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Abstract

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Using Technology and Systems to Improve Recognition of Clinical Deterioration

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Objectives:

To compliment the Early Warning (EW) tools within the inpatient electronic medical record (ieMR) we have implemented an integrated biomedical device to enhance correct and timely documentation of vital signs and have developed an EW clinical dashboard which supports detection of clinical deterioration across both the unit and service level.

The implementation of a structured process and collection of digital data on patient observations has ensured valid and timely vital sign capture. From this information a real-time patient-deterioration dashboard which enables proactive and timely monitoring and identification of clinically vulnerable patients across the facility has been developed. In combination these evidence-based support systems assist clinicians in early identification and intervention to prevent adverse events.

Methods:

The projects design and implementation have been overseen by the deteriorating patient committee in collaboration with the ieMR and analytical informatics teams. The biomedical device integration was rolled facility wide and incorporates both adult and paediatric observation modules of the electronic medical record. The deterioration dashboard is accessed through the Townsville Health Service Clinsite Hub which provides a central access point for clinical analytics and data which refreshes every fifteen minutes allowing for real-time higher-level identification and management of clinical deterioration through:

- Real-time triggers and decision support at the bedside.
- Built in algorithms that calculate, display and plot early warning scores eliminating human error.
- Display of vital signs in the ieMR as the observation are taken, without waiting for manual transcription.
- Identification pf patients with high EW and emergency scores as well as patients with multiple Emergency notifications.

Results:

Conclusions:

Real-time clinical observation data is accessible to frontline clinicians allowing for better identification of patient deterioration and improved safety for patients. In turn this has led to enhanced clinician experience and nurse satisfaction with released time to provide care for patients.