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### **Improving Sleep Quality and Patient Satisfaction by Reducing Nighttime Disturbances in Hospitalized Patients: A DNP Project**

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# Improving Sleep Quality and Patient Satisfaction by Reducing Nighttime Disturbances in Hospitalized Patients: A DNP Project

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## Introduction

- In 420-bed Midwest hospital, early 2023 HCAHPS results revealed that only 53% of patients always experienced a quiet nighttime environment. The state average where this hospital resides was 58%, while the national average was 62%.
- Further break down revealed a single unit-based score of 16.67% in October 2023, ranking the unit in the 1<sup>st</sup> percentile nationwide, making this the primary unit of focus for this quality improvement project.
- Sleep is a primary, basic human need to achieve health and patient satisfaction and outcomes are affected by the quality of sleep in the hospital.

## Background and Significance

- Noise, light, routine assessment, diagnostic and laboratory tests, and room transfers are among the factors causing reduced or disrupted sleep in the hospital.
- The National Sleep Foundation states less than the recommended 7 to 9 hours of sleep per night can lead to health issues.
- A meta-analysis showed the average amount of sleep in the hospital was only 5.6 hours and was profoundly interrupted.

## Purpose

- This evidence-based project aims to improve patient satisfaction scores by using a sleep protocol designating quiet hours at night to reduce sleep disturbances in medical-surgical patients.

## Methods

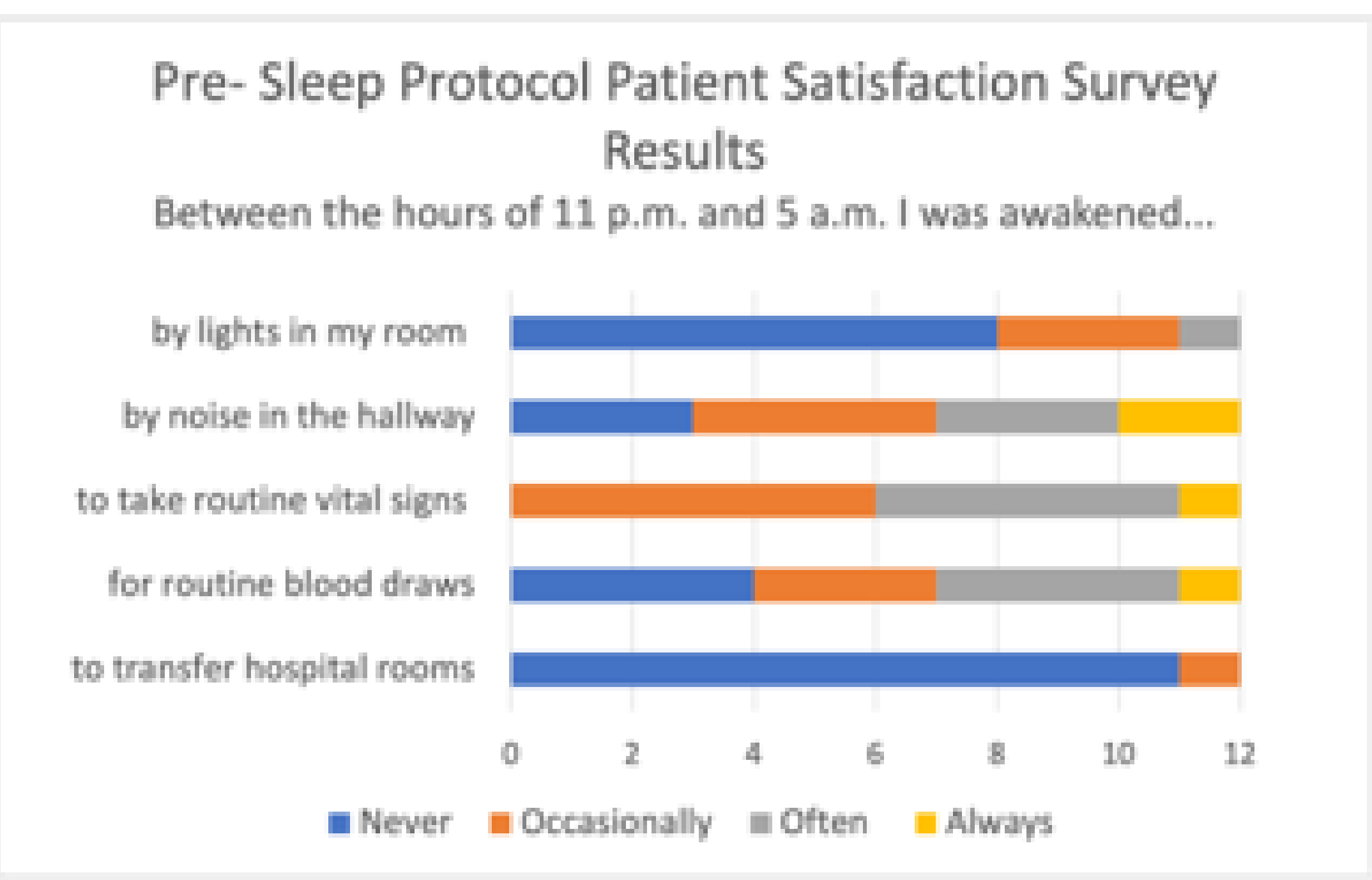
- Sleep protocol developed for use between 11 p.m.-5 a.m.
- All medical-surgical patients in a midwestern acute care medical-surgical unit were included for sleep protocol use
- Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores and voluntary patient satisfaction surveys at time of discharge
- Sleep protocol education (see Figure 1) provided to each department involved.
  - Unit-based
    - Bedside nurses
    - Certified nursing assistants
    - Clerical associates
  - Manager/supervisor of Laboratory Services
    - Laboratory technicians & phlebotomists
  - Manager/supervisor of Respiratory Services
    - Respiratory therapists
  - Manager/supervisor of Transport Services
    - Transport technicians

**Figure 1**  
Sleep Protocol Guidelines by Department

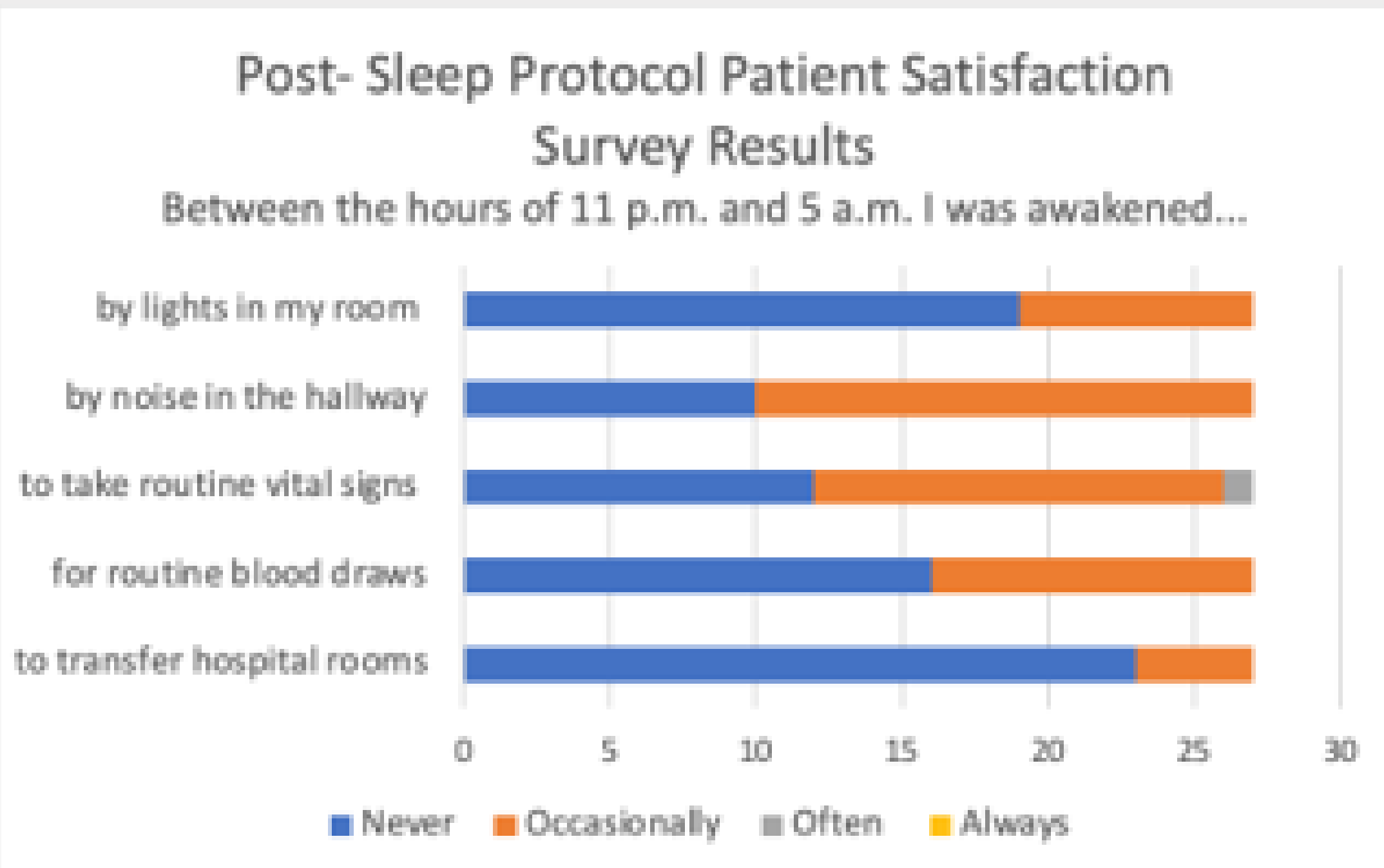
Between 11p-5a: A sign will be placed on door to 'see nurse before entering'.

Nurses	CNAs	Lab, RT and Imaging	Transport	Clerks and VIP nurses
Ensure hallway lights are turned off	Ensure hallway lights are turned off	Collaborate with nursing team to cluster care	Ensure surrounding patient room doors are closed to keep noise down when transferring patients	Assist with delivery and collection of patient satisfaction surveys
Turn patient room lights off (if they agree)	Turn patient room lights off (if they agree)		Keep voices down	Notify patient that survey can be done on paper or accessed electronically via QR code located in upper corner of paper survey
Keep voices down	Keep voices down		Offer warm blankets for comfort during transport	
During every 2 hour rounding keep noise down, keep light use dim, allow patient to sleep unless they need to be awakened	During every 2hour rounding keep noise down, keep light use dim, allow patient to sleep unless they need to be awakened			
Cluster care: give scheduled meds during every 2 hour rounds, have CNA go in at the same time if they have care to provide, refill IV infusions prior to 11pm	Collaborate with nurse to cluster care			

**Figure 2**  
Pre-Sleep Protocol Patient Satisfaction Survey Data



**Figure 3**  
Post-Sleep Protocol Patient Satisfaction Survey Data



## Results

- Voluntary patient satisfaction surveys offered to inpatients at the time of discharge. Surveys were collected pre- and post-sleep protocol for comparison. A noticeable increase was noted in 'never' and 'occasionally' responses from patients (see Figures 2 and 3), indicating a decrease in the number of times patients were awakened between 11 p.m. and 5 a.m.
- Noted positive trend in HCAHPS scores beginning with sleep protocol education in November 2023 and continuing through implementation and data collection in December 2023 and January 2024. (February results still in process).
- Prior to the sleep protocol initiation, only 2/12, or 16.67%, of patients surveyed responded with a "5" or "very satisfied" regarding their level of satisfaction with their quality of sleep while in the hospital. This is compared to 10/27, or 37%, of patients responding with a "5" or "very satisfied" after sleep protocol initiation.

**Figure 4**  
Hospital Consumer Assessment of Healthcare Providers and Systems

HCAHPS Scores				
23-Sep	23-Oct	23-Nov	23-Dec	24-Jan
37.84	16.67	58.14	56.25	70

## Conclusion

- Center for Medicare and Medicaid Services (CMS) partnered with the Agency for Healthcare Research and Quality (AHRQ) to develop the HCAHPS survey and determined hospital noise level impacted patient care and satisfaction.
- Evidence-based practice supports adjustments to the hospital patient care schedule and reduction of noise and light to improve patient sleep satisfaction.
- More buy-in from the bedside and discharge staff could assist in offering and collection of more voluntary patient satisfaction surveys at discharge.

## References

