HUSH - Helping Understand Sleep Heals “Quiet ICU” AACN CSI Project

Marion Daku BSN, RN, CCRN
Lehigh Valley Health Network, Marion.Daku@lvhn.org

Eva Fox BSN, RN
Lehigh Valley Health Network, Eva.M.Fox@lvhn.org

Heather Koch RN
Lehigh Valley Health Network, Heather.Koch@lvhn.org

Follow this and additional works at: http://scholarlyworks.lvhn.org/patient-care-services-nursing

Part of the Nursing Commons

Published In/Presented At
HUSH - Helping Understand Sleep Heals “Quiet ICU” AACN CSI Project

Marion Daku BSN, RN, CCRN, Eva Fox BSN, RN, Healther Koch RN
Lehigh Valley Health Network, Allentown, Pennsylvania

Who We Are

• 5 Campuses
• 1 Children’s Hospital
• 140+ Physician Practices
• 17 Community Clinics
• 12 Health Centers
• 10 Express/CARE Locations
• 80 Testing and Imaging Locations
• 13,100 Employees

ICU Muhlenberg

• 20 beds
• Medical/Surgical/Cardiac/Vascular ICU and Universal Open Heart Unit
• Provide care for a diverse population

Why We Care

• Noise Levels
  → Poor Sleep Quality
  → Slower healing, poor immune response, ↓ cognitive function, ↑ LOS
  → Leading to more 1:1’s and increased length of stay

What Contributes to Our Noise

Random samplings of everyday daytime noise in our unit:

- Headsets and earbuds provided
- Telephone and television volumes decreased
- Blinds closed

Make It Happen

• Collaboration between ICU staff members and the multidisciplinary team
• Initiation of new set “quiet times”: 1am-2am and 2pm-4pm
• Use of better alarm parameters and adjustments
• Newly developed algorithms for better alarm management
• Staff education on noise, alarm fatigue, sleep and survey scores
• Purchase of sound machines and introduction of sleep sacks

During “Quiet Time”

• Unit lights dimmed
• Blinds closed
• Telephone and television volumes decreased
• Headsets and earbuds provided
• Staff interact quietly and remind anyone entering the unit that “quiet time” is in progress
• Staff makes every effort to limit nursing activities and not enter patient room unless necessary
• Patient doors closed if safe to do so
• Necessary therapeutic interventions performed as quietly as possible

What Contributes to Our Noise

Random samplings of everyday daytime noise in our unit:

- Headsets and earbuds provided
- Telephone and television volumes decreased
- Blinds closed

Make It Happen

• Collaboration between ICU staff members and the multidisciplinary team
• Initiation of new set “quiet times”: 1am-2am and 2pm-4pm
• Use of better alarm parameters and adjustments
• Newly developed algorithms for better alarm management
• Staff education on noise, alarm fatigue, sleep and survey scores
• Purchase of sound machines and introduction of sleep sacks

During “Quiet Time”

• Unit lights dimmed
• Blinds closed
• Telephone and television volumes decreased
• Headsets and earbuds provided
• Staff interact quietly and remind anyone entering the unit that “quiet time” is in progress
• Staff makes every effort to limit nursing activities and not enter patient room unless necessary
• Patient doors closed if safe to do so
• Necessary therapeutic interventions performed as quietly as possible

Measurement and Evaluation

• ICAPS and Press Ganey Scores
  → Quiet at Night
• 18 Question Staff Survey Pre and Post
  → Addressing noise levels, satisfaction, distraction, patient’s rest, and staff impact
  → Surveyed RNs, PFTs and Technical Partners
• Manual Alarm Counts
  → We measured 11 various alarms
  → Amount of time that they alarmed
  → If the alarm was true or false
  → Declibel Meter Readings
  → EPA recommends 45 dB during day and 35 dB at night
  → These numbers haven’t changed since 1974
• Richards Campbell Sleep Questionnaire
  → A validated survey instrument for measuring sleep quality in ICU patients
  → Measures patient “nurse interrruption reliability”

Results and Learnings

• The project is officially over but we continue to focus on the quiet initiatives and our ICAPS scores have improved to:
  → Press Ganey Scores have been consistently in the high 90
  → 84% of staff feel their patients get at least 2 hours of uninterrupted rest
  → Only 2% of staff are rarely satisfied with the noise level
  → More than 2/3 of staff now feel they have an impact on the noise level
  → False alarms decreased by 69% due to better alarm parameter setting
  → The amount of EKG alarms has been decreased by 79% to use of new algorithms
  → Our unit is quietest from 10am to Noon (average 53.3 dB)
  → Our unit is quietest from 2am to 4 am (average 45.6 dB)
  → The Richards Campbell Sleep Questionnaire let us know that our patients sleep better than we thought and that nursing rated the unit a little quieter than the patients
• Unit Length of Stay was decreased by 0.74 days-this day of course cannot be solely contributed to our project–our unit has many initiatives in place to decrease LOS and there are many factors that impact LOS including sleep and rest
• Patient Safety and Loyalty
  → 84% of staff feel their patients get at least 2 hours of uninterrupted rest
• CMS Reimbursement
  → LVHN is in jeopardy of losing $1.5 million in ICAPS scores do not reach set benchmarks
  → Muhlenberg responsible for 20% ($300,000)
  → ICUs responsible for 4% ($12,000)

Maintaining and Sustaining

• Include interventions within unit orientation
• Reinforce quiet times to family, staff and inter-professional colleagues
• Designate unit champions
• Hardware expectations into daily practice

Potential Fiscal Savings

• CMS Reimbursement
  → LVHN is in jeopardy of losing $1.5 million in ICAPS scores do not reach set benchmarks
  → Muhlenberg responsible for 20% ($300,000)
  → ICUs responsible for 4% ($12,000)

Job Retention for RNs

• Nursing turnover can cost a hospital approximately $88,000 per nurse, when an RN leaves their position and a new employee has to be trained-
  → Unhappy RN’s save millions of dollars
• Length of Stay
  → Length of stay in ICU has ↓ 0.74 days
  → Potential savings of $2,590 per patient (based on average cost of $3,500 per ICU day)
  → July 2013 - July 2014 current average was 1.948
  → Projected annual savings for the unit with ↓ LOS potentially results in millions of dollars

Patient Safety and Loyalty

• Unhappy RN’s save millions of dollars

© 2015 Lehigh Valley Health Network