

Inspiring Innovation – Redesigning Care and Alleviating Suffering for Patients Who Need Sleep

Problem to be Solved

Patients in the hospital are frequently awakened in the middle of the night for various interventions such as administration of medication, monitoring of vitals, or blood draws. For example,

- A patient’s medications may be on a schedule that requires administration during the night
- Checking vitals may be part of ongoing and customary monitoring of the patient’s status
- Nighttime blood draws may be done to produce lab results for physicians first thing in the morning.

These processes create stress for patients by waking them one or more times during their sleep, often for an uncomfortable or unwelcome interaction.

Simply being in a hospital with an illness is stressful to patients. Poor sleep compounds this stress and reduces the patient’s ability to heal and recover. Because the hospital is an unfamiliar environment, patients often have more trouble falling asleep and staying asleep in the hospital setting. Waking them creates greater likelihood that noise at night will prevent them from falling back to sleep easily. Additionally, the process of waking a patient may not merely disrupt sleep, but may trigger a stressful reaction when a patient is startled by a figure hovering over their bed, further reducing the patient’s ability to return to sleep.

Instances where it may not be necessary to wake a patient in the middle of the night create examples of avoidable suffering. Additionally, a patient who is already awake at night is more likely to be bothered by the sounds of the hospital, which may result in lower HCAHPS performance on the environmental measure, “During this hospital stay, how often was the area around your room quiet at night?”

Target Group

Patient Focus

Patients who would benefit more from uninterrupted sleep than they would from medical interventions during the night such as administration of medication, checking of vitals and blood draws.

Objective

This care redesign was focused on patients for whom nighttime interventions were medically unnecessary and therefore created avoidable suffering for the patient through loss of sleep and added stress.

Goals for this intervention included:

- Identify patients who do not need to be awakened during the night and develop a new process for their care
- Reduce the stress of hospitalization for these patients by promoting rest
- Increase hospital performance on the HCAHPS measure regarding the quietness of the hospital at night

Care Redesign

Innovative Approach

The Medical Director of the Patient Experience championed this initiative and challenged the organization to: 1) identify the patients who did not need medical care during the night, 2) create a new protocol for how those patients would receive care and 3) ensure a process for modifying the protocol should their care warrant nighttime medical interventions.

A multi-disciplinary team comprised of the attending physician, representatives from the resident house staff, nursing leadership, pharmacy and IT led the care redesign. The team's first task was to acknowledge the problem, then to explore potential systemic changes to more easily enable these interventions to become routine. The team agreed to an initial one-month period of experimentation with a single general medical service at Yale-New Haven Hospital. The study included all patients on the unit, regardless of diagnosis. For these patients, the team created a new protocol for nighttime care. The concept of "Clustered Care" captured the new approach of bundling routine aspects of care during waking hours only. This protocol included:

- No administration of medication, unless medically necessary, between the hours of 11 p.m. and 6 a.m.
- No routine vital signs obtained between the hours of 11 p.m. and 6 a.m.
- No routine blood draws between the hours of 11 p.m. and 6 a.m.

The team reviewed medication schedules to ensure that whenever possible the timing of medication administration was moved to waking hours. On this particular unit, approximately 75% of medications that would typically be scheduled at night were identified as clinically appropriate to be changed to before 11 p.m. or after 6 a.m.

The team further discovered that the traditional timing of vital signs was correlated with work staff schedules and not necessarily with patients' clinical needs. Additionally, the re-design team noted that the EMR had a Q4 hour vital sign order set as the default. To redesign care, the team implemented two important scheduling changes:

- Establishing a new schedule for patient care associates to obtain vital signs at either the end of their shifts at 10 p.m., 6 a.m. and 2 p.m. or create a change in the timing of their work schedules.
- Setting the EMR to a Q8 hour default for vital signs

The protocol specified that the clinical safety of patients would always supersede efforts to enhance patients' sleep. The nursing communication with resident house staff jointly decided to encourage all staff to break protocol when clinically necessary. During the month of the initial trial, the staff broke protocol only 10% of the time (e.g., for a patient with GI bleeding, and one with a syncope fall). Barring a clinical need to break the protocol, any request to provide routine, unnecessary care during nighttime hours necessitated contacting the attending physician in the middle of the night for approval.

After successfully piloting the protocol on a general medical unit, the team implemented it in all medical units. Following these promising results, the OB unit adopted it as well.

Critical Success
Factors

- **Volume & Co-Location:** This care re-design identified and addressed the opportunity to alleviate avoidable suffering for a segment of patients with similar needs and who have conditions that do not require clinical intervention during the night. These patients were all being cared for on the medical units.
- **Interdisciplinary Team:** The elements of success started with the collaboration of the multi-disciplinary team in designing the protocol, including the attending physician, representatives from the resident house staff, nursing leadership, pharmacy and IT
- **Technology:** The team leveraged the EMR to support the new process by changing the standard order set to request vitals every 8 hours instead of every 4 hours.

Barriers Overcome

- **Employee/Physician Considerations:** Ensuring patient safety was the top priority in implementing any changes to the current protocol. The team addressed this concern by clearly defining that the safety of the patient always came first and that anyone could break the protocol for a true patient need. Secondary to safety was concern from residents that they would have current and accurate lab results for their morning rounds. Part of the initiative focused on working with residents to help them recognize the need to balance the benefit of patients' sleep with rounding schedules. This required more proactive care planning to ensure that labs were completed before 11 p.m. or after 6 a.m. Any clinical changes that necessitated obtaining lab work during protected hours required the approval of the attending physician on the unit.

Creating Value for Patients: Measurable Results

- **Clinical Process:** Care was streamlined by moving from vitals every 4 hours to vitals every 8 hours.
- **Cost:** No increased LOS. No delays in 11 a.m. discharge rate.
- **Impact on Caregivers:** Clustering care allowed caregivers to feel less intrusive. Building on the protocol to cluster care the process has now evolved to assign the same nurse for both patients in a shared room so that all care can be achieved in the same visit or entry to a patient room. This makes providing care more efficient and reduces the number of interruptions that patients experience. Nurses feel empowered that they are 'protecting' patients from unnecessary awakenings at night.
- **Patient Experience:** Patients now experience more sleep and less perception of noise at night.
 - At the completion of this study period, HCAHPS quiet at night scores were dramatically improved from 16% 'Always' to 47% 'Always' without any concomitant efforts to reduce noise. The success of this trial was then presented to all service line patient experience forums and to nursing patient and family experience councils for their review. Because these alterations required minimal financial investment but re-shifting of existing resources, this project was met with guarded excitement. Ultimately all medical units were required to adopt these principals of Clustered Care at night as part of an institution-

wide quiet initiative. Results were reviewed monthly with all clinical leaders.

- Following the completion of the study that included a focus on testing Clustered Care, additional efforts were added to address noise in the environment including having quiet hours, shutting patient room doors, supplying Quiet Kits and scripting for visitors regarding noise and time of visitation.
- **Sustainability:** Action plans and patient evaluations of Quiet at Night are reviewed monthly with patient experience forums to ensure gains are sustained. Residents receive training regarding the protocol each month as part of their orientation to the patient experience expectations of the units.

Improving the Patient Experience

Meeting Inherent Patient Needs

With the new process, patients are cared for in an environment where they are more likely to be able sleep well as they are recovering from their illness.

Preventing Avoidable Suffering

Avoidable suffering is prevented by identifying patients who do not require medical care at night and therefore are not benefiting from being roused for routine medical care. They are protected from unnecessary and stressful interventions during the night. This process redesigned care to do what is best for the patient rather than what might be customary or more convenient for the care team.

Source: Yale New Haven Hospital

Innovation Stories are intended to highlight case studies and examples of organizations successfully applying a quality improvement strategy to innovate and improve. This Innovation Story demonstrates the effectiveness of understanding the needs of a particular patient segment, considering how their needs differ from other patients or differ from the current process, and then redesigning care to better fit those patient needs.