**Improving Sepsis Outcomes with Crimson**

Sepsis is one of the most dangerous and difficult to treat conditions in health care today. It exacts a toll on hospitals measured in prolonged stays and intensive care needs, while contributing to about a third of in-hospital deaths. There are nine key opportunities where your sepsis task force can improve outcomes—and Crimson can help.

### RAPID TREATMENT

Failure to administer the sepsis bundle within six hours worsens prognosis—mortality increases 7.6% for every hour of antimicrobial delay.

**ORDER LACTATE WITH BLOOD CULTURE**

*Guidelines recommend drawing lactate and blood cultures within six hours of a positive screen. Many sepsis patients don’t have lactate tested within 24 hours of a blood culture.*

- **WHAT TO DO**
  - Increase lactate testing with order sets, EMR prompts, or sepsis packets. Enable nurses to practice at the top of license and order lactates directly.

**REDUCE ICU LENGTH OF STAY**

*Overuse of the ICU contributes to an average cost per sepsis case of $18,950. Early intervention protocols can minimize time in the ICU, reducing costs.*

- **WHAT TO DO**
  - Hold clinicians accountable for executing the sepsis bundle within the critical time window, and create clear protocols for transitioning acute patients to the ICU.

**RE-EVALUATE VASOPRESSOR GUIDELINE**

*Dopamine use in septic shock may cause more frequent cardiac events. The wide variation in its use suggests opportunity to improve outcomes.*

- **WHAT TO DO**
  - Ask critical care physicians to review evidence suggesting increased mortality with dopamine use. Modify guidelines and educate staff.

### EARLY DETECTION

Sepsis is difficult to recognize, and missed or delayed diagnoses can have tragic consequences, so your triage team must be vigilant.

**SCREEN EVERY EMERGENCY PATIENT**

*The vast majority of sepsis patients already had sepsis upon admission. ED assessment is the best means to ensure earliest identification.*

- **WHAT TO DO**
  - Screen universally with simple tools at triage. Assess detection performance by monitoring sepsis admissions per 1,000 ED cases.

**PRIORITIZE TOP ASSOCIATED INFECTIONS**

*A few common infections—UTI, pneumonia, and abdominal—lead to a majority of sepsis cases. Yet bundle compliance is low in these cases.*

- **WHAT TO DO**
  - Train frontline staff to vigorously screen patients with suspected pneumonia, urinary tract, and abdominal infections for sepsis.

**RECOGNIZE GERIATIC HIGH-RISK**

*Sepsis occurs more often in geriatric patients, yet it’s harder to recognize due to blunted clinical symptoms. With a mortality rate over 45%, every elderly patient is best treated as high-risk.*

- **WHAT TO DO**
  - Determine the percentage of sepsis admissions over 65 years and monitor bundle compliance, mortality, and LOS.

### GLOBAL PREVENTION

Supplement hospital-based prevention with community-based infection control to address the vast majority of sepsis arising outside the hospital.

**PREVENT HOSPITAL-ACQUIRED SEPSIS**

*The incidence of hospital-acquired sepsis shows a wide gap between the top and bottom performance quartiles.*

- **WHAT TO DO**
  - Retain staff in units with low infection-control measure compliance; hand-washing; surgical sterility, antibiotic stewardship, MRSA screening; prevent readmissions with sepsis. Review antibiotic protocols and consultation criteria.

**PREVENT READMISSIONS WITH SEPSIS**

*Many sepsis admissions are 30-day readmissions or returning ED-visits for pneumonia, UTI, etc. Poor antibiotic selection can cause sepsis downstream.*

- **WHAT TO DO**
  - Educate physician practices on infection control, antibiotic selection, immunization, and sepsis screening to catch more cases upstream.

**REFERENCES**

1. Emergency department.
2. Length of stay.
3. Urinary tract infection.
4. Sepsis.
5. Length of stay.
7. Hospital-acquired conditions.
8. Hospital-acquired infection rate.