Overview

eHealth NSW, in close collaboration with the Clinical Excellence Commission and clinicians from Sydney West LHD, has developed a Sepsis Alert to prompt clinicians to consider sepsis for patients at risk for clinical piloting in Blacktown Hospital currently using the Cerner eMR. The Sepsis Alert has been built with a view of integrating with existing clinical workflows for Sepsis Adult Inpatient Pathway after clinical piloting.

The Sepsis Alert includes the Modified St John Sepsis Alert rule, a Sepsis Alert Escalation task and Sepsis Alert Escalation form. Sepsis Alert escalations signed off are visible in the ContinuousDoc viewer. The Sepsis Alert - Workflow is supported by a report to extract data for clinical and performance analysis of the Sepsis Alert.

The Modified St John Sepsis Alert rule has been customised in the eMR from an internationally used St John Sepsis Agent rule. It identifies patients at risk of SIRS and Severe Sepsis based on vital signs and pathology criteria.

Constantly running in the background, the rule is activated on routine entry of the following observations, bedside test and pathology results for SIRS and Organ Dysfunction criteria into the system:

**SIRS Criteria**
- Respiratory Rate
- Heart Rate
- Temperature
- Blood Glucose Level
- White Blood Cell Count and Bands

**Organ Dysfunction Criteria**
- Systolic Blood Pressure
- Mean Arterial Pressure
- Lactate
- Bilirubin
- Creatinine increase from baseline

The Sepsis Alert Escalation task is displayed in the interactive nursing patient list view page (CareCompass) on results entry and/or pathology results arrival, resulting from matching combinations of the criteria results in range from above. The task is produced when clinical criteria for SIRS or severe sepsis are met.
The task displays as immediately overdue in the list of tasks for nurses against the patient. After escalating the alert as clinically required, nurses can launch and document Sepsis Alert escalation outcome from the nursing patient list view:

Screen 2. Sepsis Alert Escalation task

Screen 3. Sepsis Alert Escalation Form
Implementation planning of Sepsis Alert - Workflow has commenced with pilot site implementation in March 2015.

**High Level Requirements**

The design was developed to meet following baseline requirements as identified by Clinical Excellence Commission and clinicians:

1. The Sepsis Alert displays in the nursing view triggered on vital signs and pathology results entered into the system in real-time for patients over 18 years.
2. Clinicians can document the Alert escalation action and its details.
3. Clinicians can view the Alert escalation action and details as part of the patient record.
4. Clinicians can obtain the data for the pilot project results analysis.