CASE STUDY

Regional Medical Center Reduces Sepsis Mortality Rate by 33%

Driving significant improvement with focused benchmarks and analytics.

Results

56 *lives saved*

33% *reduction in risk-adjusted mortality*

125% *increase in volume of patients appropriately diagnosed and treated*

$213K *potential savings**

**Based on Healthgrades benchmarks*

SEE HOW ONE MEDICAL CENTER PARTNERED WITH HEALTHGRADES TO SIGNIFICANTLY REDUCE SEPSIS MORTALITY BY LEVERAGING DATA-DRIVEN BEST PRACTICES AND FOCUSED BENCHMARKING.

Overview

A 180-bed regional medical center in the south is nationally recognized for providing quality care and outstanding service in an acute care environment. In addition to providing inpatient and outpatient care, it also offers Heart Surgery, Medical and Radiation Oncology, Neurology, Neurosurgery, Orthopedic Surgery, Sports Medicine, Pulmonology, Rheumatology, Women's Services and Inpatient and Outpatient Physical Rehabilitation services.

A one-star rating ("worse than expected") for sepsis performance in Healthgrades annual quality report prompted the medical center to engage the Healthgrades quality improvement team.

Sepsis Fact:

The primary cause of death from infection.

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Objectives

The Sepsis Improvement Task Force priorities included:

- Improve risk-adjusted mortality rate for the treatment of sepsis patients.
- Drive appropriate interventions using clinically validated Early Goal Directed Therapies.
- Engage and educate community-based clinicians on the latest sepsis treatment guidelines.

Solution

The medical center assigned physician and nursing champions to partner with the Healthgrades team, which included a lead healthcare consultant, a physician consultant, an analyst and a data management specialist. It also engaged its department leads, quality analysts and coding specialists in the sepsis quality improvement effort.

This combined task force utilized the medical center's annual MedPAR data and proprietary Healthgrades algorithms to target initial sepsis benchmarks. It then implemented quarterly analysis of Healthgrades hospital all-payer analysis for more timely ("GPS") benchmarking of task force progress.

Together, the task force worked to:

- Implement quarterly benchmarking
- Target areas for improvement
- Perform root cause analysis
- Recommend and reinforce best practices
- Validate impact via ongoing benchmarking

Sepsis Fact:

The #1 most expensive condition treated in hospitals, costing over $20 billion annually.

NATIONAL INPATIENT HOSPITAL COSTS:
THE MOST EXPENSIVE CONDITIONS BY PAYER, 2011

by Celeste M. Torio, Ph.D., M.P.H. and Roxanne M. Andrews, Ph.D.
hcup-us.ahrq.gov/reports/statbriefs/sb160.jsp

Strategy

Through data analysis, interviews with key clinical staff and process reviews, the team identified several key areas of focus for better alignment with industry best practices:

- **Improved Collaborative Practices.** Protocols nurses were empowered to initiate the sepsis protocol adapted by the medical staff.
- **Early Recognition and Treatment.** Nursing and ancillary staff achieved a better understanding of the importance of early recognition and treatment for improved outcomes.
- **Timely and Accurate Vital Signs.** Staff recognized the importance of communicating complete and accurate vital signs to providers.
- **Education of Admitting Clinicians.** The medical center increased Surviving Sepsis Campaign (SSC) education for admitting clinicians, including globally adopted SSC standardized guidelines. It reached out to local skilled nursing facilities and long-term acute care facilities as well as community physicians.

To achieve these goals, the task force spearheaded a variety of proactive and comprehensive measures, including:

- Enhanced collaboration in the ED between nurses and physicians
- Earlier recognition using Systemic Inflammatory Response Syndrome criteria
- Use of Surviving Sepsis Campaign Bundles
- Ongoing education including CME
- Continuous improvement monitoring utilizing a customized sepsis dashboard

Sepsis Fact:

The second-most commonly billed hospital diagnosis in 2013. It is more common than heart attacks and claims more lives than any cancer.

NEW MEDICARE DATA AVAILABLE TO INCREASE TRANSPARENCY ON HOSPITAL UTILIZATION

CMS.gov
cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2015-Fact-sheets-items/2015-06-01.html

Results

Through its Sepsis Improvement Task Force, the medical center significantly improved its sepsis performance for the three-year period from 2010-2013:

- Saved 56 lives, based on a comparison between expected performance and actual outcomes.
- Achieved a 33% reduction in the risk-adjusted mortality rate for sepsis.
- Accomplished a 125% increase in the volume of patients properly diagnosed and treated for sepsis.
- Attained a three-star rating ("as expected") for sepsis performance as of September 2015, in continued Healthgrades annual analysis.

Financial Health Matters Too

Although not included in the Regional Medical Center engagement, Healthgrades has developed benchmarks to help clients estimate the direct cost of "worse than expected" quality performance.

Given this medical center's volumes and outcomes, Healthgrades estimates** it would have incurred $3,804 of incremental direct costs for each additional sepsis case resulting in a total potential savings of $213,024 for the 56 lives saved.

** *Cost estimates were derived from cost study data (2010-2012 convenience sample of 131 facilities) and applied to hospital volume and mortality outcome data available in the 2011-2013 MedPAR data.*

Conclusion

By partnering with Healthgrades in a focused and data-driven quality improvement program, a medical center significantly reduced sepsis mortality. In addition to saving lives, this client reaped meaningful potential cost savings by comprehensively addressing the primary cause of death from infection.