Field Guide: Sepsis

Definition and Harm Impact

Sepsis remains a high-risk, high-mortality disease complication despite many years of attention and development of international evidence-based recommendations.¹ Sepsis is among the most costly conditions and ranks among the top five disease states, accounting for a large majority of readmissions and hospital deaths annually.² A primary characteristic of performance improvement for sepsis is the evolving nature of the science into this complex disorder, which is characterized by multiple organ system failure in response to infection. In contrast to other disease states, sepsis is difficult to diagnose early, and there are no clear biomarkers for identification. Therefore, performance improvement experts must stay current with scientific findings and use critical thinking when adopting new information into clinical and administrative processes.

In 2016, the Society for Critical Care Medicine published the most recent updated definition and recommendations; Sepsis is “a life-threatening organ dysfunction resulting from dysregulated host response to infection.”³

The updated recommendations require a cognitive shift in sepsis thinking by clinicians and quality specialists because the previous three categories of septic states (sepsis, severe sepsis, and septic shock) have been reduced to two (sepsis and septic shock). The international consensus group made this change in recognition of the urgency of a sepsis diagnosis. The severe sepsis category was deleted because sepsis is already a severe state, and there was a lack of clear clinical markers or meaning between the former sepsis and severe sepsis categories.⁴,⁵

Measurement

Sepsis was designated as a Centers for Medicare & Medicaid Services (CMS) National Inpatient Quality Measure (CORE measure SEP-1) as of Quarter 4, 2015. The latest version of the measures reflects consensus guidelines.⁶

For the Hospital Improvement Innovation Network (HIIN), the outcomes are sepsis incidence and mortality rates. The process measure requested is same as entered for the SEP-1 COR measure: Patients who received all of SEP-1 criteria, and the denominator is all inpatients age 18 or more with ICD-10-CM diagnosis code for sepsis (same as SEP-1).

Known Improvement Strategies

Early recognition of sepsis plus early treatment with antibiotics and fluids remain a focus of the 2016 recommendations.⁷ Enculturing clinical teams with a sense of urgency in response to sepsis is a primary goal of education where “time is tissue” is one phrase common to efforts. Engaging in a multidisciplinary effort to adopt sepsis best practices is a second key factor learned from successful organizations (see references for details). The Health Research & Education Trust (HRET) created a comprehensive overview of key strategies for reducing sepsis mortality based on published guidelines.⁸
Key strategies are:

- **Screening and early recognition**
  - Emergency department (ED) protocols for recognition and treatment
  - Clinical laboratory and antibiotic process improvements for ED
  - Sepsis screening for medical/surgical and at-risk populations

- **Treatment using 3-hour and 6-hour bundles**
  - Emphasis on timely antibiotics, blood cultures prior to antibiotics
  - Evaluate lactate trends
  - Fluid selections updated to prevent hyponatremia

- **Effective source control treatment under antibiotic stewardship program**

- **Use of rapid response teams (RRTs) for sepsis response and/or dedicated sepsis registered nurse or teams**

- **Prevent readmissions related to sepsis**
  - Patient/family education on sepsis signs and symptoms
  - Ensure discharge follow-up appointments and calls are completed to include sepsis screens for high-risk populations
  - Skilled nursing facility partnerships that include infection/sepsis education and screening
  - Share key Centers for Disease Control and Prevention (CDC) resources for post-sepsis care and understanding “Life After Sepsis: What Sepsis Survivors Need to Know” fact sheet.9

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### Engaging Patients and Families

Patient education and partnership in early identification of impending sepsis is a critical element to successful reduction of mortality and sepsis related readmissions. There are several organizations dedicated to patient/family involvement in sepsis (see Resources and Guides section).

**Patient engagement strategies include:**

- Ensure all inpatient and discharge education for infections includes sepsis signs and symptoms.
- Consider incorporating patient/family alerts into RRT response system.
- Engaging a patient/family representative in the multidisciplinary sepsis team and for previewing/feedback on patient education materials.
- Incorporating local patient/family stories into clinical education, rounds, and committee meetings.
Resources and Guides for Hospitals

- CDC—Sepsis Resources: [https://www.cdc.gov/sepsis/](https://www.cdc.gov/sepsis/)

Sepsis Organizations

- Society of Critical Care Medicine—Surviving Sepsis Campaign: [http://www.survivingsepsis.org/Pages/default.aspx](http://www.survivingsepsis.org/Pages/default.aspx)
- Rory Staunton Foundation for Sepsis Prevention: [https://rorystauntonfoundationforsepsis.org/](https://rorystauntonfoundationforsepsis.org/)