



1236The Preventability of Ventilator-Associated Events: The CDC Prevention Epicenters' Wake Up and Breathe Collaborative

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ORAL ABSTRACTS

1236. The Preventability of Ventilator-Associated Events: The CDC Prevention Epicenters' Wake Up and Breathe Collaborative

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Background. The Centers for Disease Control and Prevention replaced its ventilator-associated pneumonia definitions with ventilator ventilator-associated event (VAE)

definitions in early 2013. Little is known about preventing VAEs. We hypothesized that coordinated, daily spontaneous awakening trials (SATs) and spontaneous breathing trials (SBTs) might prevent VAEs by decreasing patients' sedative and ventilator exposures.

Methods. We nested a multicenter quality improvement collaborative within a prospective study of VAE surveillance in 20 adult medical, surgical, medical-surgical, and cardiac intensive care units between November 2011 and May 2013. Twelve units joined the collaborative and implemented an opt-out protocol for nurses and respiratory therapists to initiate paired daily SATs and SBTs. The 8 remaining units conducted surveillance alone. The collaborative included two in-person meetings, monthly written reports, conference calls, and data feedback. We evaluated temporal trends in VAE rates and other outcomes per episode of mechanical ventilation using generalized mixed effects regression models adjusted for unit, age, sex, reason for intubation, SOFA score, and comorbidity index.

Results. We tracked 5,164 consecutive episodes of mechanical ventilation: 3,425 in collaborative units and 1,739 in surveillance-only units. Within collaborative units, there were significant increases in SATs, SBTs, and the percentage of SBTs performed without sedation. Mean duration of mechanical ventilation decreased by 2.4 days (95% CI 1.7-3.1), ICU length-of-stay by 3.0 days (95% CI, 1.6-4.3), and hospital length-of-stay by 6.3 days (95% CI, 4.0-8.6). There were significant decreases in ventilator-associated conditions (OR 0.63, 95% CI 0.42-0.97) and infection-related ventilator-associated complications (OR 0.35, 95% CI 0.17-0.71) but not Possible or Probable Pneumonia (OR 0.51, 95% CI 0.19-1.3). There was a significant increase in self-extubations (OR 2.1, 95% CI 1.1-3.9) but no change in re-intubations within 24 hours (OR 0.96, 95% CI 0.66-1.4). Within surveillance-only units, there were no significant changes in SAT, SBT, or VAE rates.

Conclusion. Nurse and respiratory therapist led opt-out protocols for paired, daily SATs and SBTs were associated with significant reductions in length-of-stay and VAEs.

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