

Moving Rounds from the Bedside: An alternative method to conducting rounds in an effort to help reduce noise and obstruction to care in a Neonatal Intensive Care Unit (NICU)

Daniele Ottinger DNP NNP-BC

Background

- Bedside rounds are a common place in most NICU's
- One must however, question the benefits of continuing these practices in the presence of persistently elevated noise levels, the obstruction to patient care due to the number of persons on rounds along with their respective portable computers.
- The participants during rounds included physicians, medical students, neonatal nurse practitioners, nurses, respiratory therapists, nutritionists and pharmacists. On average nine people were present during rounds, each with a portable computer.
- The NICU environment is filled with noise that can confound the vulnerable central nervous system of the premature infant.
- The Committee to Establish Recommended Standards for Newborn ICU Design, advises that sounds should not exceed 45 dB (decibels) per hour.
- However, NICU sound ranges are often 70 dB and can reach a high of 117 dB.

Objective

The objective of this project was to assess the noise levels in the NICU and assess the feasibility of utilizing the Cisco Telemedicine cart to facilitate rounding and decrease noise levels.

Methods

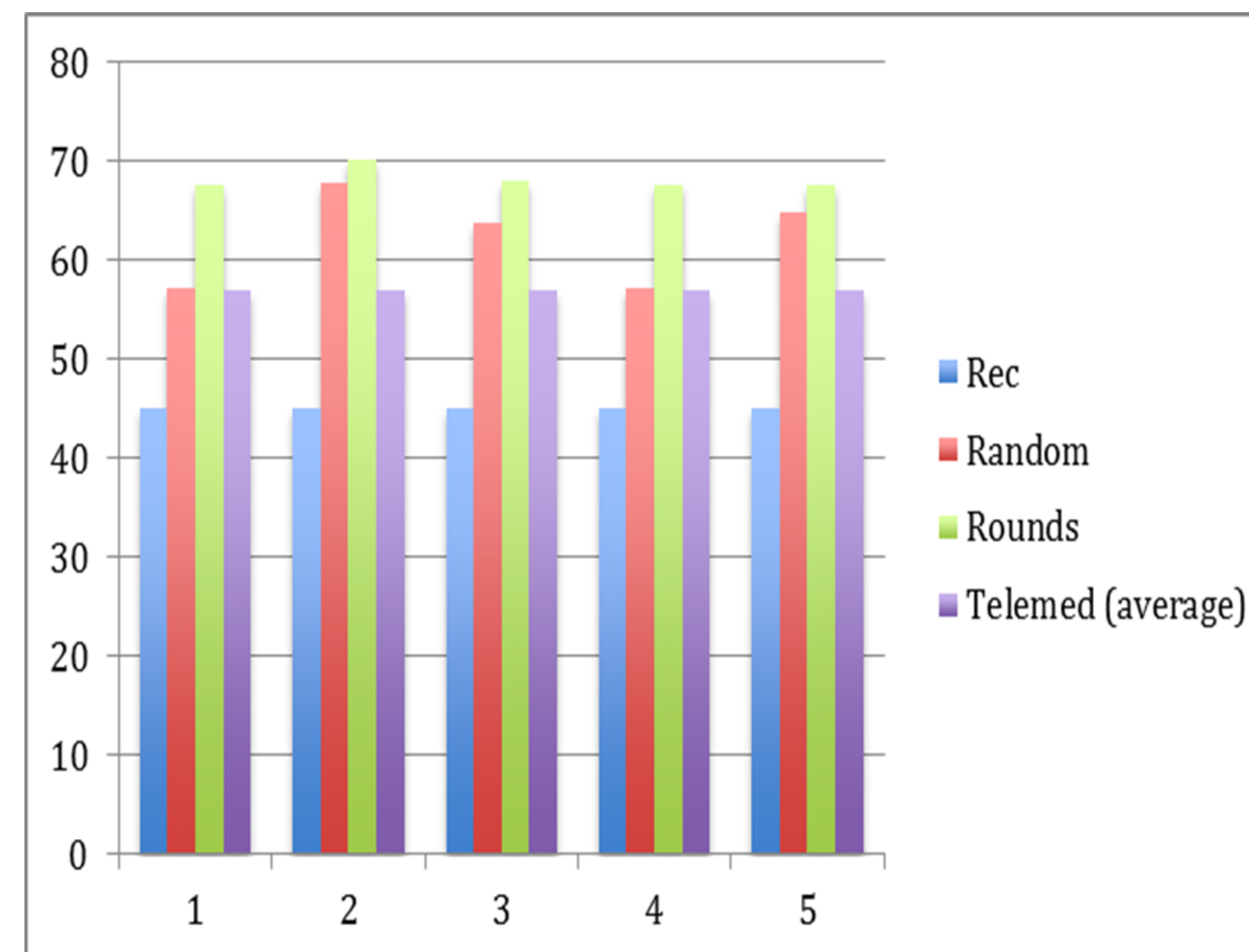
Sound levels were measured in a NICU to determine sound levels.

- Sound Levels obtained at random times
- The Mini Digital Sound Level Meter was utilized to measure sound
- The Cisco Telemedicine Cart was utilized as an alternative innovative method to conducting bedside rounding
- The cart allows for visualization of the patient when the medical team is at an adjacent location
- Sound levels were obtained while utilizing the Cisco Telemedicine cart
- A post-survey was utilized to evaluate the new process

Results

Random sound level measurements (non-peak times) ranged from **56.1 to 67.2 dB**. A majority of the patients were in incubators, where the sound levels inside the incubators were consistently between **54.4 to 55 dB**.

The average sound measurement during Tele-Rounding was **57 dB** which is approximately 10 dB lower than bedside Rounding.



Graph Depicts Noise levels in NICU

Blue reflects recommended sound levels (measured in dB), random time levels demonstrated in red, rounding at bedside sound levels are seen in green and Tele-Rounding sound levels are seen in purple



Conclusion

Elevated sound levels in a NICU setting is a concern that is frequently encountered. Staff numbers, patient acuity and space limitations all play a role in this issue. This feasibility quality improvement project demonstrated that Tele-Medicine rounding is a viable option for units with limited space and elevated sound level issues.

Implications

A tremendous benefit of the Cisco Telemedicine cart allows for the availability of video conferencing with the patients family and will be further explored. The implication of these findings is that patients on warming tables, cribs and bassinets are susceptible to elevated noise levels consistently. Infants in incubators did have lower sound decibel findings, but were still exceeding recommended levels. This represents an improvement however it still remains higher than the recommended 45 decibels.