

Critical Care: Telemedicine and Monitoring
Wednesday, October 25, 2006 12:30 PM - 2:00 PM

ICU PROCESS IMPROVEMENT: USING TELEMEDICINE TO ENHANCE COMPLIANCE AND DOCUMENTATION FOR THE VENTILATOR BUNDLE

Brian A. Youn, MD, FCCP*

Parkview Hospital, Fort Wayne, IN

PURPOSE: Outcomes are improved when ventilated patients receive the best practices combination known as the Ventilator Bundle. However, many ICU's struggle with implementation and documentation of this best practice guideline. Compliance often falls short because of incomplete or missing physician orders, missed doses of medications, failure to use devices, and lack of accurate documentation for applied treatments and/or contraindications. Despite staff educational efforts, chart audits for compliance and documentation rarely reach 100%.

METHODS: We hypothesized that physician order compliance and documentation could be improved using our ICU telemedicine center to implement three components of the ventilator bundle- head of bed (HOB) elevation, deep vein thrombosis (DVT) prophylaxis, and peptic ulcer disease (PUD) prophylaxis. We performed this intervention in three phases. Phase I introduced remote intensivist led, daily multidisciplinary rounds (MDR's) on all patients. Phase II empowered the MDR remote intensivist to prescribe vent bundle orders on all patients. Phase III added twice daily RN remote bedside rounds to assist with documentation. The virtual RN rounds functioned as a reminder for vent bundle compliance, to confirm medication administration, and to document HOB elevation and DVT device application when ordered. A daily vent bundle progress note was placed in the patient chart. Monthly chart reviews were performed on all ICU mechanically ventilated patients.

RESULTS: Results were compared monthly as percentage compliance per ventilator day. Percentage compliance improved from baseline to phase III for HOB, DVT, and PUD from 59%, 76%, and 84% to 100%, 100% and 99% respectively. $P < .001$ for Chi-square and nptrend analysis.

CONCLUSION: This telemedicine-based performance improvement program enhanced compliance and documentation with three vent bundle components. Raising awareness (MDRs) had the least effect on compliance, while writing orders and then documenting that these orders were carried out showed the greatest effect.

CLINICAL IMPLICATIONS: A centralized tele-ICU program can be instrumental in achieving greater compliance with quality indicators in the ICU and should be evaluated for its effect on other ICU best practices.

DISCLOSURE: Brian Youn, None.