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Project Topic/Title: Improving ventilator care through collaborative daily goal setting and enhanced communication strategies

Background / Purpose: Critically ill patients requiring mechanical ventilation have an increased rate of complications including pneumonia, delirium and muscle weakness which may lead to long term complications. Reducing ventilator days may have a direct impact on preventing these complications. The purpose of this quality improvement project was to implement a daily goal checklist for all Medical Intensive Care Unit (ICU) mechanically ventilated patients based on best practices and evidence to be reviewed systematically during multidisciplinary rounds. The focus was on providing evidence based guidelines including breathing trials, agitation and delirium management and early mobility with an anticipated goal of synchronizing the proposed patient centered plan of care and best practices. The primary anticipated outcome of this intervention was timely extubation with reduced ventilator days. A secondary outcome evaluated was an improvement in the process related to the Awakening, Breathing Coordination, Delirium management, and Early mobility or ABCDE bundle implementation, collaboration and communication among the multidisciplinary team. The feasibility and usability of daily goal checklist completion was also evaluated.

Design: Pre- and post-implementation design was used to evaluate the effect of a daily goal checklist to reduce ventilator days.

Data analysis: Data was collected for one month without a daily goal checklist and one month using the daily goal checklist for all mechanically ventilated patients. An Independent Groups t test was used to analyze correlations among the variables. The independent variable was the daily goals checklist. The dependent or outcome variable was ventilator days.

Results: During the pre-implementation phase (March, 2016) ventilator days were directly observed (N=497) by daily rounds. During the implementation phase with a daily goals checklist (April, 2016) ventilator days were directly observed (N=448) by daily rounds and were reduced by 10%. To test the hypothesis that the introduction of the daily goals checklist had a statistically significant impact on reducing ventilator days, an independent-samples t-test was performed. Although ventilator days were reduced, it was not found to be statistically significant when comparing pre-implementation phase ventilator days (M = 16.03, SD = 2.24) to post-implementation ventilator days (14.93, SD = 2.99), t(59) = 1.10, p = .109.

Conclusions: Several barriers were identified during data collection, including the inability of the Acute Care Nurse Practitioners to complete the daily goal checklist during rounds because of need to admit new patients, perform urgent patient care procedures or critical care management. The use of daily goal checklists is a method to systematically plan care based on best practices as proposed by the ABCDE protocol. Engagement of other multidisciplinary team members who are stakeholders or a system based intervention using an electronic checklist integrated into the daily progress note may improve the success of this patient safety innovation.