• CDI specialists have a unique set of skills that enables them to see this issue from multiple angles
Thank you. Questions?

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