Early Sepsis Recognition and Improvement in Core Measure Bundle Compliance

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Abstract / Background
Sepsis is a life-threatening organ dysfunction caused by dysregulated host response to bacterial infection that carries a 30% mortality. Early identification and evidence-based management of sepsis patients improves outcomes and reduces mortality. Healthcare systems have been challenged to balance competing guidelines of the Surviving Sepsis Campaign and the Core Measure Bundle to improve overall care of sepsis patients. The work of an interdisciplinary team focused on:
• Improving care and outcomes via compliance with sepsis bundle components
• Utilizing IT resources to transition from paper tools to electronic Sepsis Time Zero Alert, Core Measure Checklist and Physician Documentation tab, and Sepsis Bundle Compliance report
• Capitalizing on the knowledge, experience, and enthusiasm of staff to create the Sepsis Champion role

Sepsis bundle compliance increased from a low of 37% in 2018 to our most recent quarter of 65.4%. Our most recent month in March 2022 was 78%. Readmissions improved from 14.9% baseline to 12.9%. Mortality decreased from 0.92 observed over the expected baseline to 0.85 our most recent quarter.

Goals
• Improve early identification of sepsis and to standardize care.
• Improve our Core Measure Bundle compliance and communication between team members by using electronic tools, order sets, reports, and ongoing education.
• Empower ED physician and nurse caregivers as change agents for bundle compliance and overall sepsis care.
• Improve readmissions and mortality.

References

DMAIC framework

Define
• Defined the goals, scope, measurements, and deliverables in a system charter and then translate those to campus and department level.

Measure
• Planned weekly/monthly meetings with clinical and technical team
• Provided data and cases to learn prior to meetings
• Created tools and plan for pilot
• Define metric goals

Analyze
• Analyzed historical data and used all paper tools to improve process and outcomes
• Worked with frontline staff to identify obstacles, opportunities and areas of success

Improve
• ED interventions include:
  - ED Medical Director and Nursing Management as key leaders in initiative
  - Transition from paper checklist/handoff tool to EFIC electronic based tool
  - 4 times a day huddles
  - Incorporate Department Sepsis Champions as part of team
  - Sepsis education during onboarding process
  - Sepsis training for triage nurse role
  - Weekly training and video education modules

Control
• Daily audits for real-time feedback, education and follow-up
• Weekly status emails and individual emails to staff to address missed opportunities
• Monthly case reviews on missed opportunities
• Development of electronic report for real time monitoring of bundle components

Next Steps
• Correct “suspect Covid order” to ensure integrity of data
• Expand the use of all tools to Inpatient departments
• Further explore healthcare disparity in relation to campus readmissions and mortality
• Partner with system homecare services regarding home with homecare initiatives for our sepsis survivors and their families.