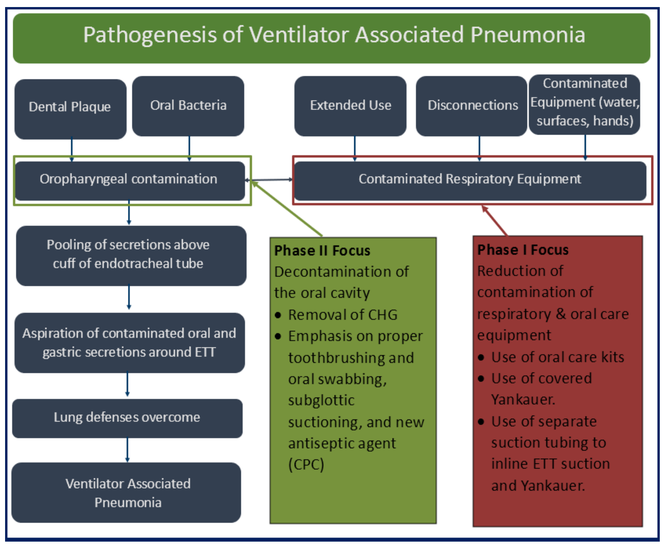
Oral Care for Pneumonia Prevention in Ventilated Patients

Background

- Critically ill mechanically ventilated (MV) patients are at increased risk of hospital-acquired pneumonia[1].
- Providing oral care to the MV patient reduces ventilator associated pneumonia (VAP)[2].
- Essential practice recommendations from the most recent VAP prevention guidelines include[1]:
  - Removing chlorhexidine gluconate (CHG) as the oral care antiseptic agent as meta-analysis showed no benefit to preventing VAP and suggested an increase in mortality[2,3,4]
  - Emphasizing toothbrushing for mechanical removal of plaque[2,5]

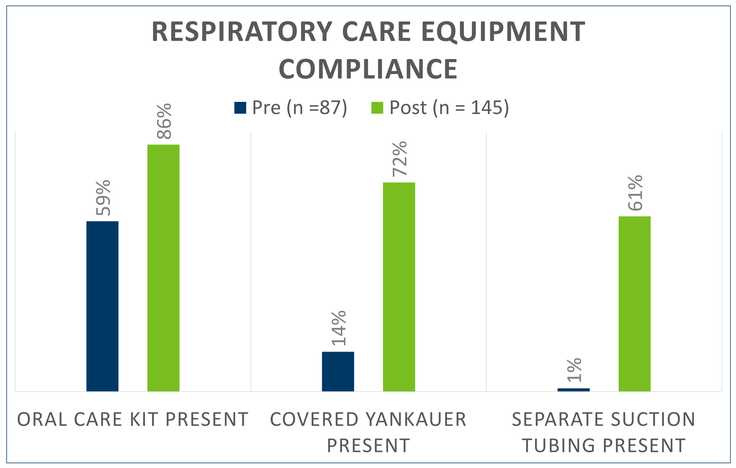
Interventions and Measures

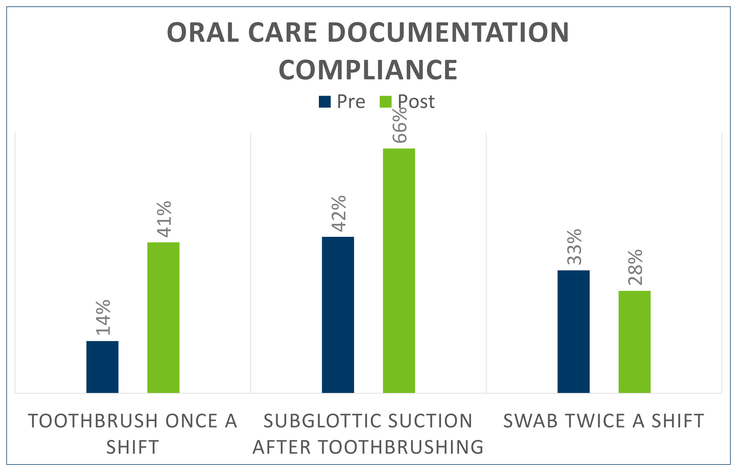
- Phase I: Reduce contamination of respiratory care equipment
  - Covered Yankauer and separate suction tubing
  - Process measure: direct observation audit
- Phase II: Decontamination of the oral cavity
  - Simplified oral care product line, new antiseptic, and updated procedure
  - Process measure: documentation compliance
- Outcome Measure: Ventilator days, system VAP data unavailable

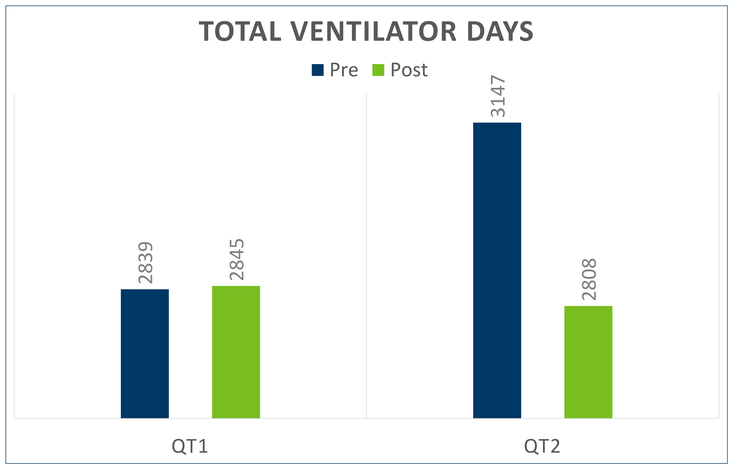


Phased Education Targeted to the Pathogenesis of VAP

Results







Cost Savings = $43,947

Lessons Learned

- Sustaining practice change in complex environments requires:
  - Multimodal educational approaches
  - Data driven continued assessment of organizational adoption
  - Ongoing engagement of clinical practice experts to ensure sustainability
- Use of documentation for monitoring oral care compliance has limitations.
  - Elements of oral care charting need improvement
  - A percentage of oral care noncompliance could be attributed to charting error.
- Measuring VAP is complex. System would need to commit significant resources to measure VAP. Lack of VAP data makes it impossible to understand impact on patient outcome and cost, and primary motivator of staff to change practice.

Next Steps

- Ongoing implementation and sustainability efforts
  - Share data with unit leadership and staff
  - Target follow up interventions based on identified defects
- Extend oral care procedure and product improvements cross the health system to also impact non-ventilator associated hospital acquired pneumonia

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