

Sepsis: A Deadly Killer

Sepsis is one of the leading causes of death in hospital patients worldwide



Background

Sepsis is a life-threatening condition that arises when the body's own response to infection harms its own tissues and organs. Treatment delay is associated with significant morbidity, high mortality rates, and high associated healthcare costs.¹

>1500

Cases of severe sepsis and septic shock present in Australia and New Zealand Intensive Care Units (ICU's) every year

\$16-38k

A United States study estimated the patient episode cost of sepsis to be \$16,324 – \$38,298 (dependent on the severity and timing of onset of the sepsis)



It is a leading cause for clinical deterioration, accounting for 1 in 3 calls for a Rapid Response team².

Sepsis is a medical emergency and can present in any patient in any clinical setting. Awareness of sepsis in the community and the need for prompt and targeted treatment however, remains limited. Appropriate recognition and timely management of patients with severe infection and sepsis is a significant problem in healthcare facilities around the world.

The National Safety and Quality Health Service Standards has a specific standard that relates to sepsis: Recognising and Responding to Acute Deterioration. The intention of the standard is to ensure that a person's acute deterioration is recognised promptly, and appropriate action is taken. Acute deterioration includes physiological changes, as well as acute changes in cognition and mental state.

People at Risk

Some people are more at risk of sepsis than others: children, infants, the elderly, and people with weakened immune systems are most at risk. People with chronic illnesses, such as diabetes, HIV, cancer and kidney or liver disease are also at increased risk, as are those who have experienced a severe burn or physical trauma.

Risk factors

Sepsis and septic shock are more common if you:

- Are immobile or have impaired mobility
- Are very young or very old
- Have a compromised immune system
- Have diabetes or cirrhosis
- Are already very sick, often in a hospital intensive care unit
- Have wounds or injuries, such as burns
- Have poor oral hygiene and consequent poor nutritional state
- Have an impaired swallowing mechanism
- Have invasive devices insitu such as intravenous catheters or breathing tubes
- Have dementia^{3,4}.

A new onset of changed behaviour like delirium or an acute change in functional ability like a sudden increase in falls, are very common presentations of an infection syndrome in older people.

There has been rapid development over the last decade of systems of automated alerts and predictive analytics to support early identification of sepsis risk⁵.

Early Risk Detection

The Concentric Care platform from Rauland Australia takes advantage of sophisticated clinical communication tools, workflow automation, electronic medical health record (eMR) integration, falls prevention and data analytics to proactively support early identification and management of sepsis.

Clinical Workflow and Communications

The Concentric Care platform standardises and automates clinical processes. Automated task reminders and medical emergency code workflows help clinical staff to consistently manage the care of patients at risk of sepsis.

The Concentric Care Lighthouse focused care solution integrates disparate key information systems within a hospital ecosystem to provide a contextualised and customised view of the patient's care journey.

Lighthouse supports the early detection and management of sepsis by presenting real-time, highly visual information and alerts to the care team. This helps to ensure efficient management of the time to intervention and consistency in care, while respecting clinicians workflows and preferences.

Situation analysis



Current Environment



Desired Environment

Reliance on nurses to manually identify deteriorating patients whose observations fall outside of safe parameters.

Automated identification and flagging of deteriorating patients whose observations fall outside of safe parameters.

Reliance on manual task reminders for processes like indwelling catheter and cannula change due dates, which are a risk for sepsis.

Automated task reminders directly to the primary care givers mobile device, with escalation mechanisms if reminder is not completed.

Reliance on inefficient communication systems such as manual paging systems and verbal handover to enact a medical emergency code.

Sophisticated clinical workflow and communication tools to efficiently manage medical emergency codes and time to intervention.

Inability for healthcare workers to easily access meaningful data around sepsis risk.

Access to relevant information at the organisation, management and clinical level to support informed and actionable decision making around sepsis.

Disparate technology systems with minimal integration and therefore unable to effectively communicate sepsis risk.

A single secure, scalable, highly available platform to identify and manage sepsis risk.

Conclusion

Sepsis is a life-threatening condition and delayed treatment is associated with high mortality rates, significant morbidity and high costs to the healthcare system. Access to automated alerts and workflows and actionable data insights can support clinical staff in the early identification and management of sepsis. The Concentric Care platform ensures the right communication, reaches the right people in the right place to efficiently manage time to intervention and sepsis risk.

References

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3. Rowe TA, McKoy JM. Sepsis in Older Adults. *Infectious Disease Clinics*. 2017;31(4):731–742.
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About Rauland Australia

With 148 staff across six locations in two countries, the Rauland Australia and New Zealand team has been innovating healthcare for more than 28 years. Today, with a new perspective on care, Concentric Care is leading healthcare providers into the future with a single platform for transformation. Concentric Care is a platform built for acute and aged care providers, providing a vantage point on clinical and care outcomes that enables clinicians and carers to communicate, connect and care. Developed by the Rauland Australia and New Zealand team, the platform provides a single point of focus from a single trusted partner, and a more complete, end to end care investment for customers.