

# Performance Strategies



Use CPOE to Lead the Way in Safe, Effective Healthcare

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## WellStar Health System: Fighting Sepsis and Saving Lives with CPOE



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### The Technology of Better Care

At [WellStar Health System](#), we have long recognized the power of information technology to improve patient safety and drive greater efficiency. This belief guided our initial deployment of a computerized provider order entry (CPOE) system in the emergency department (ED) at our Kennestone facility in Georgia.

This implementation not only created a paperless environment in a busy suburban hospital emergency department, which provides care for 110,000 patients annually, but enabled us to effectively battle sepsis infections. The result was a successful campaign that not only saved lives, but also achieved far-reaching efficiencies and cost reductions.

Improving care of sepsis patients began as a hospital-based initiative to implement guidelines approved by the [Surviving Sepsis Campaign](#) — a partnership of the Society of Critical Care Medicine, the European Society of Intensive Care Medicine and the International Sepsis Forum. Teamed with the Institute for Healthcare Improvement, the Surviving Sepsis Campaign set a goal of reducing sepsis mortality by 25% within five years of its inception in 2004.

- As the tenth-leading cause of death globally, sepsis has a mortality rate of 30-50% and up to 60% when shock is present.
- There are approximately 750,000 new sepsis cases each year, with at least 210,000 fatalities in the U.S. alone.
- Challenges in prompt diagnosis mean that more than 10% of sepsis patients experience delays in treatment, with a resulting increase in mortality.

### The Power of Decision Support

To ensure that patients received the right care at the right time, we incorporated sepsis bundles (groups of interventions related to a disease process) and a comprehensive clinical process within McKesson's [CPOE](#) system. We created order outlines for these interventions to put best practices and clinical content at the clinician's fingertips.

By building outlines that provide appropriate clinical decision support, we enabled physicians to order the correct antibiotic regimen. The physician selected an order outline corresponding with the patient's clinical condition, eliminating the need for printed texts or relying on memory. With a single click, a physician could order the right antibiotic and the right dose, coupled with support that would warn of allergies or drug interactions.

Consensus-driven content developed by the Surviving Sepsis initiative, combined with guidelines developed by our own sepsis committee, ensured these interventions continued without interruption when the septic patients moved into the intensive care unit.

Leveraging the decision support we provided in the outlines, we increased the effectiveness of emergent interventions, ensuring that all required diagnostic measures were initiated upon each patient's arrival. By taking a systematic and evidence-based approach to diagnosing and treating this deadly and often under-recognized condition, WellStar achieved significant improvements in patient safety.

CONTINUED ON PAGE 2

## WellStar Health System: Fighting Sepsis and Saving Lives with CPOE (Cont.)

### Measuring Results

The CPOE system not only enabled us to easily implement the Surviving Sepsis program, but provided us with the data to accurately assess how well the program was working and the impact to our patients. The data also helped drive compliance with the program by demonstrating the effectiveness of the guidelines.

The most important result of incorporating sepsis guidelines within our ED care processes came in improved outcomes and saved lives. By implementing sepsis bundle outlines in the CPOE system, WellStar:

- Saved 11 lives, reflecting a 14% decline in the ratio of observed-to-expected deaths.
- Reduced our risk-adjusted mortality index for septic shock by 17%.
- Reduced length of stay (LOS) for severe sepsis and septic shock by 10%.
- Decreased the cost per case for severe sepsis and septic shock by 4%.

For WellStar, information technology has proven to be a powerful tool that enables our physicians to practice more effectively. The results speak for themselves in terms every physician and caregiver understands — improved care, reduced costs and lives saved.

*Jonathan Morris, MD, FACEP, MBA has served as an emergency department physician for more than 28 years, joining the staff of WellStar Health Systems in 1986. He became Medical Informatics Officer to WellStar in 2006, helping to guide the development and implementation of information technology at the five-hospital system based in Marietta, Ga. WellStar Health was a finalist in McKesson's 2009 award competition for use of its CPOE system.*

### Results of Surviving Sepsis Campaign with CPOE Implementation

- ▶ Saved 11 lives, reflecting a 14% decline in the ratio of observed-to-expected deaths.
- ▶ Reduced our risk-adjusted mortality index for septic shock by 17%.
- ▶ Reduced length of stay (LOS) for severe sepsis and septic shock by 10%.
- ▶ Decreased the cost per case for severe sepsis and septic shock by 4%, with a total cost savings of \$328,000.

## Learn More

[Archives of Internal Medicine: Study on Clinical IT and Inpatient Outcomes](#)

[Healthcare Informatics: Wired for CPOE](#)

[AHRQ Patient Safety Primer: CPOE](#)