

Prevention of Ventilator-Associated Pneumonia in the PICU

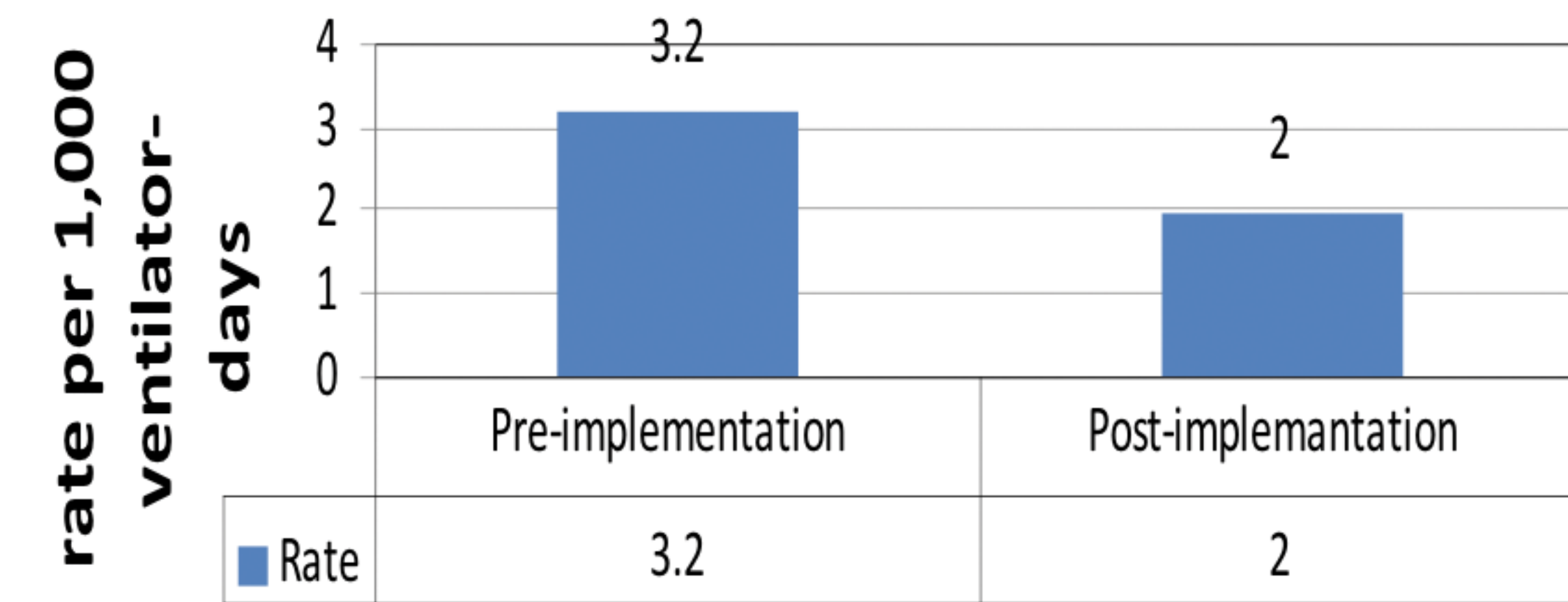
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OBJECTIVE

- Decrease PICU Ventilator-Associated Pneumonia (VAP) rate by 50% in 1 year
- Develop a VAP bundle, disseminate bundle in the Pediatric Intensive Care Unit
- Maintain 100% compliance with bundle

Rate of Ventilator-Associated Pneumonia



BACKGROUND

- VAP is the 2nd most common nosocomial infection in PICU patients
- VAP prolongs ventilator days, ICU stays and hospital stays after discharge from ICU
- Estimated additional cost of \$40,000 to a typical hospital admission
- National patient safety initiative to decrease Ventilator Associated Pneumonia VAP rates
- Improve safety and care of patients in the PICU
- Researched best practices and other institution policies for patient care guidelines in reducing infection rates

METHODS

- Training provided to nursing staff and PCAs through video and one-on-one demonstration of VAP bundle components, summer and fall 2010
- VAP Bundle implemented December 2010
- Daily assessment of intubated patients at risk for VAP
- Standard approach to decrease infection rate through mouth care, head of bed (HOB) elevation and suctioning through port/inline device
- January 2011 implemented daily audits of compliance w/bundle components

PATIENTS WITH TEETH



PATIENTS WITHOUT TEETH



MATERIAL INTERVENTION

- Oral care protocol every 4 hours or 6 times in 24 hours
- Mouth care bags at patient bedside for patients with teeth and those without
- Proper storage of suction catheter
- Head of bed elevation
- 30-45° or 15-30° in infants
- Inline suction or suction port
- Inline suction for 10Fr or greater suction catheters
- Suction port for < 10Fr suction catheters
- No disconnection of ventilator tubing for suctioning

RESULTS

- Decreased VAP rate from 3.2 per 1000 ventilator days to 2 per 1000 days from October 2009 to present
- Achieved up to 100% compliance with all four individual parts of the VAP bundle

CONCLUSIONS/NEXT STEPS

- Staff education and standardized bundle can decrease VAP rates in a PICU
- Continue staff education in an effort to reach zero VAP
- Implement staff self-audit of compliance with bundle components

