

Evaluation of Critical Care Quality Measures in a Designated Oncology Intensive Care Unit

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1 Background

- The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins Hospital transformed its model of practice and care in 2014, from an integrated practice model of to a new cohort model of care, in response to a growing acuity of critically ill patients.
 - Integrated model: Oncology team provided primary care for patients with assistance from intensivists.
 - Cohort model: Critically ill inpatients and routine oncology inpatients receive care on a unit with six designated ICU beds. Pulmonary/critical care service provides primary care for the critically ill patients.

2 Objective

- This QI pilot project aimed to evaluate whether having dedicated critical care provider and nursing staff with more consistent critical care practice lead to better assessment of sedation and delirium in the ICU.¹

3 Methods

- A sample of 20 randomly selected patients receiving mechanical ventilation were evaluated via chart review to analyze quality of care one-year post-practice change.
- Two quality care indicators were selected for analysis based on accepted practice for the care of mechanically ventilated patients and previously identified problem practice areas.^{1,3}
 - Percentage of time Richmond Agitation Sedation Scale (RASS) assessments met goal of “0 or -1”.
 - Number of delirium assessments successfully completed.
- Data was analyzed using SPSS to determine if changes in care provided were significant between the integrated model of care (pre-practice change), the cohort model of care (three months immediately post-practice change), and now one year post-practice change.

3 Results

SEDATION

- Sedation data collection:
 - RASS should be recorded every four hours.
 - Goal is score of “0 to -1” although exceptions exist (e.g. neuromuscular blockade).³
 - Percentage RASS met or exceeded standard determined by: number of RASS at 0 or -1 divided by total RASS documented.
 - One study suggests that 25-50% of patients in RASS goal range 0 to -1 will improve outcomes.⁴
 - One study showed that 15% improvement in numbers at goal range reduced ventilator time by 4 hours.²

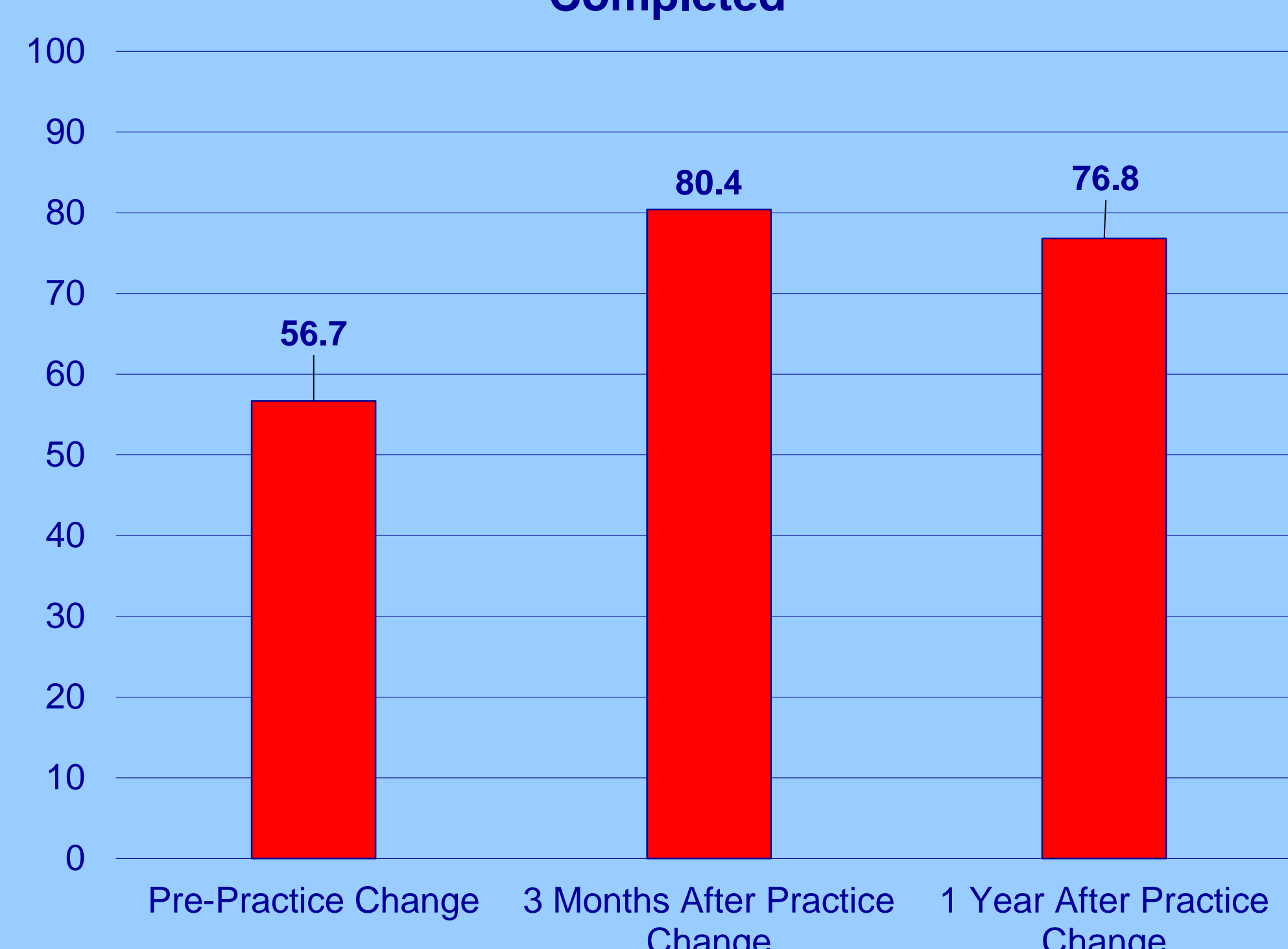
Figure 1. Percentage RASS Met or Exceeded Minimum Standard



DELIRIUM

- Delirium data collection:
 - Documented twice daily at 5AM and 5PM.
 - Percentage of assessments completed, included those that were documented as “unable to participate”.
 - This unit used the Intensive Care Delirium Screening Checklist (ICDSC) based upon a unit study showing superior performance over CAM-ICU.⁵

Figure 2. Percentage Delirium Assessments Completed



4 Conclusions

- The percentage of time RASS scores met the goal of 0 or -1 has improved since the practice change.
- The number of delirium assessments completed has improved since the practice change.
- These results show positive trends, but none of these changes were significant (alpha = .05).
- Accuracy of this QI study was dependent upon providers’ documentation.
- Average acuity of patients was not measured in any groups and could have influenced the percentage of patients with an ideal goal RASS score.

5 Future Directions

- Perform targeted education for sedation and delirium management.
- Audit sedation management with real-time feedback.
- Evaluate additional quality care indicators for mechanically ventilated patients.

6 References

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