

Red Deer Regional Hospital Centre ICU

Delirium team members and poster contributors:

George Belanger, Gillian Brown, Carmen Petersen, Dr. Michael Russell, Krista Hirney, Heather Brown, Cody Kelly, Fay Cherepuschak, Lyndsay Clarke.

BACKGROUND

Central Zone ICU – 18 bed facility.

Unit is comprised of 12 ICU beds and 6 CCU beds.

Catchment population 450,000 people.



AIM

To decrease environmental stimuli for all ICU and CCU patients with a specific focus on minimizing noise. Secondary aim of increasing awareness for ICU staff, patients and visitors in regard to noise levels within the ICU.

- Delirium Bundle D supported with the implementation of a noise measurement system.

Implementation of a standardized delirium prevention and management guideline in alignment with SCCM PAD recommendations is the best practice recommendation that supports our aim. Emphasizing: early mobility, sleep promotion, sedation and analgesia and early discussion of and proactive approaches to all patients at risk of delirium.

MEASUREABLE GOALS

- Acquire and install two or more noise measurement devices with or without accompanied software in the ICU by August 1, 2017.
- Educate all ICU staff on the purpose of noise measurement devices, as they pertain to Delirium reduction by September 30, 2017.
- Decrease overall perceived noise levels in the ICU, and increase staff awareness of noise within the ICU by January 1, 2018.

CHANGE IDEAS

Red Deer ICU sourced an appropriate noise measurement device for the ICU environment. The "SoundEar II standard" was selected for its design, simplicity and cost.

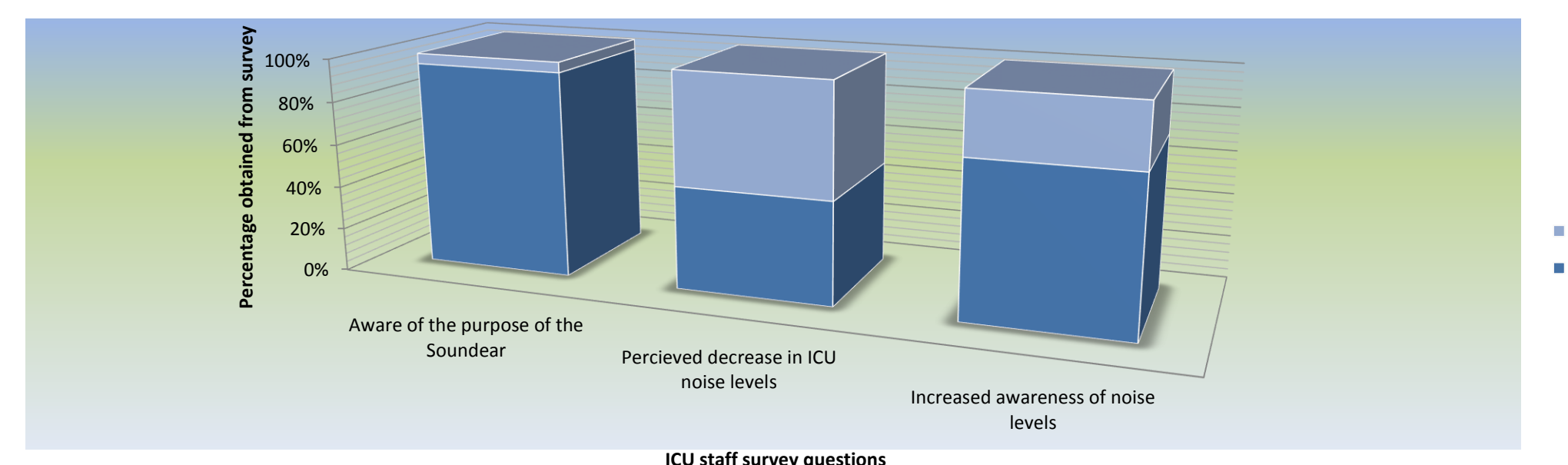
- Utilization of two locations with existing power and mounts for the sound monitoring devices based on pre-established areas of high usage and perceived high noise levels.
- Emails were sent to staff regarding the instillation of the sound monitoring devices, what to look for in terms of acceptable volume levels and the coordinating color changes with the device.
- Provide staff with educational material pertaining to noise reduction and environmental stimuli.
- Place noise reduction education material and a SoundEar poster in the family room area of the ICU.
- Conduct surveys of ICU staff to better understand the perceptions of noise reduction within our unit.
- Assign a unit champion to promote noise reduction strategies for the ICU.

RESULTS

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Successful installation of two SoundEar devices in the ICU.

- Staff felt well informed with regard to the purpose of the SoundEar.
- Overall 48% of surveyed staff members perceived that noise levels had decreased in the ICU as a result of SoundEar use.



LESSONS LEARNED

- The SoundEar is an effective visual implementation for noise awareness amongst ICU staff.
- Additional sound monitoring devices on the unit in high traffic areas would be useful in increasing awareness of noise levels.
- Timing of delirium education and the strategy to promote noise reduction should have been coordinated with the initiation of the SoundEar device.
- Future surveys of patients and their families will need to take place in order to better understand the patient perspective of noise and the effects that noise can have on recovery. Additional information can be collected from families on perceived noise reduction strategies.
- SoundEar is effective for noise measurement within select areas of the ICU, however they are unable to detect loud noise from within the patient rooms of the ICU.
- More quantitative data - Staff are interested in tracking peak noise level times throughout the day so that we can target noise reduction when we know its needed.
- Staff are able to identify areas of the unit as well as items and equipment on the unit that cause unnecessarily loud and frequent amounts of noise.
- Alignment of future delirium prevention strategies with site specific feedback. Patients, families and staff have valuable insight and provide meaningful direction with practical change.

NEXT STEPS

Discussions with patients and their families to better understand their perceptions of ICU noise and areas for improvement.

Acquire at least one additional sound ear and place it in a high use area.

Purchase SoundEar software and use it to track peak noise periods.

Develop future strategies for **noise** reduction, focusing areas of concern identified by patients, families and staff.