Raising Our Voices to Create a Quiet Environment

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Disclosure

- This presenter has not received any commercial support or sponsorship.
- No conflicts of interest were identified.
- There will be no discussion of uses of products other than what is approved by the FDA.
Objectives

• Recognize hospital noise as a detriment to the hospital environment including affecting patient care and outcomes.

• Recognize successful strategies to reduce unnecessary noise in the hospital environment thus improving patient care and outcomes.

• Recognize the shared governance process as an effective structured environment allowing direct care providers to have opportunities to make meaningful changes at the point of care and unit level.
Noise is a primary cause of sleep deprivation and disturbance among patients.

Noise has been shown to increase anxiety and stress which causes additional patient health concerns and impacting patient safety.

“Unnecessary (although slight) noise injures a sick person much more than necessary noise (of a much greater amount).”

“Unnecessary noise, then, is the most cruel absence of care which can be inflicted either on sick or well.”

“Such unnecessary noise has undoubtedly induced or aggravated delirium in many cases. I have known such-in one case death ensued.”

Impact of Noise

• Impact on PATIENTS

Noise is reported as the primary cause of sleep deprivation among hospitalized patients.
– Increases anxiety & stress which impacts patient safety
– Contributes to falls, patient confusion, altered memory, increased agitation, aggression and delirium, less tolerance to pain
Impact of Noise

• Impact on STAFF
  – Noise has been shown to contribute to medical and nursing errors
  – Noisy environments cause stress induced experiences of staff
  – Patient confidentiality violations
Common Sources of Noise

• Staff conversation
• Roommates (TVs, Visitors)
• Alarms (IV pumps, Heart/O2 monitors, etc.)
• Intercoms/Paging Systems
• Telephones
• Slamming Doors
• Noisy Equipment (Cleaning equipment, Squeaking wheels, etc.)
Hospital Noise Measurements

<table>
<thead>
<tr>
<th></th>
<th>Daytime Average</th>
<th>Nighttime Average</th>
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<tbody>
<tr>
<td>1960</td>
<td>57</td>
<td>35</td>
</tr>
<tr>
<td>2007</td>
<td>48</td>
<td>38.2</td>
</tr>
<tr>
<td>2012</td>
<td>42</td>
<td>30</td>
</tr>
<tr>
<td>WHO</td>
<td>60</td>
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Improving the Hospital Noise Environment

• Behavioral modifications
• Quiet zones
• Changing alarm settings
• Design strategies
• Reducing Noise from Communications Systems

Our Voice

- Noise Reduction Improvement Plans in the hospital environment is nothing new.
- What can be done to make a difference?
- What can help ensure spread and sustainability?
8 East Unit Based Council (UBC)

- Medical/Surgical Telemetry In-Patient Unit
- Unit members with direct care responsibilities (RNs, LPNs, and Health Technicians)
- Allowed input and to make changes at the point of care
- Mentor assigned to assist UBC
- Shared Governance Budget available for improvement projects
- The UBC makes recommendations to leadership & councils.
8 East UBC chose “Noise Reduction” as a project to improve patient outcomes and the care environment.

The Unit Manager selected a member of 8 East UBC to attend Lean Healthcare Improvement Training.
VA TAMMCS
Improvement Framework Approach
Included in Yellow Belt Training

- Vision
- Analysis
- Team
- Aim
- Map
- Measure
- Change
- Sustain/Spread
UBC Strategies

Vision:

• Reduce noise disturbances on 8 East to improve patient outcomes and the care environment.

• Improvement strategies focus on veteran-centeredness, quality, and efficiency of healthcare delivery and services.

• We will provide a nurturing environment, one that is caring, supportive, and healing for both the patient and the nursing staff.
Analysis:
- What are the current noise levels on 8 East?
- What are the patients saying?
- Involve staff to determine current noise status.
- Brainstorm to identify causes of noise.
What are the current noise levels?

- Noise recorder was purchased and installed on 8 East.
- The daily average noise level were determined to be 54 dB (Sept. 10 to Oct. 14).
Problem Statement & AIM Developed

• **Problem:**
  – Patient care & patient outcomes will continue to be adversely affected if noise levels are not decreased in the in-patient areas.

• **AIM:**
  – Reduce Noise levels on 8 East by 10% from a daily average of 54 decibels to a daily average of 48.6 decibels by December 1, 2014.
What Our Patients Said About Noise

Although our Patient Satisfaction Survey data (SHEP) were strong regarding noise, we identified an issue based on what patients were saying when they were interviewed while inpatients.
“Noise on weekends and nights - believes more other departments rather than nursing (seem to be the men in the housekeeping)”

“Overall very satisfied but felt that a.m. change of shift was very loud - they sounded happy but it was hard to rest.”

“Noise level constantly loud. Employees don't respect my need for rest and quiet…”

“Too much noise during change of shift”

“The last time I was here there was a lot of noise in the hallways. It is a little better this time.”

“…You and your roommate need to be on the same (TV) channel because the competing sound will drive you crazy.”
Involve Staff to Determine Current Noise Status

Voice of the Customer (VOC) Analysis:

- Provides valuable information about the current state
- Identifies new opportunities for improvement
- Increases employee engagement
- Helps with sustainability and spread
What Our Staff Said About Noise

- Signs to remind employees/visitors to keep noise down.
- Educate employees what impact noise has on patients.
- Need centralized nursing station instead of stations outside patients room.
- Change of shift reports should be given in office.
- Phones ringing in hallways are a problem.
- Cell phones/Pagers for nurses.
- Ear buds/Earphones for patients TV control.
- Patients doors closed with patients permission.
Team Brainstorming

FISHBONE DIAGRAM - Cause & Effect of Noise

Method of systematically organizing the potential causes that may be contributing to noise disturbances.
Current State Map with Value Assessment from Patients’ Perspective

Patient admitted to 8 East In-patient Unit

Shift Change-Nurses receiving report in hallway

Patient’s roommate has TV on loud

Floor cleaning equipment cleaning hallway

Cart with noisy wheels going down patient hallway

Nurse completes patient assessment and asks admission data base questions

Physician responds & examines patient

Medication Pass to all patients

Early morning blood draws

Loud laughing and yelling in patient hallway

Blood drawn and IV medication initiated on patient

Overhead loud speaker heard paging Joe Smith

Cleaning crew emptying trash in patients room

Wall Chart doors slamming outside patients room

Door slamming shut in patient hallway

Stat chest x-ray taken of patient

Staff heard talking and laughing loudly in hallway

Nursing phones ringing in hallway

Staff takes vital signs on all patients

Patient’s condition improves

Pt remains in hospital

NO

YES

Patient discharged to home

CURRENT STATE MAP

NOISE on In-Patient Unit

VALUE ASSESSMENT

Non-Value Adding

Unnecessary

Value Adding

Necessary

Non-Value Adding

Necessary
UBC Noise Reduction Strategies

- Continual Noise Monitoring
- Noise producing equipment identified & fixed
- Quiet Signs posted in unit
- Quiet Times established
UBC Noise Reduction Strategies

- Sound Conditioner purchased
- Ear buds purchased for patient use with TV control in room.
- Lapel “Quiet” buttons given to nursing & support staff, visitors, and patients to wear.
UBC Noise Reduction Strategies

- Educational brochures developed
Future State Map with Value Assessment from Patients’ Perspective
Aim: Reduce Noise levels on 8 East by 10% from a daily average of 54 dB to a daily average of 48.6 dB by December 1, 2014.
Change: Noise levels on 8 East had statistically significant reduction from 54 dB to 49.15 dB by December 1, 2014.
Noise Reduction

Sept to Oct
- Day Avg: 57.5
- Day Quiet: 55.4
- Night Avg: 57.3
- Night Quiet: 55.34

Oct to Dec
- Day Avg: 54
- Day Quiet: 50.54
- Night Avg: 50.26
- Night Quiet: 48.2

24 Hr Avg: 49.14
Sustain/Spread

• Employees attitudes toward the proposed noise reduction predicts success.

• Senior management/leaders must continue their support for change.

• Bottom-up vs. Top-Down: Change has better chance of sustainment driving from the lowest level possible (Front-line)

• Regular Data Feedback to Front-Line Staff.

• Provide recognition to staff/unit for successes.

• Celebrate and communicate accomplishments.

• Once the noise reduction intervention has proven effective, consider how to spread it for broader implementation to other units.
A3 - Problem Solving Report
One page (11”x 17”) Visual Overview of Noise Reduction Process
• Celebration of UBC Accomplishments
  – Eat & Greet Celebration
  – All staff invited including support staff
  – Director attended
  – Nursing Management/Nursing Supervisors attended
Staff Engagement

- Unit Based Council-Team Approach
- Buy in from staff because they had input in the process changes
- Voice of the Customer
- Education
- Multiple Domains
Structural Empowerment
Shared Governance & Leadership Support

- UBC training
- Mentor
- Shared Governance Budget
- Manager Support
- Communication of Results and Strategic Plan
Impact on the Organization

• Sustainability – Improved patient outcomes and patient satisfaction
• Spread - Throughout hospital/clinics
• Celebrating and Acknowledging Successes
• Nursing Professionalism
“A good nurse will always make sure that no door or window in her patient's room shall rattle or creak; that no blind or curtain shall, by any change of wind through the open window be made to flap—especially will she be careful of all this before she leaves her patients for the night.”

References