Creating Restful Environments: Applying Evidenced-Based Interventions to Increase the Patients Perceptions of Room Quietness at Night

Timothy Marks
tm900305@wcupa.edu

Follow this and additional works at: https://digitalcommons.wcupa.edu/all_doctoral

Part of the Family Practice Nursing Commons, Geriatric Nursing Commons, and the Nursing Administration Commons

Recommended Citation
Marks, Timothy, "Creating Restful Environments: Applying Evidenced-Based Interventions to Increase the Patients Perceptions of Room Quietness at Night" (2020). West Chester University Doctoral Projects. 68. https://digitalcommons.wcupa.edu/all_doctoral/68

This DNP Project is brought to you for free and open access by the Masters Theses and Doctoral Projects at Digital Commons @ West Chester University. It has been accepted for inclusion in West Chester University Doctoral Projects by an authorized administrator of Digital Commons @ West Chester University. For more information, please contact wcressler@wcupa.edu.
Creating Restful Environments: Applying Evidenced-Based Interventions to Increase the Patients Perceptions of Room Quietness at Night

A DNP Project

Presented to the Faculty of the

Department of Nursing

West Chester University

West Chester, Pennsylvania

In Partial Fulfillment of the Requirements for the

Degree of Doctor of Nursing Practice

By

Timothy D. Marks

May 2020

© Copyright 2020 Timothy D. Marks
Dedication

I dedicate this work to the countless people who made it possible. First, my parents, without your support, encouragement, and understanding, I would not have been able to persevere. Additionally, I am thankful for the dedication, work ethic and morals instilled in me from childhood through today. I am forever grateful for your unwavering support. Thank you to my brother, sister and their families for your support and understanding. To my extended family, friends, mentors, colleagues, professors, classmates, and patients who have helped shape me into the nurse and person I am today, thank you.
Acknowledgments

Since I began this program, I have been supported and encouraged by many people throughout the DNP journey. I would like to express my sincere thanks to Dr. Mary Agnew as a genuine career mentor and my DNP mentor Dr. Barbara Romig for providing ongoing assistance and encouragement throughout this long yet rewarding process and remaining role models for being life-long learning and leaders.

Thank you to my project advisor, Dr. Veronica Wilbur for providing her knowledge, expertise, and valuable time. Additionally, Doctors, Jacqueline Owens, Cheryl Monturo and Cheryl Schlamb for sharing expertise and guidance along the way. To the nursing staff, nursing leadership and administrative leadership team at Tower Health, thank you for your support and for working alongside me while conducting my project and for providing continued support and assistance. To all of the clinical staff at Chestnut Hill Hospital- Tower Health, thank you for the care you give to patients and their loved ones each and every day.

Thank you to my friends and family who respected my need to skip social (and some family) events for the completion of this degree.
Florence Nightingale first described the detrimental effects of noise on patients as an element nurses could control. Hospitalized patients who sleep in the hospital are at risk for poor periods of rest from unwanted noise in the care environment. This Doctor of Nursing Practice Project will assess interventions aimed at increasing the patient’s perception of quietness around the care environment at night for a pilot population. Swanson’s Theory of Caring will be utilized as a framework for the project. Outcomes of nursing interventions were reviewed for improved patient perception of the care environment at night and resultant health outcomes. After the implementation of a group of noise-reducing interventions and a review of outcomes using a standardized assessment tool that is commonly used, the selected group of interventions in this quality improvement project did not show a direct improvement in the perception of quietness at night for the study population. The evidenced-based interventions and quality improvement measures were clinically significant. Both, the trending of data and the linkage of the evidence to basis in nursing theory, demonstrates a need for further exploration and study.

Keywords: Swanson’s Theory of Caring, quietness at night, restful sleep, health outcomes, nursing interventions
Table of Contents

Chapter 1: Introduction and Background .................................................. 1
  Introduction ................................................................................................. 1
  Background ................................................................................................. 1
  Significance ................................................................................................. 3
    What do we need to know and why? ......................................................... 3
    Stakeholders .............................................................................................. 3
    What has been tried and what works? ....................................................... 4
    PICOT .......................................................................................................... 4
  Methods ........................................................................................................ 4
Chapter 2: Literature Review ....................................................................... 5
  Terms, Concepts & Definitions ..................................................................... 5
    Swanson’s Caring Theory ........................................................................... 5
    Summary of the Review of Literature ....................................................... 6
    Noise in the Care Environment .................................................................. 6
    Health effects of interrupted rest from noise ........................................... 7
    Interventions for a Quiet Environment ..................................................... 8
    Theory’s Influence on the Project.............................................................. 9
  Gaps in the Literature .................................................................................. 11
Chapter 3: Design and Methodology ........................................................... 13
  Effective Interventions ................................................................................. 13
  Setting .......................................................................................................... 14
  Population/Sample ....................................................................................... 14
  Instrument ................................................................................................... 15
    History of Instrument ................................................................................ 15
    Instrument and Likelihood to Recommend ............................................... 16
    Instrument and VBP .................................................................................. 17
    Survey Question ......................................................................................... 17
  Data Collection and Statistical Analysis Plan ............................................ 17
  Protection of Human Subjects ..................................................................... 18
    Protection of Data ..................................................................................... 19
    Proposed Project Timetable ...................................................................... 19
  Resources, Personnel & Technologies ....................................................... 19
    Key Stakeholders ...................................................................................... 19
    Plan for Dissemination to Key Stakeholders .......................................... 20
Chapter 4: Results ....................................................................................... 21
  Data Collection ............................................................................................ 21
  Statistical Tests ........................................................................................... 21
    Demographic Comparisons ...................................................................... 21
  Results .......................................................................................................... 22
Chapter 5: Discussion .................................................................................. 24
  Review of the Problem: Quietness at Night .............................................. 24
    Key Findings ............................................................................................... 24
    Study Question ............................................................................................ 25
Swanson’s Theory of Caring ................................................................. 25
Limitations .............................................................................................. 26
Implications for Practice, Education and Research ................................ 26
  Practice ............................................................................................... 26
  Education ........................................................................................... 28
  Research ........................................................................................... 29
Conclusion ............................................................................................. 29

References ............................................................................................. 31

Appendices ............................................................................................. 42

Letter of Approval from Institutional Review Board(s) ............................ 49
List of Tables

1. Project Timetable Table...........................................................................................................................................36
2. Demographic Characteristics of Sample Subjects ........................................................................................................38
3. Pre/Post Comparison of Results (Quietness) ................................................................................................................39
4. Pre/Post Comparison of Results (Likelihood to Recommend) ....................................................................................40
5. Correlations................................................................................................................................................................41
List of Figures

1. Structure of Caring-Swanson Figure 1 ........................................................................................................37
Creating Restful Environments

Chapter 1
Introduction and Background

Introduction

Promoting restful sleep proves to be a difficult challenge for healthcare leaders, practitioners, and patients today. Increased noise levels on inpatient hospital units are well documented, but little research has focused on interventions to mitigate environmental, human-made, and interpersonal noise (Freeman, Weiss & Heslin, 2018). Florence Nightingale first described the detrimental effects of noise on patients as an element nurses could control. Noise is unwanted sound without any value (Applebaum, Calo & Neville, 2016). All hospitalized patients who sleep in the hospital are at risk for poor periods of rest from unwanted noise in the care environment.

In 2016, there were 35.7 million hospital stays in the United States representing a hospitalization rate of 104.2 stays per 1000 population, with a mean length of stay of 4.6 days (Freeman, Weiss & Heslin, 2018). The goal of this evidence-based practice project is to improve the perception of quietness at night for a pilot population. The hospital and study location's patient perception of quietness at night ranks below the national, state, and the area mean score. This low ranking suggests the study population does not perceive a quiet environment.

Background

Patients complain about noise during a hospital stay. Noise is not only an annoyance but may have harmful health effects. Munzel, Gori, Babisch & Basner (2014) reported that any form of stress for hospitalized patients provokes the activation of two neurohormonal systems that include adrenaline, norepinephrine as well as corticosteroids. These hormones
help to cope with this stressor or at least limit their effects. A part of the stress response in humans, the activation of these hormones is evidence of the somatic impact of noise on the human body.

Additionally, long-term fragmented sleep patterns are associated with adverse health effects, including obesity, diabetes, hypertension, cardiovascular disease, and all-cause mortality (Munzel et al., 2014). In the short term, lack of restful sleep leads to delayed wound healing, hypertension, and effects on the respiratory, cardiovascular, metabolic, immune, and neurocognitive systems. These effects of noise may lead to poor health outcomes, higher mortality, and increased costs to patients, insurance companies, and hospitals (Locke & Pope, 2017).

Noise on nursing units includes environmental sounds such as heating and air conditioning units, the noise coming from outside the window, telephones, and overhead paging systems. Human-made noise includes hospital carts and machines with wheels, pneumatic tube systems, highly audible patient care alarms, clinical devices such as intravenous (IV) pumps, cleaning regimens, and hospital design, such as rooms near nursing stations. Whalen et al. (2014) discuss how alarm fatigue leads to desensitized caregivers. This desensitization of caregivers leads to environmental noise that may further heighten patient anxiety and disrupt their perception of a healing environment. Finally, interpersonal noise includes human-to-human conversations, vital signs reporting, assessments, medication administration, and personal communications.

In this Doctorate of Nursing Practice (DNP) project, the author proposes to organize a group of primary stakeholders, closest to patient care, to define and implement an evidence-based care environment modification, staff education, signage, and small unit modifications
(such as turning the lights out in the hallway and shutting doors) during sleep times. For this project, the dedicated interventions are referred to as Noise Reducing Interventions or NRIs.

**Significance**

Consumer Assessment of Healthcare Providers and Systems (CAHPS) has been collecting and reporting valid comparisons of quietness since 2008 (Locke & Pope, 2017). The CAHPS survey question, "During your hospital stay, how often was the area around your room quiet at night?" The answers to this multiple-choice question include never, sometimes, usually or always. Despite efforts, little progress has been made in improving the quietness of the hospital environment at night (Wilson et al., 2017).

**What do we need to find out, and why?**

Noise-reducing interventions (NRI), based on previous evidence-based practice, must be reproducible across multiple geographic sites and inpatient acute care units. Improvements in the patient perception of noise may lead to restful periods of sleep and thus better theoretical health outcomes.

**Stakeholders**

Maintaining a quiet environment at night for patients to get restful periods of sleep involves multiple stakeholders. Maintenance staff, nursing staff, providers, housekeepers, dietary staff, hospital and unit administration, phlebotomists, respiratory therapists, quality department employees, unit-based clinical nurse specialists, medical students, residents, patients, and visitors all play a part in maintaining a quiet area around patient rooms at night. Hospital team members are stakeholders in providing restful sleep is an essential way to promote healing. Each stakeholder has a different reason for engagement in creating restful
environments, and all organizations maintain core values or a mission statement. Mission statements typically include phrasing about "promoting health."

**What’s been tried and what works?**

Interventions ranging from adjusting the environmental factors, providing staff education, and application of alternative therapies are options that may promote restful environments (Munzel et al., 2014). Interventions may be deployed individually or in small groups.

**PICOT**

Do adult admitted patients who receive a planned group of evidenced-based noise-reducing interventions, compared to the current practice of standard interventions, perceive improvement in noise at night during three months on a pilot medical unit in an acute care facility in southeastern Pennsylvania?

**Methods**

The design of this project is quality improvement, evidence-based intervention implementation that includes both electronic (e-mail) and paper surveys (handwritten surveys) administered to participants after discharge from an acute care hospitalization and after new NRIs for reducing the perception of noise at night were implemented. After the intervention, HCAHPS data from the same unit will be compared with the pre-intervention data. The principal goal of the EBP project is to improve patients' perception of restful sleep using a patient-centric group of NRIs and a standardized assessment tool (HCAHPS) that is routinely used post-discharge.
Chapter 2

Literature Review

There is extensive literature regarding noise in the care environment, health effects, and the theoretical framework in adult admitted patients in the acute care setting. This review is divided into the following sections: a) guiding nursing theory, b) review of literature c) search process, d) noise in the care environment, e) health effects of interrupted rest, f) interventions for creating restful environments in the acute care setting, g) gaps in the literature, and h) theory influence on practice project.

Terms, Concepts, and Definitions

Swanson’s Caring Theory

Swanson (1993) claims that the therapeutic practices of nurses are grounded in knowledge of nursing, related sciences, the humanities, as well as personal insight and experiential understanding. The goal of nurse caring is to enhance the well-being of the recipient (Tonges & Ray, 2011). The blend of knowledge, information, and the overall goal of caring distinguish nursing from other professions whose practice includes caring.

This project is rooted in a theory created by Swanson in 1991. Swanson's middle-range theory of caring is empirically derived through phenomenological inquiry. The theory emerged with five caring processes and dimensions that were not unique to nursing. Unique to nursing is the relationship-based practices of nursing, including the nurse-to-patient, nurse-to-nurse, and nurse-to-self relationships. The theory's core caring processes are 1) Maintaining Belief, 2) Knowing, 3) Being With, 4) Doing For, and 5) Enabling (Swanson, 1993).
Caring is the foundation of nursing and defines the nurse's professional identity (Amendola Ire, 2012). Nursing is informed caring for the well-being of others. It does not mean that only nurses are caring people and that all nursing practice situations may be characterized as caring, nor does it mean that informed caring can only be completed by nurses (Swanson, 1993).

Summary of the Review of Literature

A detailed literature search was conducted using CINAHL, OVID, PubMed, MEDLINE, and articles obtained via Google Scholar. The search terms used included caring behaviors, quietness at night, noise health effects, Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS), and patient’s perception of noise at night. The inclusion criteria included text in the English language published between 2012 and 2019. Exclusion criteria included editorials, hospital design/redesign, or any research occurring in non-clinical settings. The exclusion criteria were determined to maintain an appropriate scope for the project and topic of study. The searches resulted in 73 articles and two primary sourcebooks. All titles and abstracts were reviewed, and articles selected for inclusion contained interventions for noise and health effects and patient/family perceptions of quietness at night. Major themes were identified after reading the selected articles. Themes identified were: patient perception of noise and rest in the acute care environment, harmful health effects of interrupted rest, value-based purchasing application of patient perceptions in reimbursement. A total of 43 articles were used in the initial review of the literature.

Noise in the care environment

Increases in noise levels on hospital units are well documented and have focused on interventions to mitigate environmental, human-made, and interpersonal noise. Patients
complain about noise, especially at night during a hospital stay. This frequent noise complaint was further supported in a case study published by Bayless in 2013 that reported televisions as being one of the most contributory causes of noise pollution on hospital units. Also, Discher et al. (2017) report the most common controllable noise factor was human to human talking. Discher et al. (2017) found that through qualitative study methods, staff and visitors often raise their voices to ranges above-average to compensate and overcome the ambient hospital noise. Park, Vos, Vlaskamp, Kohlrausch & Oldenbeuving (2015) support the staff’s elevated speech patterns by reporting that the intensive care unit (ICU) staff’s speech and other activity noises accounted for more than 50% of the acoustic energy in the study location. Mazer (2014) added foot traffic and walking as an additional culprit in noise contribution.

**Health effects of interrupted rest from noise**

Noise is not only a possible annoyance but has harmful health effects. Lack of restful sleep, even short term like a hospitalization may lead to delayed wound healing, hypertension, and effects on the respiratory, cardiovascular, metabolic, immune, and neurocognitive systems (Locke & Pope, 2017). Le Guen et al. (2013) discussed sleep deprivation and fragmentation having a deleterious effect on daytime task performance, mood alertness, and fatigue, and can also decrease immune response. Along the same lines, sleep deprivation in critical care settings can occur and is referred to as ICU psychosis. Symptoms of ICU psychosis syndrome may lead to suspiciousness, interpersonal withdrawal, disorientation, irritability, delusions, and hallucinations. (Park et al., 2015; Mazer, 2014; Tainter et al., 2015; Ethriedge, u.d.) In a study researching interrupted sleep and noise, Applebaum et al. (2016) quoted Florence Nightingale stating, “Unnecessary noise is the most
cruel absence of care, which can be inflicted on a sick or well. Unnecessary noise injures a sick person much more than necessary noise.”

**Interventions for Quiet Environment**

Press Ganey (PG) is an international company that surveys patients privately and on a governmental contractual basis with a goal to measure and improve the patient experience. Press Ganey® "Solution Starters" publication (2014) suggest interventions to decrease noise in and around the room. PG's interventions for patients include: discussing quietness with your assigned patients, apologizing for disruptions, minimizing noise around patient’s room, rerouting heavy traffic, reducing the use of intercom systems, implementing “quiet hours,” providing earplugs, oiling hinges, repairing squeaky carts and other interventions. The strategies will assist in decreasing noisy care environments, thus providing an environment for restful sleep.

Wilson et al. (2017) suggest a group of interventions and recommendations that proved to be helpful in their study population of adult patients in a 350-bed hospital in Akron, Ohio. These interventions focus specifically on medical equipment noise such as pagers, audible alarms, telephones, and pneumatic tube systems. The authors developed a bedtime protocol that included a hotel-like turndown service that included provided comfort measures for rest during evening rounds. These comfort measures include earplugs, blankets, hygiene supplies, oral care supplies, and light snacks, in addition to any other hygiene or toileting processes needed before sleep. Le Guen, Nicolas-Robin, Lebard, Arnulf & Langeron (2013) further supports the use of eye-masks and earplugs that were helpful in a post-anesthesia care unit (PACU) to prevent ICU psychosis in their study population. In a pediatric chemotherapy unit study, Linder & Christain (2011) quantitatively studied the light,
temperature, and sound of the unit and night as a surrogate for disrupted rest and a source for physiologic and psychological stress for hospitalized children with cancer. The variation in sound disruptions was suggested not to be conducive to restful nighttime sleep.

Applebaum et al. (2016), completed a non-experimental descriptive comparative design to measure preintervention and postintervention scores using a unit-wide quiet time. During this time, the lights dimmed, patient doors were closed, and signage was posted to alert staff and visitors. The researchers’ conclusion was that a quiet-time intervention is effective in addressing the patient's perception of noise while in the acute care hospital setting. No statistically significant difference was seen in scores overall before and after quiet time implementation. However, statistical significance was identified between quality and quantity of sleep before and after the intervention (n=40; Quality 3.27 and 2.77, respectively p=.009 and Quantity 3.02 and 2.82. p=.002) which is clinically relevant. The "Quiet at Night" idea was further supported by Smith, Larsen & Johnson (2017), where their nighttime dimming of lights, bedtime interventions and awareness of noise at night was primarily responsible for their dramatic increase in patient satisfaction.

Theory’s Influence on the Project

Swanson’s theory of caring processes includes: 1) Maintaining Belief, 2) Knowing, 3) Being With, 4) Doing For, and 5) Enabling (Swanson, 1993). (Figure # 1) Swanson (1993) purports that maintaining belief is a foundation to the practice of caring by nurses, sustaining the patient's thoughts towards resting peacefully, and allowing healing to occur. The caring practice is embedded in the care bundle and rounding process. According to Swanson, knowing is striving to understand events as they have meaning in the life of another. Understanding the relationship between the patient's perception of quietness,
creating a restful environment for sleep, and healing is paramount in the adoption and execution of the interventions as designed and located in the evidence.

Physiologic and physical safety is vital in a hospital stay to minimize anxiety. Nurses make a difference in the acute care setting by being with patients and being present for uninterrupted periods of listening or teaching. These actions can be the difference in patients adopting a therapeutic treatment plan or making difficult healthcare decisions. Karlou et al. (2018), discussed meaningfully engaging with patients receiving chemotherapy in their study as essential to learning the nursing role as technical skill. Swanson (1993) reports this as being emotionally present to another and this caring category that conveys to clients that their experiences matter to the nurse. This caring category conveys to clients that their experiences matter to the nurse. This can be manifested by authentic presence, attentive listening, and reflective responses, which align with the rounding intervention.

*Doing for* is the simple act of doing for another what they are not able to do for themselves. In acute care hospital stays, many reasons exist for patients not to be able to follow their routine habits, especially before rest or sleep. Fall precautions, unfamiliar settings, low control over the environment are all factors that lead to the feeling of being out of control, frustrated or anxious. Nursing staff intervening, when appropriate, is the key to this principle. Swanson (1993) describes this as a balancing act between doing for the client and as they would do for themselves if they had the physical ability, knowledge, will, or ability to do for themselves or if they were in their environment.

*Enabling* has a negative connotation. The actual act of enabling in this theoretical framework includes coaching, informing, explaining, offering support and assistance,
guiding the patient through issues providing feedback, and validating reality. Enabling in creating a restful and quiet nighttime care environment may be unique to patients, and patients must be empowered to utilized the tools available to create a caring environment optimizing the opportunity for rest. This empowerment can be complicated or straightforward, using nursing staff driven interventions to create the ideal space possible for sleep. This middle-range theory informs the study interventions for the proposed study plan.

Gaps in the Literature

Although research has identified many interventions and indications for decreasing noise in the care environment, specifically noise in and around the patient’s room, no definitive quantitative research has been identified that suggests NRIs affect patient perception outcomes. Many hospital policies, workflows, and competing priorities remain challenging for bedside care staff to promote/provide the patient with the best opportunity for rest while hospitalized. Also, no identified articles linked the value-based purchasing (VBP) reimbursement plan to NRIs, specifically addressing noise in the care environment and the harmful health outcomes from the inability to obtain uninterrupted rest while hospitalized.

CMS, for VBP, withholds about 2% of governmental funding as a part of its VBP program for outcomes-based at-risk reimbursement payments (CMS.gov, 2020). The CAHPS data for each institution in 2017 impacted up to 25% of potential withheld reimbursement. The amount at risk is a roll-up of the 19 core questions from the 29 total items on the survey. Eight CAHPS measures, or “dimensions,” are included in Hospital VBPs CAHPS composite measures. This includes Communication with Nurses, Communication with Doctors, Staff Responsiveness, Communication about Medicines, Discharge Information, Care Transition,
and a dimension that combines Cleanliness and Quietness. One additional global item is overall Hospital Rating. The patient experience domain score is based on the percentage of patients who chose the most positive or top-box, survey response (HCAPHS Fact Sheet, 2019). The dimension related to noise at night has not been directly studied to see the overall difference in score and the direct relationship to the percentage of funds at risk by governmental payors, i.e., direct payment amounts per facility.
Chapter 3
Design and Methodology

The design of this evidence-based practice project is a quasi-experimental quality improvement design with electronic and paper surveys administered to participants after discharge from an acute care hospitalization following the implementation of a new NRI package.

Effective Interventions

Wilson, Whiteman, Stephens, Swanson-Biearman & LaBarba (2017) recommend a bedtime protocol that includes a hospital hotel-like turndown service. This turndown service includes providing comfort measures for rest during evening rounds that proved to be helpful in their study population. These evidence-based bundled measures include providing earplugs, blankets, hygiene supplies, oral care supplies, and light snacks, along with providing any other hygiene or toileting processes that are needed before sleep is offered. The authors were able to decrease noise decibel levels on inpatient units while also assessing patient preferences in what interventions were accepted.

The project team staff members chose and offered pre-rest NRIs. These nighttime NRIs include evening snacks, oral care, use of eye mask for light control, earplugs for noise control, hospital room door closure (if medically/behaviorally safe), pre-bedtime assistance with toileting, dimmed room lights, the offering of a white noise channel placed on TV and window shade closure. Other global interventions in the NRIs included dimming the hall lights, reducing overall noise levels, reducing unnecessary conversations and motion, and finally, communication to the patients and families of the unit’s goal to promote a restful
environment. The key goal of the evidenced-based NRI project is to improve patients’ perception of restful sleep using a standardized perception assessment tool already in place.

**Setting**

The setting for this study was 150-bed acute care, community-based, university-affiliated, teaching hospital in a suburb of Philadelphia in southeast Pennsylvania. This hospital provides a range of inpatient, outpatient, diagnostic, and treatment services. The hospital has many inpatient specialties, including minimally invasive laparoscopic and robotic surgery, cardiology, advanced gynecologic surgery, oncology, orthopedics and major joint replacements, pelvic floor disorders, surgical and podiatric residencies, and internal medicine and family practice fellowships. The practice setting is ideal for enhancing the care of community-focused adult acute care inpatients.

**Population/Sample**

The subjects for this project were adult patients discharged from a single medical-surgical telemetry unit with 29 beds and an average daily census of 26 patients. A convenience sample comprised of discharged patients who electively responded to the electronic (e-mail) or paper survey administered by a third-party vendor, Press-Ganey (South Bend, Indiana). The inclusion criteria were all patients discharged from the study unit who voluntarily completed and returned the patient experience survey to the PG unit where the NRIs were initiated for a study period of three months. The average number of returned surveys is > 35; therefore, at least 35 surveys per quarter are needed. The exclusion criteria consisted of all patients who choose not to complete the voluntary survey or left the study question blank. Additionally, surveys are not sent to patients who are transferred to another facility or patients discharged to extended care facilities, prisons, or those who are deceased.
Instrument

Press-Ganey (PG) tabulates and validates the responses as one the few contracted vendors of the Consumer Assessment of Hospital & Providers Services (CAHPS) for CMS. PG then tabulates the responses and provides a high level of statistical comparisons. Geographic and demographic data are provided. There are several types of CAHPS; Emergency Department, Behavioral Health, Community providers, and Ambulatory centers. For this study, only inpatient HCAHPS surveys will be included as this was an inpatient study. PG has administered patient experience surveys and has been working with patient experience metrics for over 30 years (Press Ganey, 2019). Surveys are sent to discharged patients in a variety of settings, with surveys tailored to the specific care setting. Results are provided to the contracted organization with regional benchmarks by state and throughout the entire PG database. Press Ganey is an approved vendor of the CAHPS survey required by the Centers for Medicare and Medicaid Services (CMS) for all hospitals in the United States. The hospital setting for this study uses PG to administer the CMS required survey tool administered to discharged patients. The survey tool exists as a stand-alone survey or with the customization and integration with the existing PG patient experience survey questions. The customizations can be purchased or developed by individual sites. Regardless of survey type, the CAHPS questions (or section of questions) of any survey allowable by CMS are the same. Price et al. (2014) report a survey response rate that varies between 34-61% of surveys sent.

History of Instrument

The Agency for Healthcare Research and Quality (AHRQ) launched the CAHPS process in 1995 (Appendix B). CAHPS surveys focus on patient care experience that reflects
the quality of care provided (Price et al., 2015). Most CAHPS survey items are designed to elicit patient reports related to specific experiences or global evaluations or ratings intended to allow comparisons across a range of patients and healthcare delivery systems. This surveying tool (CAHPS), is vital as the Center for Medicare and Medicaid's (CMS) goal is to ensure high levels of care are delivered and improved upon for all patients regardless of insurance type and care delivery models. Several articles reference and document the reliability and face, content, and construct validity of the CAHPS surveys (Price et al., 2015). Keller et al. (2005) reported hospital-level reliability that ranged from 0.66 to 0.89 and internal consistency at 0.51-0.88 with the most highly correlated composite scores to include "physical environment," which comprises the study variable question regarding the perception of quietness in the care environment.

**Instrument and Likelihood to Recommend**

The HCAHPS question is strongly associated with both the quality measure of likelihood to recommend the organization and, additionally, a factor in reimbursement for value-based purchasing programs. The measurement tool will be the Consumer Assessment of Healthcare Providers and Systems (CAPHS) survey for hospitals. The initial testing of the instrument found reliability in assessing the perception of noise versus survey results and experience (Wilson, Whiteman, Stephens, Swanson-Biearman, & LaBarba, 2017). The governmental use of the tool for reimbursement in value-based payment structures provides support for its validity. The results of CAHPS surveys can be found as publicly reported data on hospitalcompare.gov.

This author purports to see that after the NRIs, data will improve for the top box scores (Always) for the specific HCAHPS question (Appendix A). Top-Box scoring is a
scoring system in which the top answers to a multiple-choice or Likert-like scale are added to produce a score of favorable responses (% Always). Additionally, this author will evaluate how the deployment of a structured change management model affects outcomes on the defined unit(s) and are there unit characteristics that affect the perception of the unit’s quietness at night besides noise itself.

**Instrument and VBP**

The enactment of the Patient Protection and Affordable Care Act in 2010 includes HCAHPS measures in the national VBP program. This VBP program combines clinical processes of care and patient experience to determine individual hospital payments. Top box HCAHPS scores are used to determine the patient experience domain of VBP. According to Tevis, Kennedy, and Kent (2015), HCAHPS scores encompass 30% of VBP performance (which by 2017 will account for 2% of overall Medicare reimbursement).

**Survey Question**

The survey question in the instrument for the project is, “During your hospital stay, how often was the area around your room quiet at night?” According to Press-Ganey (2014), this question asks patients to recall the frequency with which the care environment around the room was quiet. The survey question has four available answers: Never, Sometimes, Usually, and Always.

**Data Collection and Statistical Analysis Plan**

Data collection was continual throughout the 12/1/2019-2/29/2020 study period with data collection on 3/15/2020, and 100% of the study unit responses were analyzed and compared. The study period compared to an equal time frame (one-quarter pre and post-intervention period) before and after the intervention. Results, in the form of surveys, were
attributed to the discharging unit, but unique patient identification was blinded to the organization and principal investigator. The quarter versus quarter data was evaluated for any change from the prior three months before the intervention and then tested for statistical significance. A target sample size of a minimum of at least 35 post-intervention surveys was assessed. The results are publicly reported as a mean score and a "top-box" score. The "Top-Box" score for quietness individual survey item is the proportion rating of the individual surveys answered in the most positive response, which in this case is, “Always.”

The analysis includes both descriptive and inferential statistics. The independent sample t-test was used to compare the difference in two independent categorical groups. A Chi-square analysis was used to compare the two independent groups’ proportion of the results. This test looked at each of the four possible responses compared to its similar response in the post-intervention data. Correlations of results for “quietness” and results for “Likelihood to Recommend” was completed for the two study periods, before and after interventions.

**Protection of Human Subjects**

To ensure the protection of patients’ protected health information, anonymity, and to control for ethical concerns, all patient experience data is blinded from actual patient information. Limited demographics (if provided) of respondents will be obtained solely from self-reported data on the surveys and will not be linked to medical records. A health-system based, a formal internal review was conducted by the Southeast Pennsylvania hospital’s DNP Subcommittee of the Organizational Nursing Research Council. An administrative review by the Director, Human Subject Protections, resulted in an exemption from formal review by the
Institutional Review Board (IRB) (Appendix C). IRB review and an exemption was received from West Chester University (Appendix D).

**Protection of Data**

PG delivers data from the CAHPS surveys to the hospital in blinded raw data form with non-identifiable assigned unique numbers by PG. The data are blinded to the principal investigator, and no specific patient information could be used in the analysis of the study question. After review of the study data in aggregate from the study timeframe, the blinded data will be stored for a period of three years on a file on the PI's computer locked in his office in administration of a teaching hospital in Philadelphia County in southeast Pennsylvania. Surveys may be registered (numbered) and used for data collection, but no identifying information is on the survey results.

**Proposed Project Timetable**

The project timetable (Table #1) was formulated during the planning phase of this quality improvement project. This planned time table was in accordance with the data collection, IRB exemption, and manuscript creation.

**Resources, Personnel, & Technologies**

Support for this project was from the author as principal investigator, West Chester University DNP Faculty Advisor, health system-based DNP-prepared project mentor, hospital-based nursing directors/house supervisors, Patient Experience Coordinator, Nursing Director of Professional Practice and varied staff members of the study unit and float pool.

**Key Stakeholders**

Although the individual respondent may not directly benefit from the results of the survey results, the knowledge gained will be utilized to help further refine NRIs. Also, future
patients will benefit from advances in improving patients' perceptions of noise at night. Without quality care, patients suffer, and the business needs of healthcare cannot be met and surpassed with a goal of long-term success in a health system. Direct care nurses and hospital administration alike benefit from healthier, more rested patients. Additionally, project participants gained insight into project management, process improvement, and EBP.

**Plan for Dissemination to Key Stakeholders**

Key stakeholders will be informed of the study results in several ways. Results of the NRI and entire project will be initiated in the hospital at the campus level, reported at the broader health system, and possibly prepared for publication in peer-reviewed journals. Additionally, a report will be filed for the hospital’s Board of Directors, system Chief Nursing Officers, and Medical Executive Committee. This report and communication will increase with further NRI implementation and adoption, locally (more hospital units) and system-wide (7 hospital system).
Chapter 4

Results

Data Collection

For this quality improvement project, the data collection started on October 1st, 2019, using the existing PG survey. Data collection was continuous throughout the pre-intervention period and intervention study period, which ended February 29th, 2020. Surveys were delivered as per the standard process to discharged patients from the study unit. Results received by PG, then blinded and transferred to the study institution. Surveys do not come back in real-time because they are mailed to discharged patients' homes and completed, then sent in with the prepaid and addressed envelope supplied by PG. Data collection for the study period ended March 15th, 2020. The preliminary analysis included reviewing the hard copy copies of the completed surveys.

Statistical Tests

Demographic Comparisons

An independent statistical consultant who was not affiliated with, nor had any association with, this study was consulted. Using SPSS (Version 25, 2017), the data were coded and analyzed. The data showed the percentage of females from the pre and post-intervention groups was 50% and 71.4%, respectively. The post-intervention sample was 71.4% female compared to pre-intervention, which was 50% female. The group's ages were similar and with a p-value of 0.667, thus a higher than acceptable chance the age difference happened by chance.

Next, the mean and median ages were 72.95 years to 74.03 years pre to post-intervention period (Table 2). The previously purported response rate historically was 34-
The response rate during the study period for pre-intervention was 11.5% (37/322 discharges), and the post-intervention period was 12.0% (35/292 discharges). The response rate for the surveys and the sample size in each group and demographics do not match. This incongruency is secondary to respondents leaving the study question blank.

**Results**

The analysis compared the quarterly results of the survey question and the "Likelihood to Recommend" survey question and the sample size of each group (with p-value). The pre-intervention and post-intervention responses of answers to the survey question (p=0.022) and the answer to the "Likelihood to Recommend" responses (p=0.389) were analyzed using a chi-squared test. In the preintervention data for the survey question, the number of times the survey choices were never (n=1), sometimes (n=7), usually (n=7), and always (n=21). For the post-intervention period the responses were never (n=1), sometimes (n=3), usually (n=19), and always (n=12). In comparison, the data showed a decrease in the top box answer of “Always” but a favorable response (usually and always) increase from n=29 to n=31 with less unfavorable responses (never and sometimes) post-intervention from n=8 to n=4 (Table 3).

The pre-intervention data for the "Likelihood to Recommend" question, the number of times the survey choices were, “Definitely No” (n=0), “Probably No” (n=2), “Probably Yes” (n=10), and “Definitely Yes” (n=25). For the post-intervention period, the responses were “Definitely No” (n=0), “Probably No” (n=0), “Probably Yes” (n=8), and “Definitely Yes” (n=24). In comparison, the data showed a decrease in the top box answer of “Definitely Yes” but a favorable percentage response rate (“Definitely Yes”) increase from 67.6% to 75% (Table 4).
The gamma correlations between the study question regarding quietness and the "Likelihood of Recommendation" in the pre-intervention period was 0.618 (p=0.021) and post-intervention of 0.569 (p=0.087) (Table 5).
Chapter 5

Discussion

Review of the Problem: Quietness at Night

Extended periods of interrupted rest have harmful health effects. Improving the patient’s perception of hospital floors being quiet proves challenging because the around-the-clock care and technology in the workplace remain mobile, noisy, along with the need for communication that is essential to continue the work of healthcare.

This study’s purpose was to evaluate evidence-based practice interventions designed to improve the perception of quietness at night for a pilot population. The goal of this EBP project was to improve patients' perception of restful sleep while using a group of NRIs and a standardized assessment tool (HCAHPS) that is commonly used to evaluate patient’s perception of care. The selected group of NRIs in this quality improvement project did not show a direct improvement in the perception of quietness at night for the study population.

Key Findings

The outcomes of this EBP project demonstrated that the selected NRIs (evening snacks, oral care, use of eye mask for light control, earplugs, door closure, toileting, dimmed room lights, and window shade closure) did not improve the patient's perceptions of room quietness at night at a statistically significant level. However, the global interventions in the NRIs are clinically significant as demonstrated from the increase in the total positive answers for both questions analyzed, the questions related to "Quietness" and "Likelihood to Recommend." The trending towards positive responses in the study data suggests that adding a complete bundle of noise-reducing interventions based on evidence is worthwhile to study in populations across the United States.
This study did not address interventions outside of nursing’s span of control or global partnership across the hospital to partner in creating the ideal environment for rest at night whereas Topf (2000) discusses hospital noise pollution as an environmental stressor beyond the nursing interventions. External noise, internal environmental noise, and the human-made noise add up to the detrimental effects and difficult to control.

**Study Question**

The study question was, “During the hospital stay, how often was the area around your room quiet at night?” The favorable response (usually and always) rate increase from n=29 to n=31 and a decrease in unfavorable responses (never and sometimes) in the post-intervention answers from n=8 to n=4 (Table 3).

**Swanson’s Theory of Caring**

The following discussion evaluates the relationship between concepts and the processes of Maintaining Belief, Knowing, Being With, Doing For, and Enabling in the context of study outcomes. The NRIs, through the framework of Swanson, meet those tenets (Moffa, 2015). The level of caring required for healing is both medical and psychological. The psychological benefits of caring are paramount in patient’s speed of recovery. Nurses in the acute care setting by being with patients and being physically and psychologically present for periods of education or, to simply, listen (i.e., emotional presence). Brewer & Watson (2015) explains this as “authentic presence” and is prescriptive around communication styles with patients and families. This authentic presence can be manifested by attentive listening, and reflective responses, which align with the rounding intervention. Enabling includes coaching, informing, explaining, and
guiding the patient through treatment and physical pain, providing feedback and reinforcing reality (Swanson, 1993). The study interventions “fit” the caring theory.

**Limitations**

This study used a convenience sample of patients on one unit in one hospital. This limited sample size and geography may have impacted the study outcomes statistical significance and generalizability of any associated outcomes.

The sample size (n=71) limits the statistical significance of the outcomes. Plans to increase the sample size, such as including all hospital units, would mitigate this factor. The male/female difference in the two groups may lead to noncomparable groups and an outcome that is a consequence of too small a sample size. The distribution challenges could also be mitigated by increasing the study location to more hospital units across the health system and geographic surroundings. The literature suggests that there are evidenced-based bundles of interventions that can improve the perception of quietness in the care environment.

The education interventions were implemented after the pre-intervention period. The intervention timing limited the experience of education, as well as the amount of staff reached at the same time along with the implementation speed at which all clinical staff completed the educational offerings.

**Implications Practice, Education and Research**

**Practice**

Kotter (2007) reports executives underestimate how hard it can be to drive people out of their comfort zones. Managing change can be additionally hard during times of higher volume, higher acuity, and other disruptive change within the study unit. Staff on clinical units have competing priorities. As workload intensity increases, an individual
worker triages what needs to have the most time spent on completing. This constant triaging of tasks can be taught or can be intrinsic. The selected NRIs were not a priority when several co-existing priorities were present for the unit's staff. The outcomes of the EBP project leads to a future recommendation of a designed study where these interventions were not seen as optional or niceties, but how we enculturate the interventions. This would most likely require a cultural change and time allowance for the completion of interventions with process control measures.

Our current standards of practice should promote restful environments; often, we claim patient-centric care and forget to include rest into that care regimen. Heath systems should align nighttime care into clusters to minimize interruptions. This call for action given to health systems is not limited to nursing care. Medication timing, vital signs, nighttime care, trash emptying, etc. should be matched and timed for completion together. Healthcare discussions include breaking down silos, and focus has surrounded multidisciplinary rounding, care team planning, and care efficiency. The goal for efficiency should remain a consistent goal and the move from unfavorable to favorable responses of this study’s question may be from the selected NRIs but remains an area for future investigation and practice implementation. From a nursing perspective, this study’s outcomes are clinically significant and suggests an area of promise.

The perceived limitations of the specific chosen NRIs pose questions about increasing the study NRIs to a full-bundle EBP implementation for the rest needed for patients on medical-surgical nursing units. Lechter & Nelson (2014) report that new knowledge for the improvement of nursing and healthcare quality has led to the creation of care bundles. A care bundle is a small set of evidence-based interventions for a defined
patient segment/population and care setting that, when implemented together, result in better outcomes, then when implemented individually. Any strategy aimed at improving the perception of quietness at night must address timing, unit culture, and organizational culture. The full bundle, when implemented and with an increased study period/size, would also increase the likelihood of statistically significant findings.

**Education**

The prelicensure curriculum should include maintaining restful periods of sleep for our patients. Crawford, Brown, Kvangarnese & Gilber (2014) discuss the overall design of care and healthcare with an assertion that the need for compassionate care should be more focused on the design of care and less on individual practitioners. Similarly, Dunnington & Farmer (2015), tested caring competencies amongst nursing students with the use of high-fidelity patient simulation, whereas, Kim & Patterson (2016) tested students before and after a rotation of psychiatric/mental health nursing for caring behaviors. This commitment to caring in education for restful sleep was not readily discussed in the literature reviewed for this study.

As recent as 2004, Lee et al. reported, sleep and circadian rhythms are biological processes that can influence wellness and illness, yet established undergraduate nursing curricula about the importance of sleep is not yet commonplace. Curriculum for nursing education should include maintaining and advocating for rest as a therapeutic nursing intervention. In medical education, caring is discussed as an admirable trait; however, formal training on caring, as it pertains to rest, is not ingrained in medical education (Blamer et al., 2016).
Moffa (2015) states novice nurses are vulnerable by virtue of being in transition. Therefore, at the organizational level, orientation should also include providing restful periods of sleep with the incorporation of Swanson's Caring Theory. The education should include why uninterrupted rest is important and how to provide these favorable environments. Moffa (2015) argues that because of the differences in educational preparations, length of time to entering practice, and differing orientation practices, Swanson's theory is, therefore, a good fit for grounding novice nurse education.

Educational needs extend beyond nursing orientation to all employees who work in the evening and night shifts, maintaining team goals for our patients.

**Research**

It was challenging to recruit and maintain an adequate response rate for returned surveys during the study period. Further larger-scale studies are warranted. Increasing the sample size by either increasing units or length of survey time will avoid sampling bias.

Along the same lines, the timing of data collection was consecutive as opposed to a control group and an intervention group running on similar concurrent units.

Additionally, this was not a replication study of interventions from a previous work. Each healthcare organization has different opportunities for noise and sound design. Newly built healthcare organizations often take sound and light design into account; older organizations may not have the luxury of current thinking on the topic and evidence to support sound and light design as a feature of healthcare builds or redesign.

**Conclusion**

The outcomes of this project suggest clinical relevance and benefit from promoting restful care environments. The reviewed evidence is suggestive for completing EBP
interventions to improve perceptions of the care environment and rest, thus promoting health outcomes. The relationship between quite care environments and the patient’s likelihood to recommend the hospital remain correlated and important to the patient and family’s perception of care.
References


https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Hospital-Value-Based-Purchasing-


Table #1

Project Timetable

Planning
• 9/26/2019 Meet with DNP mentor and review study plan
• 10/1/2019 Meet with the Patient Experience Coordinator and Director of Professional Practice to discuss the proposed study plan. Research study question.
• 10/7/2019 Discuss the plan with the hospital CEO and gain approval (Appendix E).

Pre-Implementation
• 10/16/2019 Submit the proposed project plan to the health system DNP Board.
• 10/31/2019 Submit IRB application to West Chester University
• 11/15/2019 Plan interventions and invites to guiding coalition

Implementation
• 12/1/2019 Roll out interventions, education, and plan
• 12/1/2019 Pre-implementation data review and current state assessment
• 2/29/20 Study Period concludes

Evaluation
• 3/15/2020 Data Collection Ends and Evaluation
• 4/1/2020 Consult Statistician
• 4/13/2020 Finish Manuscript
• 4/20/20 Revisions
Figure # 1

Figure 1- Structure of Caring- Swanson (1993)
Table 2.

Demographic Characteristics of Sample Subjects

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td>43</td>
<td>n=18 (50%)</td>
<td>n=25 (71.4%)</td>
<td>0.062</td>
</tr>
<tr>
<td>Chi Squared</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>29</td>
<td>n=19 (50%)</td>
<td>n=10 (28.6%)</td>
<td>0.062</td>
</tr>
<tr>
<td>Chi Squared</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td>72.95</td>
<td>74.03</td>
<td>0.667</td>
</tr>
<tr>
<td><strong>Group t-test</strong></td>
<td></td>
<td>SD (10.82)</td>
<td>SD (10.56)</td>
<td>0.667</td>
</tr>
</tbody>
</table>

Table 3.

Pre/Post Comparison of Results (Chi Squared)

<table>
<thead>
<tr>
<th>QUIETNESS</th>
<th>N</th>
<th>“NEVER”</th>
<th>“SOMETIMES”</th>
<th>“USUALLY”</th>
<th>“ALWAYS”</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-</td>
<td>36</td>
<td>1</td>
<td>7</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>INTERVENTION POST-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTERVENTION DELTA- PRE TO POST</td>
<td>35</td>
<td>1</td>
<td>3</td>
<td>19</td>
<td>12</td>
</tr>
<tr>
<td>DELTA- PRE TO POST</td>
<td>NA</td>
<td>0</td>
<td>-4</td>
<td>+12</td>
<td>-9</td>
</tr>
</tbody>
</table>
Table 4.

Pre/Post Comparison of Results (Chi Squared)

<table>
<thead>
<tr>
<th>LIKELIHOOD TO RECOMMEND</th>
<th>N</th>
<th>DEFINITELY NO</th>
<th>PROBABLY NO</th>
<th>PROBABLY YES</th>
<th>DEFINITELY YES</th>
<th>P VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-INTERVENTION</td>
<td>37</td>
<td>0 (0.0%)</td>
<td>2 (5.4%)</td>
<td>10 (27%)</td>
<td>25 (67.6%)</td>
<td>0.389*</td>
</tr>
<tr>
<td>POST-INTERVENTION</td>
<td>32</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8 (25%)</td>
<td>24 (75%)</td>
<td>0.022</td>
</tr>
</tbody>
</table>

*P-value computed on 3X2 matrix (df=2) because “definitely no” row contains no responses.
Table 5.

Correlation

<table>
<thead>
<tr>
<th>TIME</th>
<th>GAMMA*</th>
<th>P VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-INTERVENTION</td>
<td>0.618</td>
<td>0.021</td>
</tr>
<tr>
<td>POST-INTERVENTION</td>
<td>0.569</td>
<td>0.087</td>
</tr>
</tbody>
</table>

*Recommend correlated with Quietness (ordinal by ordinal)
Appendix A.

THE HOSPITAL ENVIRONMENT

8. During this hospital stay, how often were your room and bathroom kept clean?
   ○ Never
   ○ Sometimes
   ○ Usually
   ○ Always

9. During this hospital stay, how often was the area around your room quiet at night?
   ○ Never
   ○ Sometimes
   ○ Usually
   ○ Always

YOUR EXPERIENCES IN THIS HOSPITAL
Appendix B

SURVEY INSTRUCTIONS: You should only fill out this survey if you were the patient during the hospital stay named in the cover letter. Do not fill out this survey if you were not the patient. Answer all the questions by completely filling in the circle to the left of your answer. You are sometimes told to skip over some questions in this survey. When this happens you will see an arrow with a note that tells you what question to answer next, like this:

- Yes
- No -- If No, Go to Question 1

Please answer the questions in this survey about your stay at Reading Hospital. Do not include any other hospital stays in your answers.

YOUR CARE FROM NURSES
1. During this hospital stay, how often did nurses treat you with courtesy and respect?
   - Never
   - Sometimes
   - Usually
   - Always

2. During this hospital stay, how often did nurses listen carefully to you?
   - Never
   - Sometimes
   - Usually
   - Always

3. During this hospital stay, how often did nurses explain things in a way you could understand?
   - Never
   - Sometimes
   - Usually
   - Always

4. During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?
   - Never
   - Sometimes
   - Usually
   - Always
   - I never pressed the call button

YOUR CARE FROM DOCTORS
5. During this hospital stay, how often did doctors treat you with courtesy and respect?
   - Never
   - Sometimes
   - Usually
   - Always

6. During this hospital stay, how often did doctors explain things in a way you could understand?
   - Never
   - Sometimes
   - Usually
   - Always

THE HOSPITAL ENVIRONMENT
7. During this hospital stay, how often were your room and bathroom kept clean?
   - Never
   - Sometimes
   - Usually
   - Always

8. During this hospital stay, how often was the area around your room quiet at night?
   - Never
   - Sometimes
   - Usually
   - Always

YOUR EXPERIENCES IN THIS HOSPITAL
9. During this hospital stay, did you need help from nurses or other hospital staff in getting to the bathroom or in using a bedpan?
   - Yes
   - No -- If No, Go to Question 12

10. How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?
    - Never
    - Sometimes
    - Usually
    - Always

11. How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?
    - Never
    - Sometimes
    - Usually
    - Always

Return To: Press Ganey Associates, 710 Rush Street, South Bend, IN 46601
12. During this hospital stay, did you have any pain?
   ○ Yes
   ○ No → If No, Go to Question 15

13. During this hospital stay, how often did hospital staff talk with you about how much pain you had?
   ○ Never
   ○ Sometimes
   ○ Usually
   ○ Always

14. During this hospital stay, how often did hospital staff talk with you about how to treat your pain?
   ○ Never
   ○ Sometimes
   ○ Usually
   ○ Always

15. During this hospital stay, were you given any medicine that you had not taken before?
   ○ Yes
   ○ No → If No, Go to Question 18

16. Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?
   ○ Never
   ○ Sometimes
   ○ Usually
   ○ Always

17. Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?
   ○ Never
   ○ Sometimes
   ○ Usually
   ○ Always

WHEN YOU LEFT THE HOSPITAL
18. After you left the hospital, did you go directly to your own home, to someone else’s home, or to another health facility?
   ○ Own home
   ○ Someone else’s home
   ○ Another health facility → If Another, Go to Question 21

19. During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?
   ○ Yes
   ○ No

20. During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?
   ○ Yes
   ○ No

OVERALL RATING OF HOSPITAL

Please answer the following questions about your stay at the hospital named on the cover letter. Do not include any other hospital stays in your answers.

21. Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?
   ○ 0 Worst hospital possible
   ○ 1
   ○ 2
   ○ 3
   ○ 4
   ○ 5
   ○ 6
   ○ 7
   ○ 8
   ○ 9
   ○ 10 Best hospital possible

22. Would you recommend this hospital to your friends and family?
   ○ Definitely no
   ○ Probably no
   ○ Probably yes
   ○ Definitely yes

UNDERSTANDING YOUR CARE WHEN YOU LEFT THE HOSPITAL

23. During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left.
   ○ Strongly disagree
   ○ Disagree
   ○ Agree
   ○ Strongly agree

24. When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.
   ○ Strongly disagree
   ○ Disagree
   ○ Agree
   ○ Strongly agree

25. When I left the hospital, I clearly understood the purpose for taking each of my medications.
   ○ Strongly disagree
   ○ Disagree
   ○ Agree
   ○ Strongly agree

26. I was not given any medication when I left the hospital

ABOUT YOU

26. During this hospital stay, were you admitted to this hospital through the Emergency Room?
   ○ Yes
   ○ No

continue to page 3
27. In general, how would you rate your overall health?
   ○ Excellent
   ○ Very good
   ○ Good
   ○ Fair
   ○ Poor

26. In general, how would you rate your overall mental or emotional health?
   ○ Excellent
   ○ Very good
   ○ Good
   ○ Fair
   ○ Poor

29. What is the highest grade or level of school that you have completed?
   ○ 8th grade or less
   ○ Some high school, but did not graduate
   ○ High school graduate or GED
   ○ Some college or 2-year degree
   ○ 4-year college graduate
   ○ More than 4-year college degree

30. Are you of Spanish, Hispanic or Latino origin or descent?
   ○ No, not Spanish/Hispanic/Latino
   ○ Yes, Puerto Rican
   ○ Yes, Mexican, Mexican American, Chicano
   ○ Yes, Cuban
   ○ Yes, other Spanish/Hispanic/Latino

31. What is your race? Please choose one or more.
   ○ White
   ○ Black or African American
   ○ Asian
   ○ Native Hawaiian or other Pacific Islander
   ○ American Indian or Alaska Native

32. What language do you mainly speak at home?
   ○ English
   ○ Spanish
   ○ Chinese
   ○ Russian
   ○ Vietnamese
   ○ Portuguese
   ○ Some other language (please print):

ADDITIONAL QUESTIONS ABOUT YOUR STAY
Now that we have asked you to tell us about what happened during your stay, we want to ask you about how well we met your needs.

INSTRUCTIONS: Mark the response that best describes your experience. If a question does not apply to you, please skip to the next question. Space is provided for you to comment on your experiences.

ADMISSION

1. Speed of admission process ................................................................. ○ ○ ○ ○ ○
2. Courtesy of the person who admitted you .............................................. ○ ○ ○ ○ ○

Comments (describe good or bad experience):

ROOM

1. Pleasantness of room decor .............................................................. ○ ○ ○ ○ ○
2. Room cleanliness ................................................................................ ○ ○ ○ ○ ○
3. Courtesy of the person who cleaned your room ..................................... ○ ○ ○ ○ ○
4. Room temperature .............................................................................. ○ ○ ○ ○ ○
5. Noise level in and around room ........................................................... ○ ○ ○ ○ ○

Comments (describe good or bad experience):

MEALS

1. Temperature of the food (cold foods cold, hot foods hot) ...................... ○ ○ ○ ○ ○
2. Quality of the food .............................................................................. ○ ○ ○ ○ ○

this section continued on page 4
MEALS (continued)

3. Courtesy of the person who served your food .............................................. ○ ○ ○ ○ ○

Comments (describe good or bad experience):

NURSES

1. Friendliness/courtesy of the nurses ............................................................... ○ ○ ○ ○ ○
2. Promptness in responding to the call button ................................................ ○ ○ ○ ○ ○
3. Nurses' attitude toward your requests ......................................................... ○ ○ ○ ○ ○
4. Amount of attention paid to your special or personal needs ........................ ○ ○ ○ ○ ○
5. How well the nurses kept you informed ...................................................... ○ ○ ○ ○ ○
6. Skill of the nurses ......................................................................................... ○ ○ ○ ○ ○

Comments (describe good or bad experience):

TESTS AND TREATMENTS

1. Waiting time for tests or treatments ............................................................... ○ ○ ○ ○ ○
2. Explanations about what would happen during tests and treatments ............. ○ ○ ○ ○ ○
3. Courtesy of the person who took your blood .............................................. ○ ○ ○ ○ ○
4. Courtesy of the person who started the IV .................................................... ○ ○ ○ ○ ○

Comments (describe good or bad experience):

OPERATING/RECOVERY ROOM

If you had surgery during your stay, please complete this section.

1. Staff concern for your privacy (in operating room/recovery room) ............... ○ ○ ○ ○ ○
2. Adequacy of information family/visitors received during surgery and recovery ○ ○ ○ ○ ○
3. Explanation of Operating Room procedures ............................................... ○ ○ ○ ○ ○
4. Explanations provided by the anesthesiologist, if applicable ....................... ○ ○ ○ ○ ○
5. Friendliness of Operating Room nurses ...................................................... ○ ○ ○ ○ ○
6. Nurses concern for your comfort in recovery room ................................... ○ ○ ○ ○ ○
7. Your rating of the Operating/Recovery room staff ..................................... ○ ○ ○ ○ ○
8. Overall rating of your surgery experience .................................................. ○ ○ ○ ○ ○

Comments (describe good or bad experience):

VISITORS AND FAMILY

1. Accommodations and comfort for visitors .................................................. ○ ○ ○ ○ ○

this section continued on page 5
### VISITORS AND FAMILY (...continued)

2. Staff attitude toward your visitors ..............................................................

Comments (describe good or bad experience):

<table>
<thead>
<tr>
<th></th>
<th>very poor</th>
<th>poor</th>
<th>fair</th>
<th>good</th>
<th>very good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### PHYSICIAN

1. Time physician spent with you ..............................................................
2. Physician's concern for your questions and worries ................................
3. How well physician kept you informed ....................................................
4. Friendliness/courtesy of physician .........................................................
5. Skill of physician ....................................................................................

Comments (describe good or bad experience):

<table>
<thead>
<tr>
<th></th>
<th>very poor</th>
<th>poor</th>
<th>fair</th>
<th>good</th>
<th>very good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### DISCHARGE

1. Extent to which you felt ready to be discharged .....................................
2. Speed of discharge process after you were told you could go home ............
3. Instructions given about how to care for yourself at home ........................

Comments (describe good or bad experience):

<table>
<thead>
<tr>
<th></th>
<th>very poor</th>
<th>poor</th>
<th>fair</th>
<th>good</th>
<th>very good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### PERSONAL ISSUES

1. Staff concern for your privacy ....................................................................
2. How well your pain was controlled ...........................................................
3. Degree to which hospital staff addressed your emotional needs ...............  
4. Response to concerns/complaints made during your stay ...........................
5. Staff effort to include you in decisions about your treatment ...................
6. How well the staff respected cultural, racial and religious needs ..............

Comments (describe good or bad experience):

<table>
<thead>
<tr>
<th></th>
<th>very poor</th>
<th>poor</th>
<th>fair</th>
<th>good</th>
<th>very good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### OVERALL ASSESSMENT

1. How well staff worked together to care for you .......................................
2. Likelihood of your recommending this hospital to others ........................
3. Overall rating of care given at hospital ...............................................  

Comments (describe good or bad experience):

<table>
<thead>
<tr>
<th></th>
<th>very poor</th>
<th>poor</th>
<th>fair</th>
<th>good</th>
<th>very good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

continue to page 6
ADDITIONAL QUESTIONS ABOUT YOUR CARE

While you were awake, did the nursing staff come into your room, approximately every hour, to address your personal needs? ................................................................. ○ Yes ○ No

Were you visited by a nurse manager or director during your stay? ........................................... ○ Yes ○ No

At shift change, did the nurses include you in their conversation about your care? .................... ○ Yes ○ No

Did the nursing team ask you about your goal for the day? ........................................................ ○ Yes ○ No

Please provide contact information if the hospital needs to contact you. This information is not required.
Patient’s Name: (optional)

Telephone Number: (optional)

THANK YOU. Please return the completed survey in the postage-paid envelope.
Appendix C:

October 16, 2019

Timothy D. Marks, MBA, MSN, RN, CEN, NEA-BC
134 Plymouth Road, Apt. 1407
Plymouth Meeting, PA 19462

RE: DNP Project – Creating Restful Environments: Applying Evidence-Based
Interventions to Increase the Patients Perception of Room Quietness at Night

Dear Mr. Marks,

Following formal review by the DNP Subcommittee of the Organizational Nursing Research Council and administrative review by the Director, Human Subject Protections it has been determined that the above captioned DNP Project does not meet the definition of human subject research found in the Code of Federal Regulations Title 45, Part 46, Section 102. Therefore, review by the Institutional Review Board is not required.

I wish you well with this project and success in completion of your educational endeavors.

Sincerely,

Sharon House, MS, RN, CIP
Director, Human Subject Protections

SLFah
e: BIR Office
Deborah Swawely
Senior Director, Nursing Inquiry and Research

PO Box 16052, Reading, PA 19612-6052 | www.towerhealth.org
Phone: 484-628-8000
Appendix D:

TO: Timothy Marks
FROM: Nicole M. Cattano, Ph.D.
Co-Chair, WCU Institutional Review Board (IRB)
DATE: 12/2/2019

Project Title: Creating Rainful Environments: Applying Evidenced Based Interventions to Increase the Patients Perception of Room Quietness at Night

Notification of Initial Study Exemption Determination

☒ Exempt From Further Review
This Initial Study submission meets the criteria for exemption per the regulations found at 45 CFR 46.104 (2)(ii). As such, additional IRB review is not required.

The determination that your research is exempt does not expire, therefore, annual review is not required and no expiration date will be listed on your approval letter. If changes to the research are proposed that would alter the IRB’s original exemption determination, they should be submitted to the WCU IRB for approval, using the IRB application form (check off I.G. Revision).

Your research study will be archived 3 years after initial determination. If your Exempt study is archived, you can continue conducting research activities as the IRB has made the determination that your project met one of required exempt categories. The only caveat is that no changes can be made to the application. If a change is needed, you will need to submit a NEW exempt application. Please see www.wcupa.edu/research IRB.aspx for more information.

However, it is very important that you close-out your project when completed or if you leave the university. Faculty mentors are responsible for oversight of student projects and should ensure exempt studies are completed and closed-out before the student leaves the university.

The Principal Investigator and/or faculty mentor is responsible for ensuring compliance with any applicable local government or institutional laws, legislation, regulations, and/or policies, whether conducting research internationally or nationally. Please contact the WCU Office of Sponsored Research and Programs at irb@wcupa.edu with any questions.

Sincerely,

Co-Chair of WCU IRB

Protocol ID # 20191203E
This Protocol ID number must be used in all communications about this project with the IRB.

WCU Institutional Review Board (IRB)
ICRG#: IOR00004242
IRB#: IRB000005030
FWA#: FWA00014155

West Chester University is a member of the State System of Higher Education