Technical Description

The Sepsis Analytics Accelerator provides data and visualizations to improve best-practice treatment of sepsis and septic shock—supporting teams in their efforts to reduce mortality, morbidity, and cost of care.

Background

Organizations choose to focus on sepsis for these reasons:

- **Mortality is high.** The hospital mortality rate for sepsis is more than eight times higher than for any other diagnosis; half of all patients who die in a U.S. hospital die from sepsis.
- **Sepsis is an enormous economic burden.** A recent report identified sepsis as the most expensive condition treated in U.S. hospitals, accounting for more than $23.6 billion in annual costs; this represents 6.2% of the total aggregate cost of all hospitalizations.
- **Patients with sepsis have significant morbidity and a high rate of readmissions.** Patients with sepsis have an average length of stay that is 75% longer than that of patients hospitalized for other conditions, and sepsis patients are only half as likely to be discharged to home.

Application Overview

Supports early intervention, improves care—and saves lives

The Sepsis Analytic Accelerator supports a disciplined, data-driven approach to screening and care, helping to drive and sustain significant improvement in clinical and financial outcomes. Typical implementations focus on early intervention in the ED and inpatient settings, adherence to treatment bundles, and care transitions—areas where getting it right is especially meaningful.
Benefits and Features

- **Access an at-a-glance, near real-time view of quality of care and its impact.** The application dashboard visualizes outcome and process metrics in an easy-to-consume, one-page summary.
- **Focus your team on what matters most.** Outcome metrics typically include mortality, 30-day readmission, LOS, ICU LOS, and cost per case. Typical process metrics include overall and by-component compliance with treatment bundles. The result? Your team understands the priorities and can help solve problems that stand in the way of improvement.
- **Do more than monitor: understand.** Detailed analytics of each bundle provide dynamic data exploration, real-time filtering, and drill-down to patient-level detail. A Comorbidities tab enriches understanding of the patient and the appropriateness of the care they receive. The application also provides export or print capability for patient list, metric performance, etc. so you can share and follow up.
- **Compare and contrast.** A Compare tab lets you review patient and care variables—demographics, variation in care, performance in different units, etc.—to determine what’s working and not working to improve outcomes. This feature also allows you to gauge the ROI of improvement work in particular areas: what could you achieve if every unit and provider standardized to match your best performance?
- **Continually refine your ability to recognize sepsis and improve treatment.** For organizations implementing the Sepsis Analytic Accelerator with machine learning and closed-loop capabilities, AI will drive:
  - Improved accuracy of screening for diagnosis
  - Stratified risk based on population-specific variables and optimized care process algorithms
  - Readmission prediction for your patients

Intended Users

- Chief Medical Officer
- Chief Quality Officer
- Chief Nursing Officer
- Clinical directors
- Operational directors
- Clinical educators
- Service-line leadership and teams
- Unit-level leadership and teams

Use Cases

- **The physician champion** for sepsis improvement work uses the application to easily monitor the status of new processes, share outcomes with leadership, and support peer-to-peer discussions and education.
- **A sepsis coordinator/nurse manager** in a large hospital system observes that their sepsis mortality rate has been creeping upward over the previous three quarters. What are the drivers of this disturbing trend? Which aspect of the bundle is proving most problematic for front-line staff? He uses the Sepsis Analytic Accelerator to explore performance and guide a plan to intervene.
- **A clinical educator** accesses the application to identify units and clinicians that need additional education to improve adherence to standard of care.
- **A guidance team** is trying to identify their next area of focus for continual improvement of their sepsis outcomes. They use a Compare table to gauge the potential impact of standardizing the use of their order set to match that used by the best-performing unit.
Data Sources
This product may leverage one or more of the following sources:

- EMR - Clinical
- Finance/Costing
- Clinical Specialty
- Other:
  - Other clinical data sources, e.g., EMS
  - Patient satisfaction sources

Key Measures

- Mortality rate
- Length of Stay (LOS): ICU, ED, overall
- Cost per case
- Discharge to home vs. discharge to skilled nursing facility

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