Implementation of Noise Reduction Program through Rapid Cycle Improvement Model to Improve Quietness at Night Scores

Tiffany Low, BSN, PHN, RN-BC and Aiaan M. Luciano, BSN, PHN, RN
VA Palo Alto HealthCare System, Palo Alto Division

Objective
- Evaluate the effectiveness of implementing a noise reduction program (NRP) on a medical-surgical unit to reduce noise, improve quietness at night, promote sleep, and increase patient satisfaction

Background
- Literature suggests evidence-based interventions may reduce noise and promote sleep such as:
  - Establishing quiet hours
  - Closing doors
  - Dimming hallway & room lights
  - Providing sleep hygiene kits
  - Minimizing interruptions at night
- According to 2014 Truthpoint® patient survey data, baseline patient satisfaction scores averaged 77% (N=339) indicating “Very Good” and “Excellent”

- In 2015, a root cause analysis was performed via Truthpoint® on a 34-bed adult medical-surgical unit. Patients (N=163) reported sleep disruption at night due to:
  - Noise by other patients (56%)
  - Hallway noises (38%)
  - Vital sign monitoring/alarms (31%)
  - Staff talking (27%)
  - Other: pain, insomnia, discomfort (26%)

- An opportunity was created to implement a NRP to improve quietness at night, promote sleep, and increase patient satisfaction

Methods
- Utilized rapid cycle improvement model (RCIM) via PDCA cycle to monitor, improve, and sustain the NRP
- Collected real-time feedback via Truthpoint®
- A convenience sample of 2015-2018 adult medical/surgical patients
- Collaborated with multidisciplinary team
- A benchmark was set at or above an average score of 80% of patient responses for “Very Good” and “Excellent”

Implementation
- In-service training to staff on implementation process and how to introduce NRP to patients
- Recruited and trained noise reduction champions to perform noise reduction rounds, process evaluations, and audits
- Clerk or Charge nurse announced reminder for quiet times from 22:00-05:00
- Hallway lights turned off to signal start of quiet hours
- Staff nurses implemented quiet times interventions via quiet time checklist

Evaluation
- Process evaluations were performed at 23:00 each evening
- Staff feedback was routinely gathered to identify barriers
- Audits were performed to monitor staff compliance and gather live feedback from patients
- Feedback from process evaluations, audits, and Truthpoint® was compiled at the end of each quarter and changes were made to improve and sustain the NRP
- Staff performance was measured using Truthpoint® (image to the right) and staff were provided 1-on-1 feedback to improve performance

Results
- Average patient satisfaction score increased from baseline (77%) to 82% in 2015 (N=618), 83% in 2016 (N=635), 86% in 2017 (N=681), and 91% in 2018 (N=749)

Barriers and Limitations
- Staff compliance and engagement
- Double-occupancy rooms
- Physiological factors: pain, insomnia, delirium, discomfort
- Overnight transfer/admission & emergencies
- Critical alarms & equipment
- Resource availability

Conclusion
- Implementation of an NRP and utilizing RCIM improved quietness at night scores resulting in an increase in patient satisfaction, reduction in noise, and promotion of sleep

References