A Multi-Faceted Approach to Sepsis Mortality

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Situation

- Sepsis is the body's overwhelming response to an infection.
- Each year, 1.7 million adults in the United States develop sepsis.
- According to the Centers for Disease Control more than 270,000 people die each year from Sepsis.
- Sepsis is one of the leading causes of death in hospital patients worldwide.
- A delay in recognition and treatment of sepsis can mean the difference between life and death.

Background

- In spring of 2012 our overall mortality rate was 1.76 (observed/expected). Upon review of our mortality cases we noted that one of the patients had been septic, and there was a delay in recognizing the onset of sepsis during the patient's hospital course. In 2015, CMS announced the implementation of the SEP-1 core measure, which includes 3 & 6 hour care bundles to assist in decreasing sepsis mortality. In 2018, SSM Health chose sepsis mortality as one of the system key performance indicators.

Objectives

- Discuss resources required for development and collaboration of a successful multidisciplinary sepsis rapid response team.
- Identify current interventions that have improved observed to expected mortality results.
- Review strategies to coordinate, standardize and sustain sepsis improvement efforts.

Multidisciplinary Sepsis Team

- A multidisciplinary team meets monthly to review core measure outliers, mortality cases and concurrent results to develop process improvements.
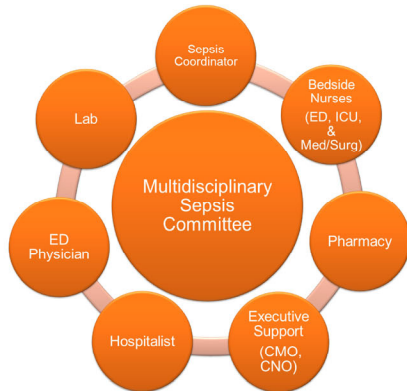
Materials & Methods

Out of the multidisciplinary team meetings, tools were developed. A paper screening tool (Figure A) was implemented on the nursing units to assist in the early recognition of sepsis patients. If a patient met criteria a rapid response, or Sepsis 6, is paged to the rapid response team. ED staff, physician, phlebotomy, pharmacy, and administrative supervisor present to the patient room after a rapid response is activated. The screening tool then transitions into a checklist of the SEP-1 3 and 6 hour bundle elements. When a patient handoff occurs, the TeamSTEPPS based SBAR communication tool is also incorporated into the form to ensure effective communication between units.

Visual management tools such as a Sepsis Scorecard (Figure B) were developed and updated monthly by the committee. The scorecard is posted in departments and as a lagging measure on department performance boards. Monthly, the committee sends out letters of recognition to staff who assisted in the care of patients who passed the SEP-1 measure. Biannually "Sepsis Top Performers" are announced internally for additional recognition of successes (Figure C).

Figure A: Sepsis Screening Tool

Figure B: Sepsis Scorecard

Lessons Learned (Figure D), or topics of education, are developed by the committee monthly based on any trends noticed in review of outliers. Additional education or case studies are presented at unit department meetings.
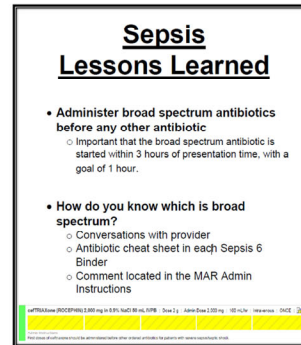

Figure C: Sepsis Top Performers

Figure D: Sepsis Lessons Learned

Additional strategies implemented by the committee to reduce sepsis mortality include involvement of palliative care early on in a patient's hospitalization. Case managers during multidisciplinary rounds assess for the need for palliative care daily. The palliative care nurse practitioner is then able to see the patient and have a goals of care discussion.

After review by the sepsis committee, cases can be recommended for review to our internal physician peer review for deviations from standard of care. The clinical documentation improvement (CDI) program also does a retrospective review of all sepsis cases to ensure appropriate severity of disease and comorbidities are accurately reflected in the medical record.

Results
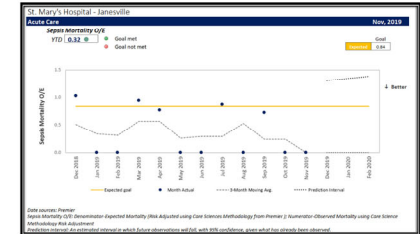
- SSM Health St. Mary's Hospital Janesville continues to perform favorable to goal for sepsis mortality.
- In 2019, we had 7 months without any sepsis mortality.
- December 2019 SEP-1 compliance was 100%, with 40 activations of the sepsis rapid response team.
- Overall inpatient mortality has decreased from 1.76 in 2012, to 0.27 in 2019.

Next Steps

- The multidisciplinary team will continue to meet monthly, reviewing opportunities for improvement.
- We will be continuing to implement sepsis care on our department performance boards, allowing for tracking of leading and lagging metrics specific to sepsis mortality.
- We will be optimizing use of the EMR sepsis predictive analytic tool to assist in the timely recognition of patients at risk for developing sepsis.
- In 2020, SSM Health Dean Clinic and SSM Health St. Mary's Hospital Janesville will continue to work together to streamline care across the continuum, from urgent care and primary care screening and triage, to follow up care of the patient with post-sepsis syndrome.

References

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