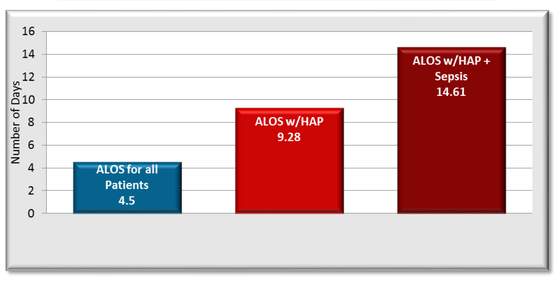
Simple Interventions Extraordinary Outcomes

Kelly Frey, MSN, RN, Critical Care Nurse Manager

Background

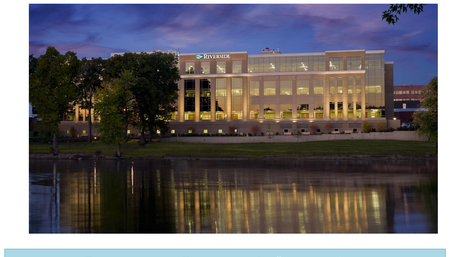
Sixty-one percent of healthcare-associated pneumonias (HAP) occur in non-ventilated patient populations (Magill, 2014). HAP leads to negative patient outcomes including discomfort, longer lengths of stay (LOS) and increased healthcare costs. The average LOS (ALOS) for patients with HAP increased from 3.4 days to 9.28. Patients with HAP and sepsis had an ALOS of 14.61 days. Nurses, dedicated to quality improvement and patient care, developed an evidence-based oral hygiene program to reduce instances of HAP.

2016 – 2018 Average Length of Stay



Objective

Develop an oral hygiene program to reduce the instances of HAP by 75% thereby improving patient care.



Presenter Contact Information

Kelly Frey, MSN, RN, Critical Care Nurse Manager
kfrey@rhc.net
(815) 933-1671 Ext. 4879

Riverside Medical Center, Kankakee, IL

Process

➢The first step in the development of this oral hygiene program was a review of literature (ROL). Through the ROL, nurses learned that an oral hygiene program utilizing correct equipment/material will reduce instances of HAP. The implementation of a strong oral hygiene program leads to a decrease in HAP rates per 100 patient days by 38.8%, which results in improved mortality and a cost savings (Quinn, 2014).

➢New equipment was converted based on current evidence and by the recommendations made by the American Dental Association (ADA) and the American Association of Critical-Care Nursing (AACN). Two streamlined "grab-and-go" oral care kits were chosen based on quality and partnership: an independent kit and a continuous care kit. The kits contained an ADA approved soft bristled brush/swab, antibacterial toothpaste, alcohol-free antiseptic mouthwash and mouth moisturizer.

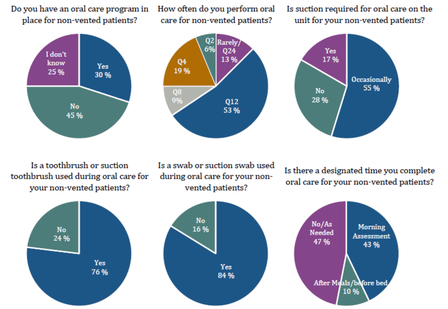
➢The team developed and implemented a quick and easy assessment tool to identify which product would best meet the patient's needs.

➢Staff participated in a pre-implementation survey to assess current understanding of the importance of oral hygiene and current practices.

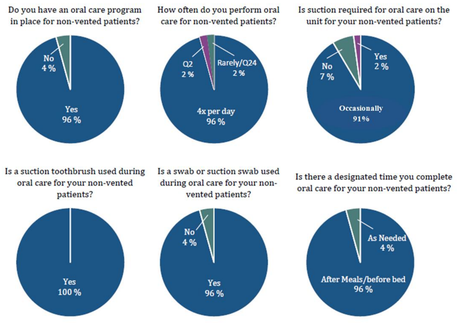
➢Staff participated in education on the oral hygiene program. Educational roll-out was performed unit to unit, face-to-face and allowed for question and answers. Education included handouts, visual cues and time-lapsed imagery. Staff educated included nurses, certified nursing assistants, respiratory therapists and occupational therapists.

➢Staff participated in a post-implementation survey to assess understanding of the importance of oral hygiene.

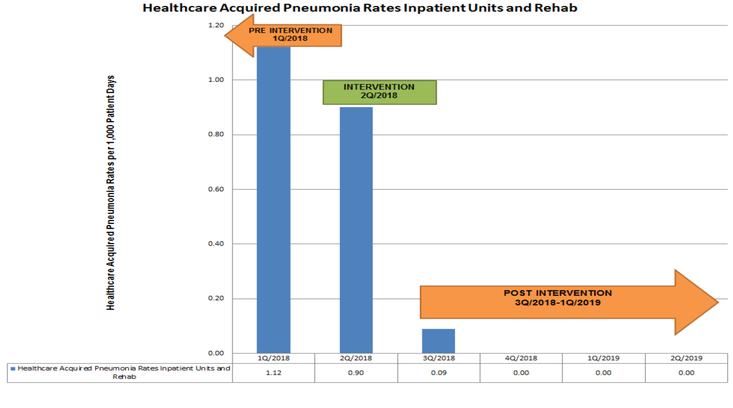
Pre-Implementation Survey



Post-Implementation Survey



Results



Prior to the implementation of an oral hygiene program, the organization had an HAP rate of 1.12 during the first quarter of 2018. After the oral hygiene program, the HAP rate decreased to 0.09 in the first quarter of implementation and then to zero. The implementation goal was to reduce HAP by 75% and year-to-date the project is at 100%.

Cost

In 2017, the organization had 25 cases of HAP at a cost of $92,663 per incident. The average cost of oral care products was $71,000. The cost of product change for an ADA/AACN approved mouth care kit was an additional $45,000. ALOS decreased from 4.5 days pre-implementation to 3.8 days post-implementation. By the end of first quarter 2019, the cost saving was $2,100,000.

Conclusions

Utilizing an evidence-based oral hygiene program can improve patient care by decreasing HAP. This improvement in care leads to decreased LOS and healthcare costs. More importantly, an oral hygiene program decreases discomfort in patients.

Acknowledgements

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References

Magill, S. et al. *Multistate Point-Prevalence Survey of Health Care-Associated Infections.* The New England Journal of Medicine. March 2014; 370:1198-208. DOI 10.1056/NEJMoa1306801. Table 2 citation 2 shows 39.1% of pneumonia events associated with mechanical ventilator. **2.** Davis, James, BSN, RN, CCRN, CIC. The Breadth of Hospital-Acquired Pneumonia: Non-ventilated versus Ventilated Patients in Pennsylvania. PA Patient Safety Advisory 2012 Sep;9(3):99-105.

Quinn B, et al: Basic nursing Care to Prevent Non-ventilator Hospital-Acquired Pneumonia. Journal of Nursing Scholarship, 2014. 46(1): 1-9