Reducing Hospital Mortality by Improving Sepsis Care
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Problem:
Sepsis is the leading cause of hospital mortality in the United States today. Kaiser Permanente Northern California (KPNC) developed new approaches to identification, stratification and treatment to reduce mortality in this population.

Evidence:
Early Goal Directed Therapy (EGDT) was first reported in 2001 as effective in reducing mortality but few hospitals have successfully implemented effective programs. In fact, in the International Surviving Sepsis Collaborative, specific hemodynamic targets were achieved only 24-38% of the time after two years.

Strategy:
The KPNC Surviving Sepsis Program was born out of our 950 chart, 19 hospital mortality reviews in the spring of 2008. These reviews, in combination with our Hospital Standardized Mortality Ratio (HSMR) status, identified significant sepsis care improvement opportunities.

Practice Change:
KPNC implemented a comprehensive program at all 21 hospitals that would (1) quickly and consistently identify patients who present with sepsis in our emergency department, (2) stratify risk in each by lactate testing, (3) reliably execute effective EGDT where indicated, (4) aggressively treat and monitor those at intermediate risk.

Evaluation:
The KPNC Surviving Sepsis Program is unique in (1) its successful adoption of a single standard of sepsis care across an entire hospital system, (2) the rate of care improvement, (3) the high EGDT process measure performance and (4) EGDT mortality outcomes below published reports.

Results:
Our outcomes included (1) 40% reduction in raw sepsis mortality (25% to 15%) (2) 25% reduction in risk-adjusted sepsis mortality (3) 14% reduction in overall hospital mortality and HSMR and (4) a reduction in sepsis related hospital length of stay.

Recommendations:
We recommend using the Model for Performance Improvement framework created by the Institute for Healthcare Improvement (IHI). The project also requires adequate resources to allow for abstraction, reporting of data and ongoing evolution of the project.

Lessons Learned:
- A training module was developed to teach physicians how to properly code sepsis cases
- Ongoing training of professional staff needs to be built into the program
- Senior Leadership support is critical to success

Bibliography