

A MULTIDISCIPLINARY IMPLEMENTATION OF A SLEEP PROMOTING SCHEDULE AND ITS IMPACT ON PATIENT SLEEP QUALITY

A Doctor of Nursing Practice Project

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SCHOOL *of* NURSING

DNP SCHOLARLY PROJECT TEAM

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BACKGROUND AND SIGNIFICANCE

Sleep cycle:

- 90-110 minutes/cycle, ideally multiple sleep cycles throughout the night

Sleep deprivation:

- Consequence of inadequate amounts of sleep or **poor sleep quality**
- Harmful, yet common, condition among Intensive Care Unit (ICU) patients
 - Prolong ICU admission
 - Emotional distress
 - System effects
 - Respiratory, cardiovascular, immunological, metabolic, muscular, neurocognitive
- The Society of Critical Care Medicine (SCCM): PAD (2013) → **PADIS** (2018)

(Auckley et al., 2018; Delaney et al., 2015; Devlin et al., 2018; Ding et al., 2017; Grimm, 2020)

REVIEW OF LITERATURE

Three Common Themes

Measuring Sleep Quality

Subjective:

**Richards-Campbell
Sleep Questionnaire
(RCSQ)**

Objective:

Polysomnography (PSG)
Actigraphy (ACT)

Staff Education

Education Topics

Importance

Sleep Protocol

Components

Education Deliverance

Lectures

Staff meetings

Bedside discussion

Posters

Sleep Hygiene Protocol

Protocol Items

Pharmacological Items

Non-Pharmacological Items

Multimodal/Multicomponent

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Measuring Sleep Quality	Staff Education	Sleep Hygiene Protocol
Subjective: Richards-Campbell Sleep Questionnaire (RCSQ)	Education Topics Importance Sleep Protocol	Protocol Items Pharmacological Items Non-Pharmacological Items
Objective: Polysomnography (PSG) Actigraphy (ACT)	Components Education Deliverance Lectures Staff meetings Bedside discussion Posters	Multimodal/Multicomponent

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PROJECT PURPOSE

**Increase multidisciplinary utilization of a sleep promoting schedule (SPS)
to improve patient sleep quality.**

PROJECT FRAMEWORK



PLAN

Project Site

Medical Intensive Care Unit (MICU)

Project Team

DNP Scholarly Project Team Members

Project Team Lead: MICU Delirium Champion

Others: MICU CNS, Head Pharmacist, Chief Fellow, Charge RNs, LIPs,
RNs/CNAs/RTs

Site Assessment

Hospital Consumer Assessment of Healthcare Providers and System (HCAHPS)

SCCM PADIS Guideline Utilization

SITE ASSESSMENT: HCAHPS

Survey of patient's perspective of hospital care

Administered to patients post-discharge

Evaluates key elements of a patient's experience

Quietness at night

HCAHPS Scores

Associated with discharging unit

Contributes to facility's overall satisfaction rating

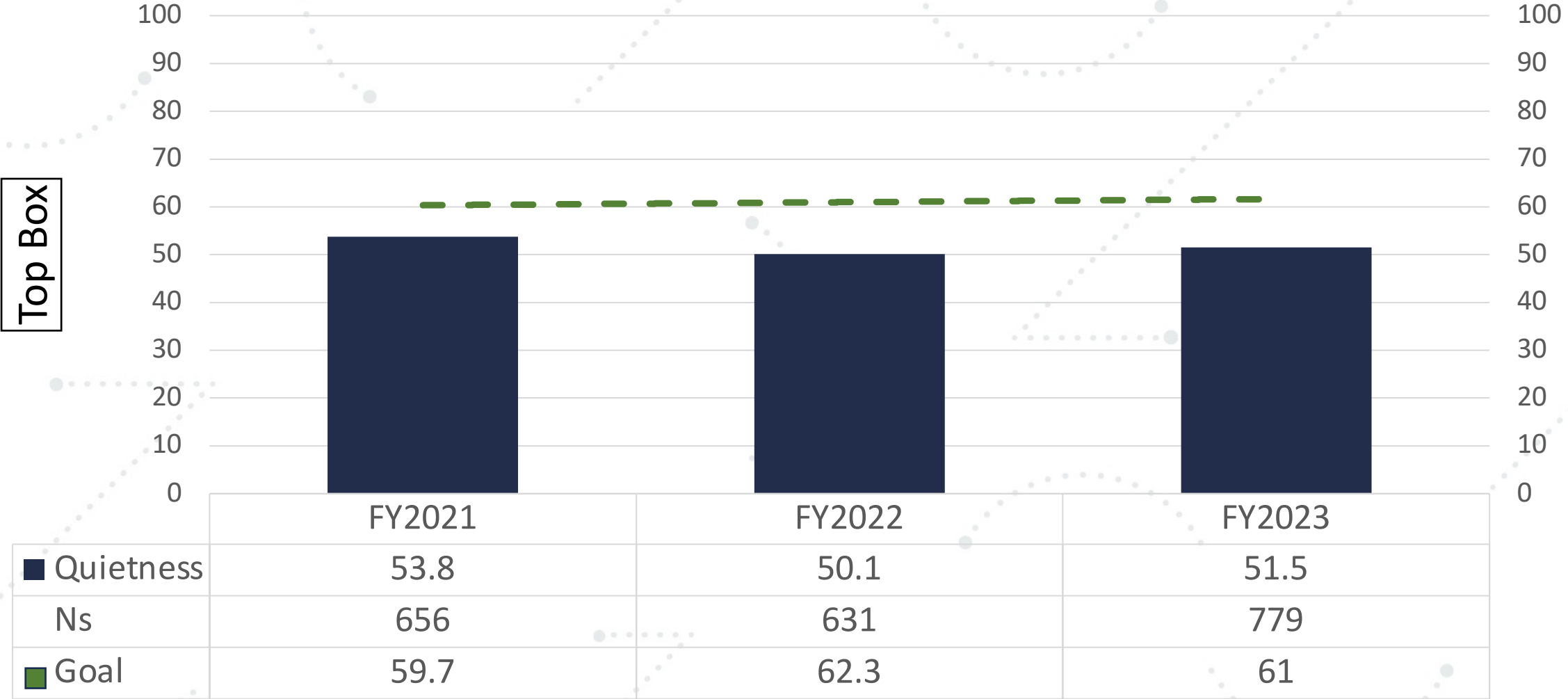
Allows for comparison

Financial factor

Reimbursement

Financial penalties

SERVICE LINE HCAHPS QUIETNESS SCORES



SITE ASSESSMENT: SCCM PADIS GUIDELINE UTILIZATION

SCCM PADIS Guideline

- Sleep promoting, multicomponent protocol

Standard work “Patient Experience Bundle, Quiet at Night”

- Outdated
- Inactive links → “Sleep Sparing Schedule”
- Rarely implemented
 - Informal survey
 - Sleep sparing (or promoting) schedule:
 - 0 – 12 documented nursing encounters
 - “Unaware it existed”, “Did not know we had those supplies”

DO

Staff Education/Project Promotion

via Lunch and Learns, meetings, emails, and flyers

SPS Application – ALL patients

Outcome/Process Measurement Collection – SUBSET patients

Administration of RCSQ

via Qualtrics

Documented encounters

via Chart reviews

Call bell logs

via Clinical Engineering

EDUCATION AND MULTIDISCIPLINARY IMPLEMENTATION

MD/APPS

- Enter a nursing communication order: “Please minimize patient interactions between 0000-0400 to promote sleep”
- Review the timing of medications, lab draws, imaging etc. and reschedule outside 0000-0400
- Decrease vital sign frequency, discontinue cardiac monitoring, and/or continuous pulse ox for stable patients

RN/CNA/RTS

AVOID between 0000-0400:

- Routine patient assessment
- Routine bathing, changing linens, wound care, and dressing changes
- Routine or non-urgent laboratory or diagnostic studies

PHARMACISTS

- Review and reschedule medications outside 0000-0400 if possible

PATIENT SUBSET

Included:

- Admitted to the MICU before 1600 on calendar day
- ≥ 18 -year
- Braden score ≥ 19
- CAM negative
- RASS Score of 0 - -2
- Full or DNAR-A code status
- Speak/read English language
- NOT receiving the following medical interventions:
 - Mechanical ventilation
 - Sedation
 - “Frequently” titratable intravenous medications
 - Continuous renal replacement therapy
 - Q1-Q2 hour neuro/neurovascular checks

RICHARDS-CAMPBELL SLEEP QUESTIONNAIRE

You are now ready to begin to answer the questions. Place your "X" **anywhere** on the answer line that you feel **best** describes your sleep last night.

1. My sleep last night was:

Deep Sleep _____ **Light Sleep**

2. Last night, the first time I got to sleep, I:

**Fell Asleep
Almost Immediately** _____ **Just Never Could
Fall Asleep**

3. Last night I was:

**Awake
Very Little** _____ **Awake All
Night Long**

4. Last night, when I woke up or was awakened, I:

**Got Back To
Sleep Immediately** _____ **Couldn't Get Back
To Sleep**

5. I would describe my sleep last night as:


**A Good
Night's Sleep** _____ **A Bad Night's
Sleep**

DOCUMENTED PATIENT ENCOUNTERS

	A	B	C	D	E	F	G
1	Randomized #	Age	Braden Score	CAM Score	RASS Score	Acuity Level	Isolation Status
2							
3							
4							

	A	B	C	D	E	F	G	H	I	J	K
1	Randomized #	Date	Obtained Labs	Medication Administration	Obtained Imaging	Measured Output	Bathing/ Pericare	Wound Care	Supplemental Respiratory Support Change	Turns	Patient Initiated Encounter (Call Bell)
2											
3											

CALL BELL LOGS

 Nurse Call Detail Report <small>Enhancing Outcomes for Patients and Their Caregivers.™</small>												
Organization	Nursing Unit	Room	Bed	Call Group	Call Type	Call Placed	Call Answered	Call Assigned	Call Cancelled	Response Time		
			A	Patient Calls	Normal Call	08:18:11			08:19:46	00:01:34		
			A	Patient Calls	Normal Call	23:16:11			23:21:43	00:05:31		
			A	Patient Calls	Normal Call	09:31:03			09:32:48	00:01:44		
			A	Patient Calls	Normal Call	14:48:40			14:48:59	00:00:19		
			A	Patient Calls	Normal Call	16:38:28	16:44:29		16:44:31	00:06:03		
			A	Patient Calls	Normal Call	17:57:56			17:58:10	00:00:14		
			A	Patient Calls	Normal Call	18:50:48			18:51:06	00:00:18		
			A	Patient Calls	Normal Call	18:59:00			18:59:27	00:00:27		
			A	Patient Calls	Normal Call	18:59:28			18:59:34	00:00:06		
			A	Patient Calls	Normal Call	18:59:41			18:59:56	00:00:15		
			A	Patient Calls	Normal Call	19:00:03			19:00:21	00:00:19		
			A	Patient Calls	Normal Call	19:00:24			19:00:27	00:00:02		
			A	Patient Calls	Normal Call	19:00:31	19:01:07		19:01:10	00:00:39		
			A	Patient Calls	Normal Call	19:01:14			19:01:56	00:00:42		
			A	Patient Calls	Normal Call	19:01:57			19:02:01	00:00:04		
			A	Patient Calls	Normal Call	19:02:04			19:02:10	00:00:06		

CHECK/ACT

Frequent review of process/outcome measurements

Expanded/clarified inclusion factors

27% excluded because of Braden score

Implemented an updated daily rounding checklist

Provided bi-weekly feedback to multidisciplinary team

Compliance rates

Tips/Tricks

(Re)-education

Specialty meetings

EPIC order request

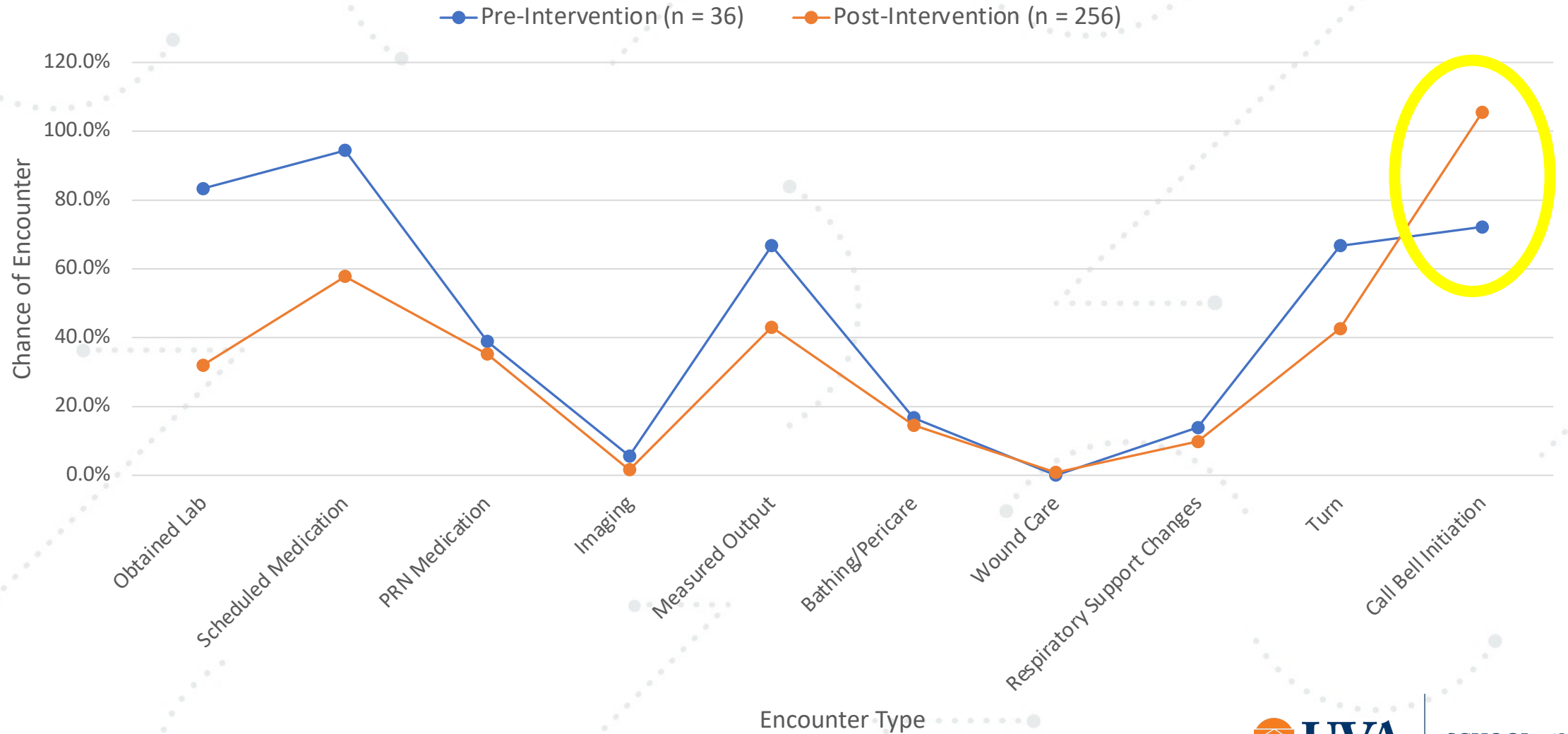
RESULTS



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PROCESS MEASUREMENTS

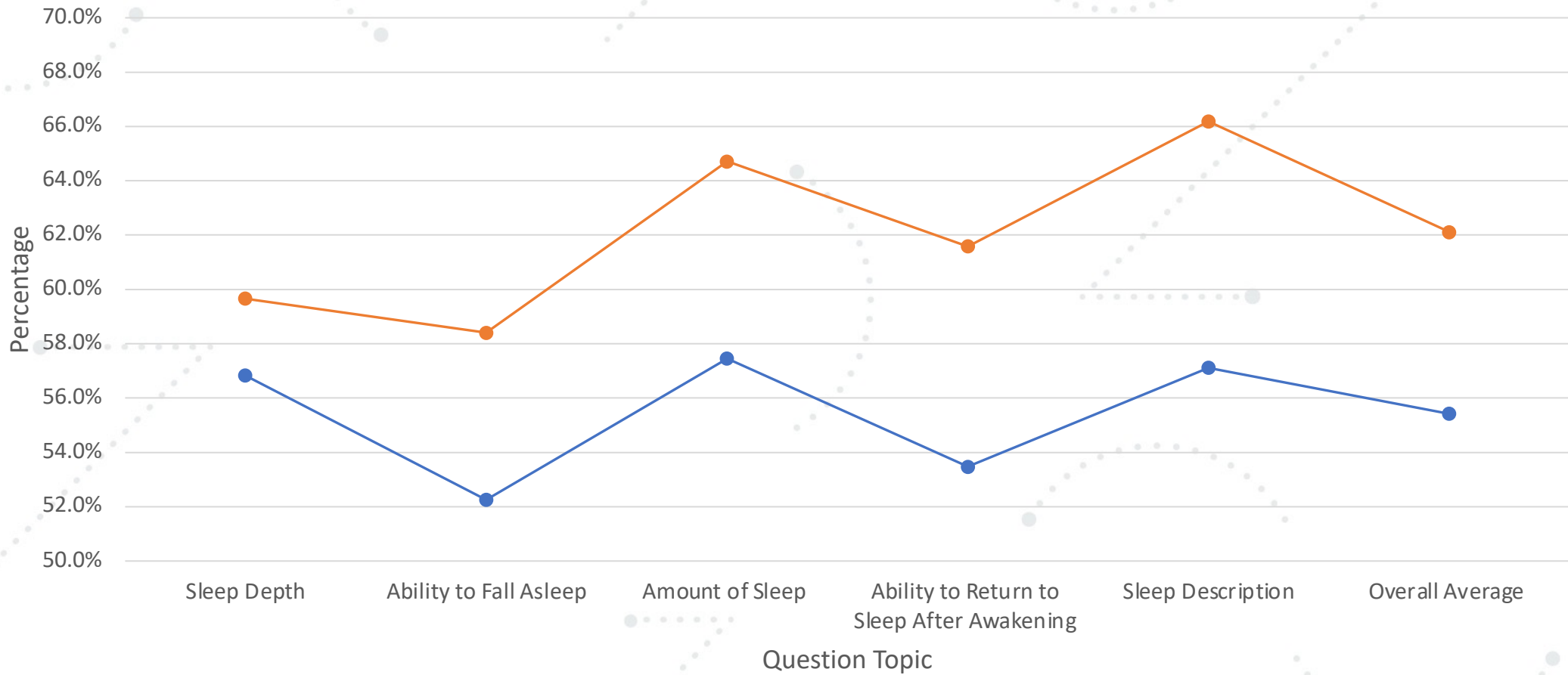
Documented Patient Encounters



OUTCOME MEASUREMENTS

Richards-Campbell Sleep Questionnaire

—●— Pre-Intervention (n = 32) —●— Post-Intervention (n = 171)



PATIENTS' VOICE

Positive

"Everyone was very friendly and invested in me getting a good night sleep"

"My sleep gets better every night"

"Best I have slept in a week"

"Sleep better here than I do at home"

"Things were perfect"

Indifferent

"It's a hospital. I wasn't expecting much sleep"

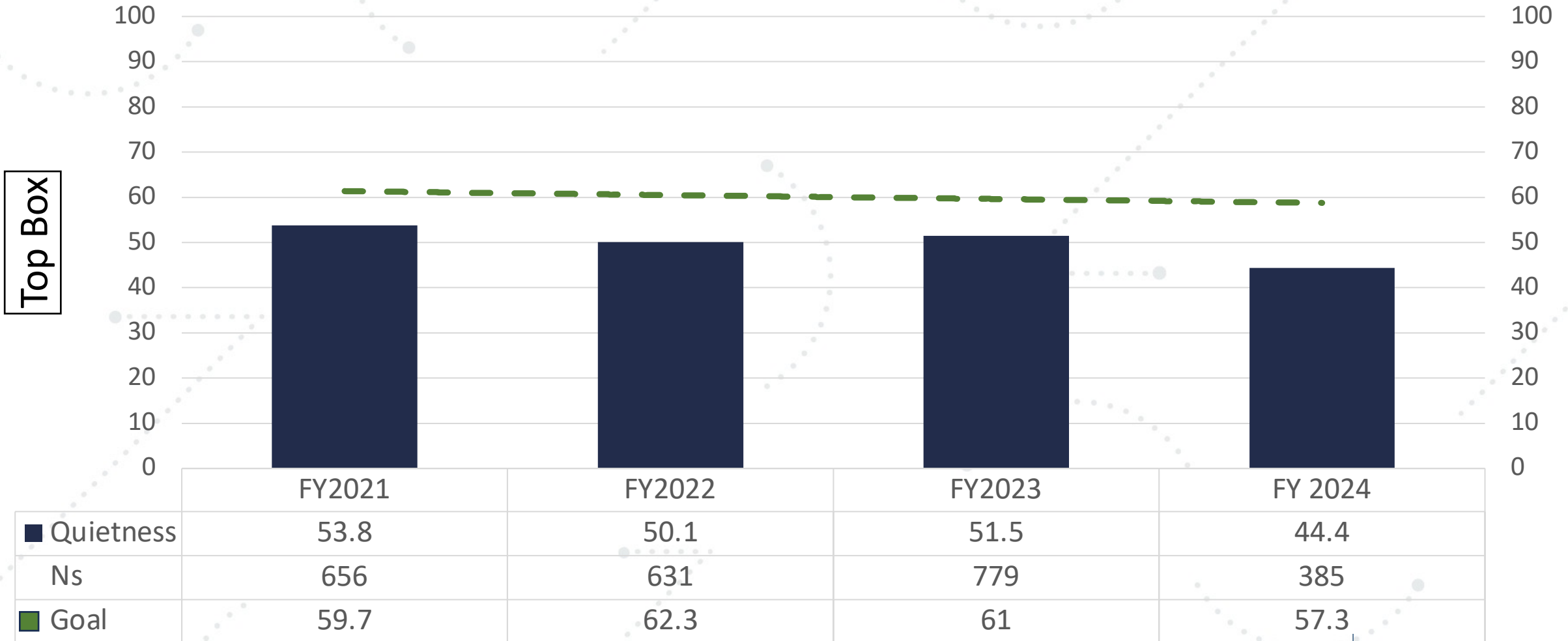
"I didn't fall asleep, but it's not y'all's fault"

Struggled with "sleep terrors" but states s/he struggles with that at home

Slept poorly but related it to the "shell shock of being here"

Works nightshift at baseline and therefore sleeping at night is out of the norm

UPDATED SERVICE LINE HCAHPS QUIETNESS SCORES



MICU HCAHPS QUIETNESS SCORES

	FY 2023	FY 2024
Quietness	59.09	78.6
Ns	22	14
Practice Facility Goal	61.0	57.3

FINANCIAL IMPACT

Minimum cost to implement

- Office supplies

Decreased occurrence/cost of ICU delirium

- **\$148 billion/year**
- Decreased ICU LOS
- **\$12,659/day**
- **\$11.6 million/10%** reduction in patient days

Value associated with improved HCAHPS Scores

- Better reimbursement
- Better reputation


SUSTAINABILITY: UPDATED ROUNDING CHECKLIST

Practice Site:

- Updated Daily Rounding Checklist
- Collaboration/Handoff with Delirium Team

Beyond Practice Site:

- Patient Experience Committee
- Critical Care Practice Committee
- Critical Care Subcommittee
- EPIC Order

Review Bundle Board	
 <ul style="list-style-type: none"> <input type="checkbox"/> Necessity and indications for invasive catheters discussed. <input type="checkbox"/> Ensure "Reviewed" is clicked. <input type="checkbox"/> Add relevant findings as necessary to goals. <p style="color: red; font-weight: bold;">Do not proceed until Bundle Board review is complete.</p>	
Ins/Outs Goal	<input type="checkbox"/> Negative: <input type="checkbox"/> Positive: <input type="checkbox"/> Even
Nutrition Plan	<input type="checkbox"/> PO <input type="checkbox"/> Tube feeds <input type="checkbox"/> NPO <input type="checkbox"/> TPN/PPN <input type="checkbox"/> Consult placed
Skin Concerns	<input type="checkbox"/> Wounds present: <input type="checkbox"/> WOC consulted?
Current Mobility Assessment, Activity Plans	<input type="checkbox"/> PT/OT consulted <input type="checkbox"/> Restrictions:
	<i>Day's Activity Plan:</i>
Sleep Plan	<input type="checkbox"/> Candidate for a sleep-promoting schedule? <input type="checkbox"/> Other:
Forms	<input type="checkbox"/> ICU consents <input type="checkbox"/> Blood consent <input type="checkbox"/> Intubation plan
Family Involvement	<input type="checkbox"/> Surrogate decision-maker identified
	<input type="checkbox"/> Yes, last update within 24h <input type="checkbox"/> CM <input type="checkbox"/> SW

SUSTAINABILITY: EPIC ORDER SET

Implementing Sleep Promoting Schedule - Minimize patient interaction ✓ Accept ✗ Cancel

Priority: Routine

Frequency: **UNTIL DISCONTINUED**

Starting Today Tomorrow For Hours Days Weeks

At

Starting: **Today 1620** Ending: **Until Specified**

! Start Time

! Duration

Process Instructions:

- Recommendations for ICU is 4 hours duration, Acute/IMU is 6 hours duration.
- Reschedule medications, labs, testing to avoid indicated time frame as clinically relevant.
- Consider reducing vital signs frequency if clinically appropriate.
- Discontinue cardiac or pulse oximetry during time as clinically appropriate.

Comments: [+ Add Comments](#)

! Next Required ✓ Accept ✗ Cancel

SCHOLARLY PRODUCTS

Libra - Scholarly repository

Manuscript submission - *Critical Care Nurse Journal*

Poster presentation - Virginia Council of Nurse Practitioners (VCNP)
Annual Conference

CONCLUSIONS

High risk of sleep deprivation in hospitalized patients

- Negatively associated effects

SCCM'S PADIS Guidelines

Minor changes/interventions make a difference

- Patient satisfaction
- Patient outcomes
- Financial savings/reimbursement
- Practice change
 - Updated Daily Rounding Checklist
 - EPIC order set
- Cascading effects

Patient Centered

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