Executive Brief:

westhealth Accelerator
at AHA's Health Research & Educational Trust

AI-Driven CDS for Sepsis Detection and Management

EHR Optimization

Overview

Recognizing and responding to sepsis quickly remains one of the most important opportunities to improve inpatient outcomes. This approach embeds AI-enabled predictive detection and clinical decision support directly within the EHR and the clinical workflows care teams already use. The model continuously analyzes patient data to identify early signs of deterioration and alerts clinicians when risk thresholds are met. By connecting alerts to standardized escalation and treatment pathways, this approach can help hospitals strengthen reliability and intervene earlier without introducing new systems or parallel processes.

Why This Matters

Sepsis remains a leading driver of inpatient mortality, ICU utilization and prolonged length of stay. Although screening protocols are widely established, variation in recognition and escalation continues to limit outcomes. Predictive detection embedded within the EHR enables care teams to identify risk earlier and respond more consistently, improving reliability while supporting timely intervention and better patient outcomes.

How It Works

Implementation centers around several coordinated capabilities within existing EHR workflows:

- **AI-driven risk identification:** Continuous analysis of patient data within the EHR detects emerging sepsis risk.
- **Workflow-integrated alerts:** Role-based notifications surface within existing clinical workflows.
- **Standardized response pathways:** Evidence-based screening, escalation and treatment protocols activate directly from alerts.
- **Performance monitoring:** Dashboards track alert-to-action rates, time to intervention and clinical outcomes.

What It Enables

Hospitals and health systems adopting EHR-embedded predictive sepsis detection commonly pursue improvement across several dimensions:

- **Patient outcomes:** Earlier intervention and improved risk-adjusted mortality
- **Clinical reliability:** Reduced variation in screening and escalation
- **Operational performance:** Fewer avoidable ICU transfers and a shorter length of stay
- **Workforce support:** Improved situational awareness and team coordination

Proof in Practice: Ochsner Health

Ochsner Health implemented an EHR-embedded predictive model and digital surveillance program across its health system. The initiative combined predictive analytics with governance, clinician engagement and workflow redesign to strengthen sepsis detection and response. Reported results included approximately 20% reduction in risk-adjusted sepsis mortality, improved alert-to-action ratios, fewer ICU transfers and reduced length of stay. Ochsner received the 2024 HIMSS Davies Award of Excellence for its use of health information technology to improve care delivery.

Where It Fits Best

This approach is particularly well-suited for organizations working to improve the consistency, speed, and reliability of sepsis recognition and response. It is especially relevant for:

- Hospitals seeking stronger early detection through predictive tools embedded within the EHR
- Health systems aligning sepsis protocols across multiple sites
- Quality and safety initiatives focused on improving time to intervention
- Organizations aiming to reduce variation while minimizing alert fatigue

Implementation Considerations

Successful adoption depends on executive sponsorship, multidisciplinary governance, and clear ownership of alert thresholds and escalation pathways. Because the capability operates within existing EHR workflows, implementation focuses primarily on workflow alignment, clinician education and ongoing performance monitoring rather than major infrastructure investment.

Next Steps

Health systems interested in strengthening sepsis detection can connect with the West Health Accelerator at AHA's Health Research & Educational Trust to review peer implementation examples and explore practical pathways to adopting EHR-embedded predictive detection within their existing workflows.