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EXEMPLAIRES



PALMARÈS  
CANADIEN DES  
**40**  
HÔPITAUX DE  
RECHERCHE  
2016 RESEARCH  
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# Montfort

Hôpital universitaire  
Academic Hospital



“Try to get some rest. I’ll be in every few minutes to make sure you don’t.”



Registered Nurses' Association of Ontario  
l'Association des infirmières et infirmiers  
autorisés de l'Ontario

*Speaking out for nursing. Speaking out for health.*



Hôpital universitaire  
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# SLEEP HYGIENE IMPROVEMENT STRATEGIES FOR ICU PATIENTS

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Project conducted in the Setting of an Advanced Clinical Fellowship Program (ACPF)  
sponsored by the Registered Nurse Association of Ontario (RNAO)



# PLAN OF PRESENTATION



- 1 Context, history, and objectives
- 2 Planning and progress
- 3 Next steps



# CONTEXT AND HISTORY

- 12 bed medical/surgical acute ICU with approximately 60 nurses.
- Pain, agitation, delirium, sedation, and sleep (PADSS) best practice guidelines implemented in 2016. Sleep omitted.
- Complaints of noise and lack of sleep from patients in the past. Problem brought to our attention by physicians.
- Part of our management's and our VP's priorities.
- Corporate support has been granted to complete RNAO's Advance Clinical Practice Fellowship (ACPF).

# IMPORTANCE



- Workflows are care-giver centered and not patient centered.
- 70% of our ICU population are over 70 years old.
- Ties in with our ProMo program (MoveOn).



# OBJECTIVES OF THE PROJECT



To develop an educational toolkit that will equip the staff working in the ICU to adapt their practices to ensure the patient's sleep and rest are optimized.





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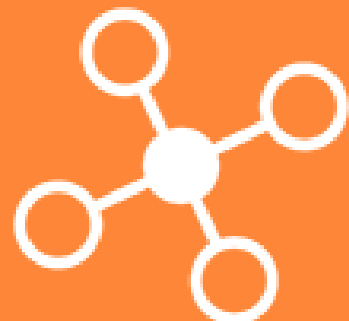
## Inclusions

- Registered nurses
- Allied health
- Personal support workers
- Patients hospitalized in ICU
- Families and visitors
- Support services (Housekeeping, Bed management, Security, Porters, etc.)

## Exclusions

- Nursing staff of other units
- Patients of other units, including step down





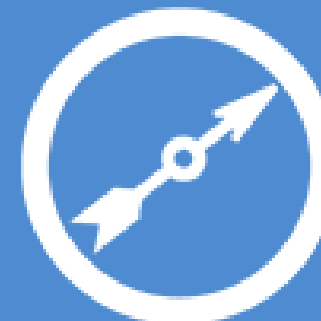
Organizational  
Support



Processes  
of Care



Emotional  
and  
Behavioural  
Environment



Ethics in  
Clinical  
Care and  
Research



Physical  
Environment

# THE ADVANTAGES ARE NOT ONLY FOR THE PATIENTS!



- Allows staff to concentrate on the patient
- Reduces interruptions and useless movements



*«Nurses spend more time in the ICU than the patient. The noise has an adverse effect on the employee's stress, satisfaction, psychological environment, job performance and health. Noise is a contributor for increased heart rates, stress and annoyance»*



## BEHAVIOURAL AND CULTURAL IMPLICATIONS



«Behavioral modification is only effective if it is reinforced over a long period of time and if the staff believe it will work.»



# KEY ACTIVITIES ACCOMPLISHED

- Literature review
- Draft of new standard of work
- Communication strategy
- Building and consultation of core project team
  - Assessment of current sources of noise and sleep interruption
  - Physical environment and work processes observed
- Collection of data and building of reports (baseline data)
- Review of current alarm settings and possible modifications to reduce the number of alarms
- Approbation by ethics comitee



# EDUCATION SESSIONS

- Training will put emphasis on :
  - The effects of a lack of sleep on the patient's health Changing work habits
  - Proper skin preparation of the skin for ECG electrodes
  - Adjustment of alarm parameters according to the patient's condition
  - Importance of pain management and mobilisation
  - Implication of the patient and family



# KEY PERFORMANCE INDICATORS

Noise levels in the ICU

Number of times hygiene care is done by nursing staff at night

Number of alarms

Percentage of patient's that are disturbed by the noise or the activities at night

# NOISE LEVELS IN THE ICU



- Purchased the SoundEar 3
- Allows us to make staff aware of noise levels
- Also records trends to measure improvement
- Preliminary data (short period of observation)

80	Supply cart Nebulizer Pager Connection of gas supply Rattling side rails	Heavy traffic at 10 meters Door closure
90	Loud crying Items falling onto floor Portable X-ray machine	Circular saw at 1 meter Motorcycle
100		Jackhammer at 10 meters
110		Siren at 10 meters A club or disco

dba = A-weighted decibels; WHO = World Health Organization.

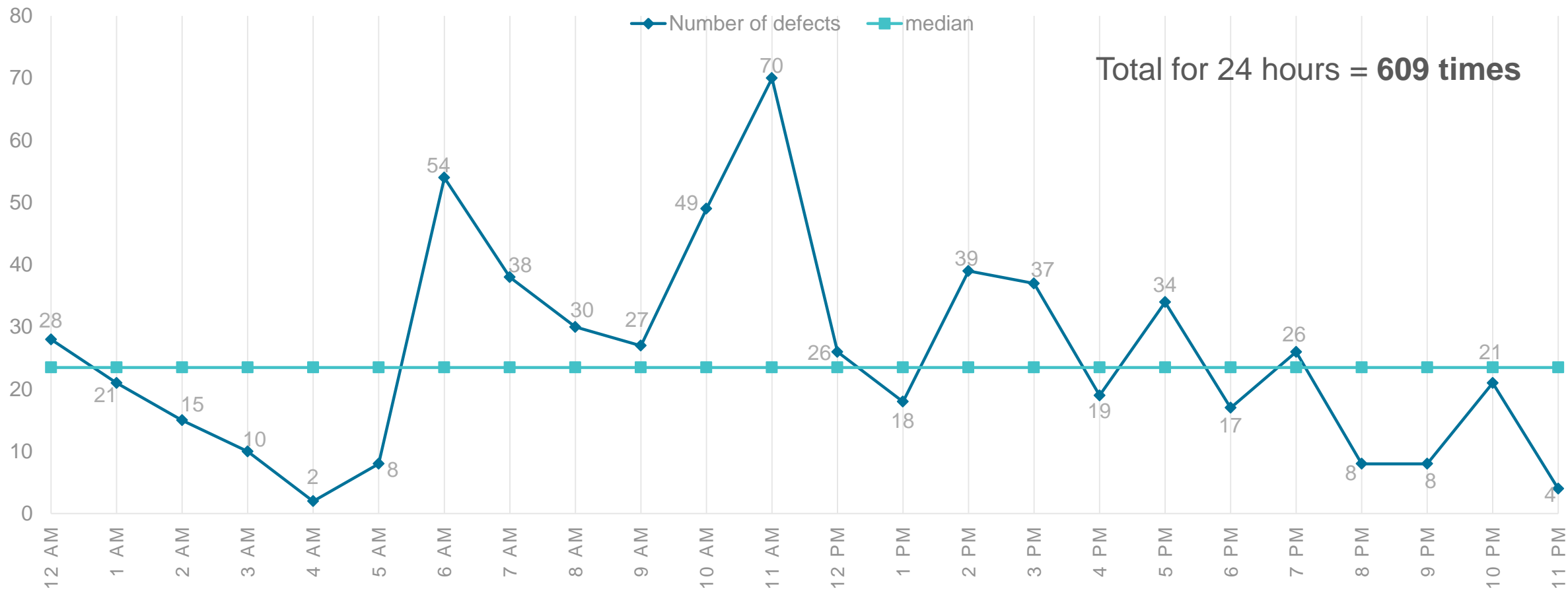
Note: For information about other sounds, see [www.sengpielaudio.com/TableOfSoundPressureLevels.htm](http://www.sengpielaudio.com/TableOfSoundPressureLevels.htm) and [www.cdc.gov/niosh/topics/noise/noisemeter.html](http://www.cdc.gov/niosh/topics/noise/noisemeter.html).



# NOISE LEVELS IN THE ICU



## NUMBER OF DEFECTS (NOISE PEAKS OVER 110 DECIBELS) PER HOUR – NOVEMBER 24TH 2017







## NUMBER OF TIMES HYGIENE CARE IS DONE BY NURSING STAFF AT NIGHT

Month	Hygiene = (Shampoo or Partial bath or Complete Bath)(Total):	Hygiene documented between 23h00 et 05h00:	Percentage of hygiene care done at night:	Average length of stay:	Patient days (bed occupancy rate) :
September	56 times	6 times	10,7%	4,05 days	73%
October	74 times	4 times	5,4 %	3,94 days	71%
November (1st to the 26th)	93 times	3 times	3,2 %	3,67 days	46%

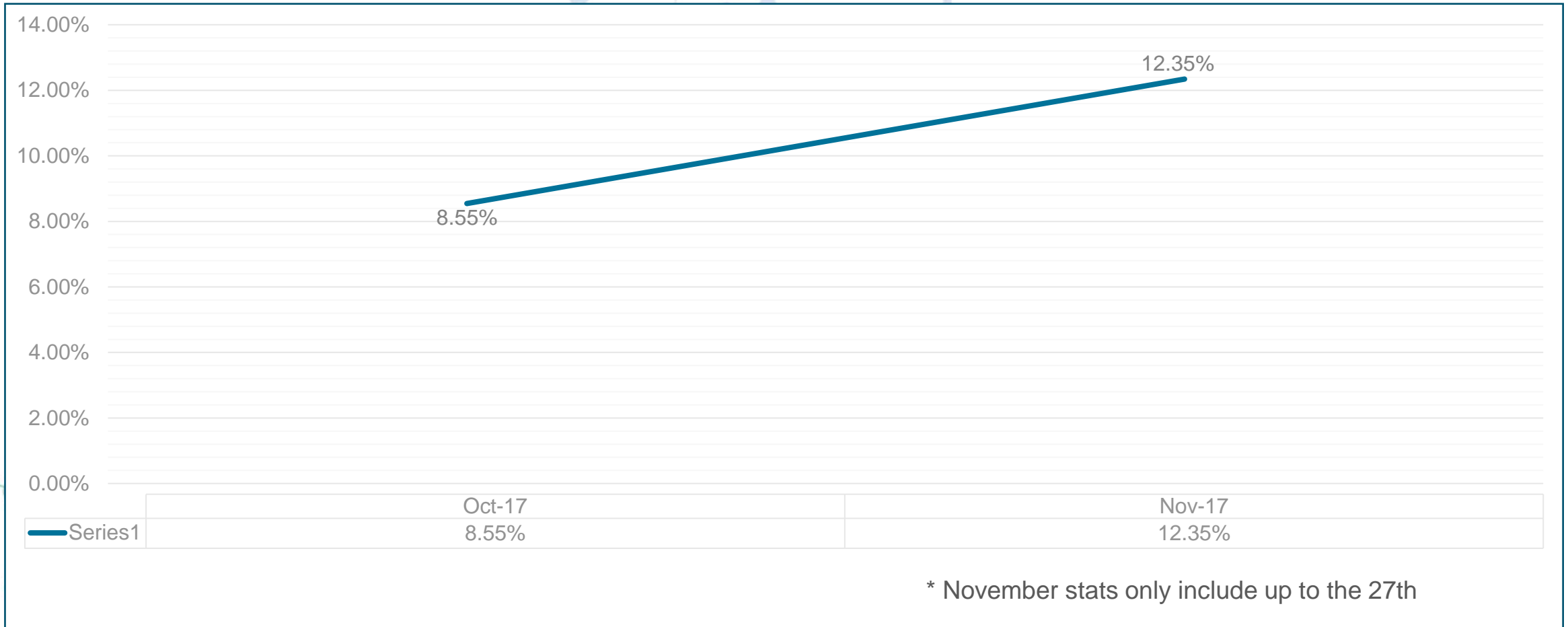
# NUMBER OF ALARMS



Observation period	Nov 24th day shift	Nov 25th night shift
Observation duration	4 hours	4 hours
Average alarms per patient's per hour	2,9	4,2
Average alarms per hour estimation if full capacity (12 patient/12)	35	50,4
Une alarme chaque X minutes (si 12 patients/12)	1,7	1,1



# PERCENTAGE OF PATIENT'S THAT ARE DISTURBED BY THE NOISE OR THE ACTIVITIES AT NIGHT



\* November stats only include up to the 27th

# 3



## NEXT STEPS



- Training and implementation
- Adjustments of the environment Adjustments to the baseline alarm settings
- Ensure sustainability
- Reassess efficiency of implementation



«Sleep is an investment in the energy you need to be effective tomorrow»

-Tom Rath