Modification of a Children’s Hospital Early Warning Score (CHEWS) Algorithm

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Results

- Two categories of the CHEWS algorithm were modified.
- Algorithm changes have been positively received, with reports that huddles are more appropriate and less burdensome.
- In the two months since implementation, there have been less RRTs called per month (pre 74, post 26) and a higher rate of transfer to ICU (pre 28%, post 42.5%), while maintaining zero codes within 24 hours of transfer.
- This shows appropriate use of the algorithm and escalation of care.
- One barrier was concern for eliminating a set score for RRT, which was resolved upon implementation.

Discussion

- CHEWS is one tool to support safe clinical practice.
- The algorithm changes allow for appropriate actions based on clinical judgment and patient clinical status.
- RRT data and safety events will be monitored to identify adverse outcomes or late rescue situations.

Implications for Practice

- The changes empower nurses to use clinical judgment, reducing alarm fatigue without impact on patient outcomes.
- RRT data and safety events will continue to be monitored to identify adverse outcomes or late rescue events.
- In the current healthcare environment, this project has allowed us to appropriately allocate resources to patients with highest acuity.

Acknowledgements

Thank you to all the nurses, physicians, and respiratory therapists who were involved in the interdisciplinary team for this QI initiative and to those that provided feedback.

Background

- Advocate Children’s Hospital (ACH) has used CHEWS from Boston Children’s Hospital since 2018 for early identification of patient deterioration.
- This objective assessment tool categorizes patients by level of risk and tracks changes over time. CHEWS allows for proactive management and prevention of arrest.
- Recently, concerns have been raised regarding unnecessary huddles and rapid responses. These were burdensome amidst times of peak census and limited workforce.

Purpose

- The aim of this project was to optimize the CHEWS escalation algorithm to decrease alarm fatigue, empower nurses, and allocate resources appropriately.

Methods

Sample and Setting

- 3 inpatient general pediatric units Advocate Children’s Hospital Intervention
- This was a quality improvement project using PDSA.
- An interdisciplinary team of nurses and physicians reviewed rapid response team (RRT) data and discussed options for adjustments to the algorithm.
- Focus was on patient safety and promoting a culture of nurse empowerment, allowing use of clinical judgment to escalate patient concerns.
- Changes were communicated using SBAR and required voice-recorded education.
- Algorithms were updated in the policy platform.
- Electronic health record was updated.

Methods of Evaluation

- Various options for algorithm changes were considered and discussed at length.
- Nursing and physician feedback was elicited via electronic survey, and options were explored.

Analysis

- Total numbers of RRTs, transfers to the ICU, and late rescues/codes within 24 hours of transfer were tracked pre and post.

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