Methodist Mansfield Medical Center

Sepsis Checklist decreases Sepsis Mortality

Lean Six Sigma Yellow Belt Project

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Introduction

Methodist Mansfield Medical Center (MMMC) is a 254 bed community-based hospital located in Mansfield, Texas. The medical center provides inpatient services primarily to adults and newborns. Inpatient care includes intensive care, surgery, medicine, women’s services and special care nursery. Annually, there are over 11,000 inpatient admissions. Approximately 1007 employees support these services.

Problem Statement

Since September of 2015, there has been 0% compliance with initiation of the Sepsis Checklist in the Emergency Department for positive severe sepsis patients. Early recognition and implementation of the sepsis bundle increases patient survival rate. MMMC Sepsis O/E Mortality for Oct was 1.06 and Nov 1.35 since September of 2015, there has been 0% compliance with initiation of the Sepsis Checklist in the Emergency Department for positive severe sepsis patients. Early recognition and implementation of the sepsis bundle increases patient survival rate. MMMC Sepsis O/E Mortality for Oct was 1.06 and Nov 1.35.

Why is this a problem?

• Every 2.5 minutes someone dies of sepsis
• ↑ LOS
• ↑ Early recognition = ↑ survival rate
• ↑ Early treatment = ↑ survival rate

Goal Statement

AIM-Goal

Primary: To increase initiation of Sepsis checklist, by 50%, in ED for Sepsis positive patients by Dec 7, 2015.

Secondary: To decrease Sepsis O/E (observed to expected) Mortality to O/E below 1 by March 2016

Special Thanks

• ED staff-Physicians & Nurses who have adopted the Sepsis Checklist into their culture.
• MMMC Sepsis Steering Team who embraced the Sepsis Lean Team work.
• Stephen Griffin-Mentor Lean Sensei
• MMMC C-Suite allowing the staff the time to learn, absorb and make a difference!

“Alone we can do so little; together we can do so much.” Helen Keller

Results

Primary and Secondary Goals MET:
• First 3 weeks of project - Checklist: 41.94%
• Project Goal Date: Checklist: 58%; Sepsis O/E Mortality ↓ 0.43
• March 2016-3 months post project: Checklist: 165.11%; Sepsis O/E Mortality: ↓ 0.70
• MMMC has sustained the results

Sepsis Checklist continues to serve as our roadmap and allows us to focus on early recognition and early treatment which has improved Patient Lives

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<th>8Nov</th>
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<th>Jan’16</th>
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Analysis:

• Checklist-yellow paper to distinguish easily in record
• Moved POC lactate to Triage-ease with initiation
• Moved location to triage-initial patient entry
• Checklist is now part of ED culture

Methods (Plan, Do, Study, Act Methodology)

PLAN: November 7, 2015:

Discovery
• Several Gemba activities revealed:
  • Checklist not available
  • Checklist could be more intuitive
  • Lack of knowledge of checklist-inconsistent education
  • Lack of accountability with checklist
  • Physician & Nurse resistance-using script
  • Need to reassess patient
  • Secretaries shredding checklist

Fish Bone(Cause and Effect) Diagram:

Revealed: Location of checklist, checklist flow and staff input

Study: Use of checklist continued to improved as changes were made based on flow and staff input

Algorithm Checklist Education

ACT: Checklist is now part of ED culture

Disclosures and References

1) Lean and 6 Sigma Course: www.6sigmatek.com
3) Sepsis: Journey of collaboration to Success. John Park, MD Mayo Clinic, May 5, 2015

Conclusion

Lessons Learned:
1. Staff need to be educated in a consistent manner, using an algorithm, which eliminates variation in trainer methods and potential for biases
2. Staff sign the education tool which re-enforces the accountability
3. On boarding of new staff to sepsis process and checklist is essential
4. Annual competency and monthly monitoring of process will help eliminate drift
5. Patient stories and lives saved help to sustain the momentum and change the culture

Sepsis O/E Mortality- 29 LIVES SAVED!