Informed Perceptions of Knowledge, Attitudes, and Behaviors Concerning Nurse-Led Mobility Among Hospitalized Patients: An Evidence-Based Practice Project

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Abstract

Extended periods of bedrest among hospitalized patients are associated with functional decline and reduced mobilities. Data from a community based acute care hospital indicated there was a need to promote nurse-led mobilities, such as getting out of bed, ambulating about the room, sitting in a chair, and performing active or passive range of motion exercises among their patients. Lewin's Force Field theory of unfreezing, moving, and refreezing provided the conceptual guidance to an evidence-based practice project which investigated the effectiveness of introducing a poster-style presentation to unfreeze the barriers associated with the anticipated changes in care. The Iowa Model-Revised and the Knowledge-To-Action framework provided methodologies to collaboratively plan and implement the project. The Johns Hopkins Patient Mobilization Attitudes and Beliefs Survey was administered in a pre-posttest design to assess initial and outcome perceptions regarding the barriers and facilitators to mobility promotion and their potential impact on the sustainability of any proposed practice changes. The pre-survey responses allowed the project team to ascertain the education programming needs necessary to inform nursing staff's knowledge, attitudes, and behavior barriers to overcome. As a result of those initial survey responses, the team presented a poster-style presentation of strategies to inform the nursing staff's knowledge, attitudes, and behavior during the poster-style presentation. After completing the poster-style presentation, findings from the evaluation revealed that the staff had improved overall perceptions of mobility promotion barriers, with improvements in knowledge, attitudes, and behaviors.

Keywords: evidence-based practice, Lewin, IOWA Model, Knowledge to Action, evidence-based care, mobility, functional decline, mobilization, perceptions, barriers, quality improvement, surveys, early mobility, multidisciplinary team

Informed Perceptions of Knowledge, Attitude, and Behavior Concerning Nurse-Led Mobility Among Hospitalized Patients: An Evidence-Based Practice Project

Section I: Introduction of the Problem

Introduction

Assigning a person to bed as a clinical intervention was once an acceptable reaction to sickness and a typical measure of the recovery process, especially from the mid-1860s to around 1950 (Guedes, Oliveira & Carvalho, 2018; Knight, Nigam & Jones, 2009; Knight et al., 2019; Parry & Puthucheary, 2015) as a therapeutic focus to encourage recovery by reducing the body's metabolic demands (Parry & Puthucheary, 2015). However, during the Second World War, wounded soldiers who were released shortly after treatment with less time in bed, demonstrated quicker recoveries (Guedes, Oliveira & Carvalho, 2018). This response to less time in bed led to the realization that the overuse of bedrest actually confounded the patient's recovery from the original admitting diagnosis. The consequences of injuries from the overutilization of bed rest are now identified with deconditioning and reductions in physiological reserves in addition to the primary disease for which the patient was admitted (Guedes, Oliveira & Carvalho, 2018). The effects of immobility can be understood as a deconditioning that involves multiple body systems leading to falls, pressure ulcers, decreased cardiac output, and venous stasis; all of which can predispose a patient to incur increased hospital lengths of stays (LOS), risks of developing hospital-acquired pneumonias (Falvey et al., 2016; Hastings et al., 2018), and other consequences associated with deleterious effects to musculoskeletal, respiratory, integumentary, and

cognitive systems (Guedes, Oliveira & Carvalho, 2018; Knight, Nigam & Jones, 2009; Knight et al., 2019; Parry & Puthucheary, 2015).

The World Health Organization (WHO, 2020) established decreased mobility as a primary contributor to falls and severe injuries from falls. This is specifically true for older people, who are three times more likely to be readmitted within 30 days after being discharged from the hospital (Falvey et al., 2016). These patients are often admitted with conditions leading to complications that include falls, injuries from falls, and other effects of deconditioning that can affect them years after discharge; even leading to death (Falvey et al., 2016). The CDC (2018) estimated that the medical costs related to falls throughout the U.S. in 2014 were $50 billion annually, including $38 billion of Medicare/Medicaid costs and $12 billion of private and other payor costs (CDC, 2020; Florence et al., 2018; Haddad et al., 2019). The direct and indirect costs associated with falls, and fall injuries and the long-term effects of the associated disabilities include fees for: (a) hospital, rehabilitation, and nursing home care as well as community-based services; (b) doctors and other professional services, (c) use of medical equipment, (d) prescription drugs, (e) insurance processing, (f) dependence on others, (g) lost time from work and household duties, and (h) reduced quality of life. (CDC, 2020; Florence et al., 2018; Haddad et al., 2019). Finally, the annual costs of fatal falls are $754 million among hospitalized older adults, ages 65 and older (CDC, 2020; Florence et al., 2018). These facts suggest that there should be concern for this serious public health dilemma especially for aging populations.

Over the past 10 years, the population of persons aged 65 and older has increased from 38.8 million in 2008 to 52.4 million in 2018 (a 35% increase), with a projected increase to reach 94.7 million in 2060. This suggests that mobility and nurse-led mobility

initiatives are important for the expected increase in age-related hospitalizations. According to The Administration for Community Living (2019), which includes the Administration on Aging, a division of the U.S. Department of Health and Human Services, Texas is home to 3,602,320 persons aged 65 and older (13% of the population). This represents a 46% increase between 2008-2018, and 11.1% of these older adults live below the poverty level (Profile of Older Americans, 2020).

The Agency for Healthcare Research and Quality (AHRQ) (2019) indicated that falls occur at a rate of 3–5 per 1000 bed-days, with an estimated number of annual falls to be 700,000 to 1 million among hospitalized patients. Greater than one-third of these episodes occur as in-hospital falls, which result in serious injuries, such as fractures and head traumas. In these cases, hospitals are not reimbursed for the additional costs associated with the falls (CMS, 2007). Ironically, patients with "no harm" falls (no physical injuries) often progress into a state of fear of falling with restrictions placed on their activities, and the consequential losses of strength and independence (AHRQ, 2019, para 8), though the intended initial effort was fall prevention. This type of scenario can "result in functional decline" such as muscle weakness or reduced endurance. A decline of physiologic systems in older people can result in a descent into a state of increased frailty, orthostatic intolerance that primes for an increased incidence of falls, and other fall-related injuries, leading to even more susceptibility for further deconditioning (Goswami, 2017). The reduced mobility and falls that occur in the older patient population as a result from poor balance, reduced muscle strength, and lack of endurance can be reconciled by adding proactive screening measures to facilitate an inpatient exercise program whereby a

hospitalized patient can maintain and or improve his or her daily physical function (Siemonsma et al., 2018).

Growden et al. (2017) noted that inpatients, who spent an estimated 95% of their time in bed, progressed to "post-hospital syndrome," a brief state of increased vulnerability associated with increased risks of functional decline, adverse medical events, and hospital readmissions. For older patients, a single admission to the hospital is a significant enough event that leads to a decline in functional status that could affect their future physiological changes after discharge. Federal policies and public attention to mobility issues, have encouraged more of a balance between prioritizing mobility and fall prevention, as well as patient comfort (CDC, 2018: Administration on Aging, 2012; Agency for Healthcare Research and Quality [AHRQ], 2013). A vital part of the care of hospitalized patients in the United States now promotes a focus on early mobilization to maintain functional abilities.

Background

The Baylor Scott and White Health (BSWH) "Mobility Toolkit: Creating Safe Passage by Promoting Early Mobility in Patients (2017), inspired by the Johns Hopkins Activity and Mobility Promotion (AMP™) Hospital Toolkit (2020), is a comprehensive mobility program for use within any unit of the hospital system. Similar to the Johns Hopkins Mobility Toolkit, the Baylor Mobility Toolkit emphasizes common language multidisciplinary actions, and visual, algorithmic approaches to supporting EBP for healthcare providers. The toolkit provides detailed information that is appropriate for nurses who work with patients on early mobility programs, and includes recommendations for roles and responsibilities, goals and expectations, documentation and communication strategies, body mechanics, progressive mobility, and equipment. The toolkit is also

complete with case studies, a survey of mobility barriers, step-by-step visuals of mobility aids, and video tutorials for transfer and body mechanics.

This Baylor Mobility Toolkit was used to effectively implement a mobility program at another hospital within the system and plans for another roll out in an additional system-hospital have been planned. The Johns Hopkins AMP™ Toolkit is comprehensive and includes a number of the following tools.

- Johns Hopkins Highest Level of Mobility (JH-HLM) Scale, a standardized performance measure of a patient's highest level of mobility achieved.
- Johns Hopkins Safe Patient Handling Mobility (JH-SPHM) Guide used to drive safe patient mobility performance through use of a "common tool" for safe patient handling and mobility assessment, which aims to increase mobility goal setting and equipment planning.
- Johns Hopkins Daily Mobility Goal Calculator, an algorithmic approach of setting daily mobility goals based on mobility limitation assessments. A strategy for improvement of overall mobility levels.
- Johns Hopkins *Patient Mobilization Attitudes and Beliefs Survey* (*PMABS*, formerly the *Overall Provider Barrier Scale*) which evaluates providers' self-reports of knowledge, attitudes, and behaviors in order to identify barriers to increasing the mobilization of hospitalized patients. For the 3-page 26-item survey, see Appendix A. (Hopkins Medicine, 2020).

The chosen acute care hospital provided access to the Baylor Mobility Toolkit, by means of the hospital's intranet prior to the start of this project. It is unknown why most of the staff nurses were not aware of its existence. The resources available to the unit

substantiated the project team's mission to inform the staff of available EBP assets, like this toolkit, along with the appropriate strategies for the implementation of evidence-based mobility promotion practices.

Target Population

The selected facility of the project is a 216-bed suburban acute care hospital in the North Texas region, which is accredited by the Joint Commission. Prior to the detailed development of this project, the hospital leadership created a Safety and Quality Plan to prioritize their commitment of avoiding preventable patient harms (Baylor Scott & White Health, 2019). Key facility stakeholders, principally the chief medical officer, chief nursing officer, as well as members of the Patient Experience Department, and other administrative leaders were responsible for the eventual endorsement of this evidence-based practice project with a focused on promoting nursing-led mobility.

Their endorsement was rooted in the agency's "Safety & Quality Plan," and the hospital system's history of evidence-based practice (EBP) efforts in the realm of mobility. Some of the guiding principles of the initiative included goals to: (a) achieve zero preventable patient harm through an unwavering commitment to high-reliability practices and procedures, (b) build a culture of safety as evidenced by top quartile results on standardized, benchmarkable survey instruments, (c) and develop standards of process improvement methods, such as training the organization's staff to continuously identify improvement opportunities and implement standardized solutions with tracking strategies. This EBP project aligned with the guiding principles and agency's focus on promoting evidence-based nursing-led mobility.

Needs Assessment

A review of the hospital quality data from the previous calendar year and the completion of an organizational needs assessment (with internal data), provided a rationale to pursue an evidence-based practice (EBP) project in support of nurse-led mobility promotion at the agency. Specifically, three-quality metrics associated with impaired mobility indicated that there was room for institutional improvements in 30-day unplanned hospital readmissions (see Table 1), lengths of stays (see Table 2), and inpatient falls for the project's selected hospital. The 30-day unplanned readmission rates for patients over 64 years of age was 10.43%, while the average for other ages was 9.64%. There were 53 reported falls out of 3, 831 inpatient encounters that occurred most frequently in the patient rooms on the intended project unit. (see Appendix B).

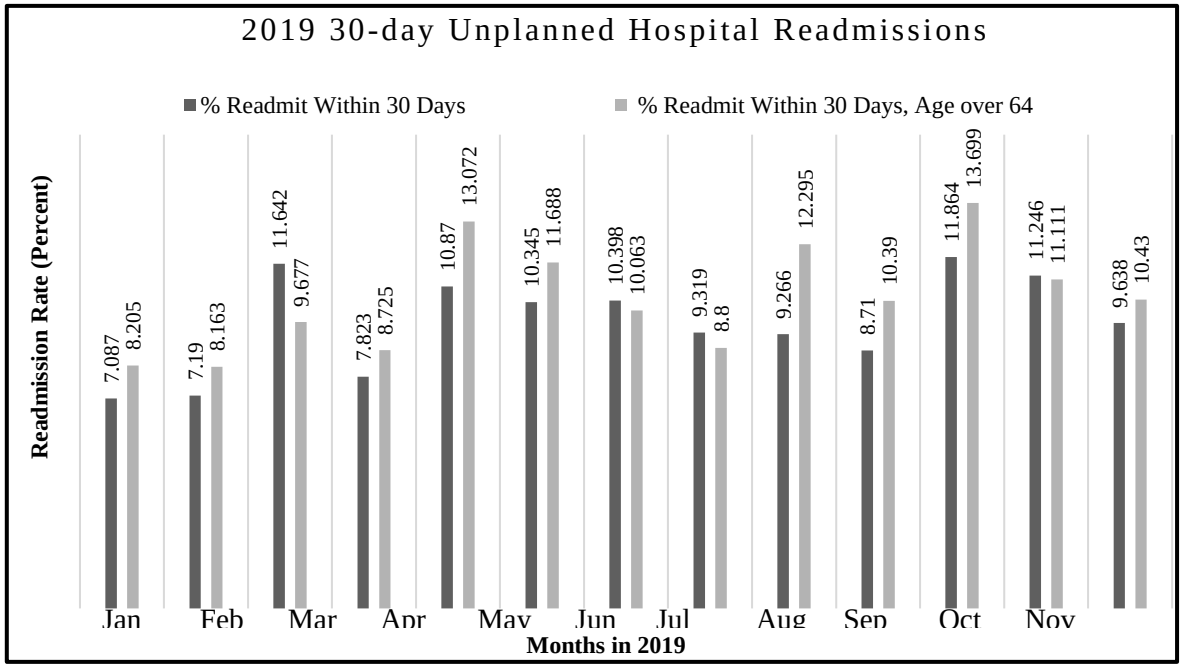


Table 1: 2019 Acute Care Hospital 30-Day Unplanned Readmission Rates

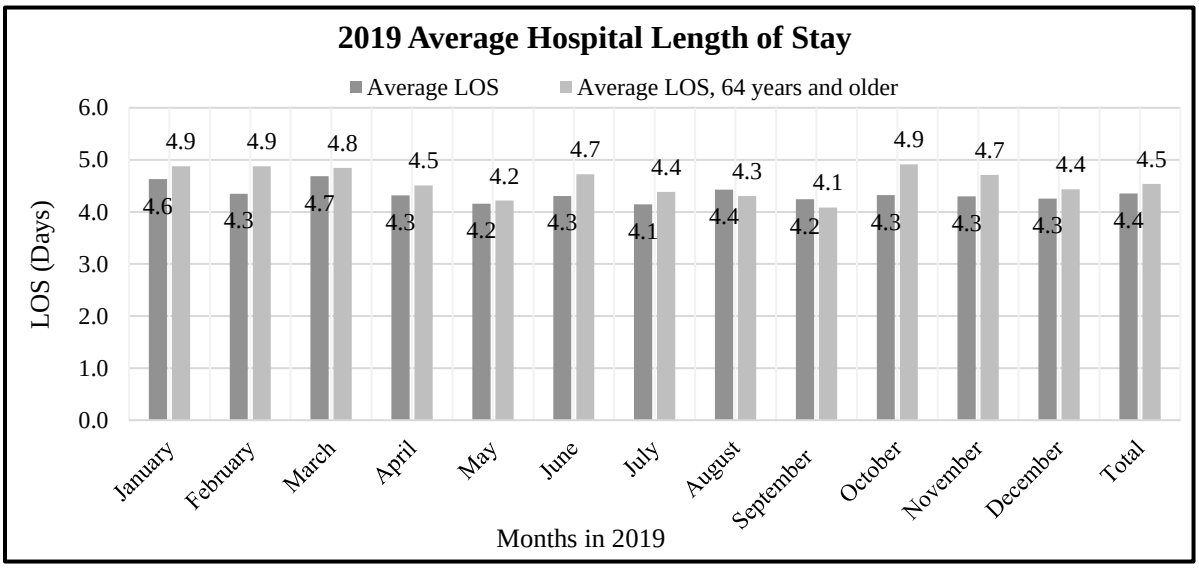


Table 2: 2019 Acute Care Hospital Average Length of Stay

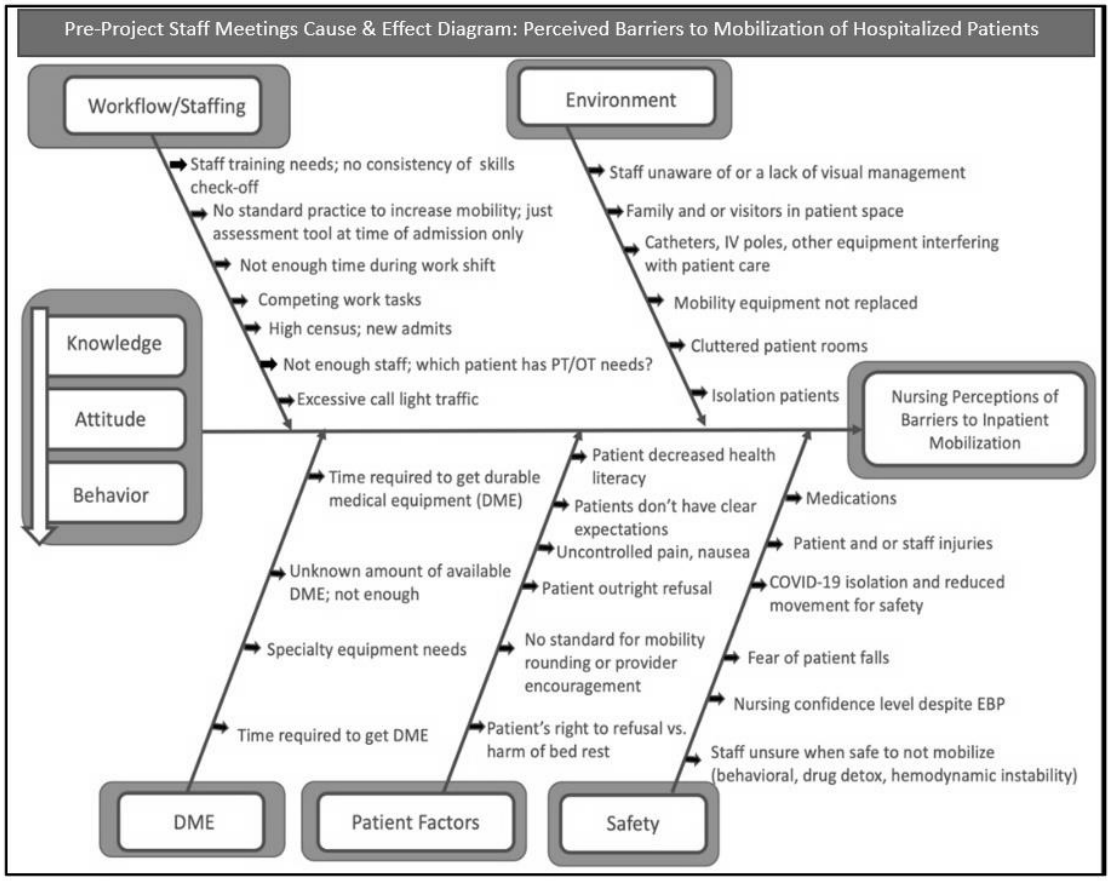
An additional examination of the agency's discharge dispositions indicated that most of the patients were discharged to either a skilled nursing facility (SNF), a short term/acute care hospital or to home with home health care services. These data suggest that some patients may have suffered from functional declines by the time of discharge, as they required additional care following discharge.

An early initiative in the process of the needs assessment was to determine the focus of the project and begin to plan for implementing strategies that would empower the staff to promote increases in mobility for those at risk of functional decline and or immobility-related injuries. This included the identification of the selected hospital's specific mission, values, health care processes, and gaps in the delivery of services. The

acute care hospital had invested its resources to establish a position on safety, quality, and interdisciplinary evidence-based practices.

The hospital's data indicated that it had not achieved a "zero harm" goal. There was an urgent need to resolve the gap that existed between the alignment of the vision, mission and published (BSWH, 2019) system objectives of preventing harm and maintaining sustainable evidence-based practices for mobilization. This underscored an importance of moving forward with an EBP project facilitated by implementing an educational intervention tailored to strategically reinforce knowledge to promote positive attitudes and behaviors associated with promoting nurse-led mobility.

Figure 1: Fishbone Diagram of Pre-Project Perceived Barriers of Inpatient Mobility



There were several factors considered in the development of the project plan including workflow, barriers, and facilitators to implementation. Specifically, workflow/staff needs were identified as perceptions of a high census, excessive call light demands, and a need for more staff. Staff also described feeling inadequate to add more work to their task-oriented daily workflow, which was confounded by an unclear understanding of current standards of practice. Barriers to the environment were perceived as cluttered patient rooms, and concerns for limited rehabilitation and occupational therapy support in the evenings. Nursing staff also shared that the necessary durable medical equipment, such as bedside commodes, walkers, wheelchairs or lift devices were often difficult to find or unavailable. Facilitators included a strong desire (reinforced by the mission and vision) to improve patient mobility, and a readily available evidence-based toolkit that could be used to reinforce best practices. Figure 1 illustrates a Fishbone diagram that highlights the multiplicity of concerns, needs and gaps reinforcing the overall aims for the project.

With the discovery of the specific barriers and facilitators, this author identified an initial need to address the participants' understanding of the strategies that would support nurse-led mobilities. The project leaders agreed that there was an immediate need to identify the nurses' perceived barriers and facilitators in terms of the informed knowledge, attitudes and behaviors associated with the best practices and recommendations for nurse led mobilities.

Project Goals

The overall long-term goal of this project was to develop a sustainable, standardized unit-based EBP program that would promote nurse-led mobility with a focus on safety

reducing the risks associated with functional decline and inpatient falls. However, in the short-term, the agreed upon immediate priority (project) included a need to create a positive awareness of the EBP strategies that would facilitate the promotion of nurse-led mobility practices. This project evolved implementing an educational intervention tailored to strategically reinforce positive attitudes and behaviors associated with promoting nurse-led mobility activities as a precursor to the long-term goal of a nurse-led mobility program.

Purpose and Aims

The purpose of this evidence-based practice project was to create a culture of awareness for nurses to participate in evidence-based nurse-led mobility practices in order to reduce the risks associated with functional decline and inpatient falls. An immediate aim was to overcome the reported perceived barriers to mobility promotion as they pertained to knowledge, attitudes and behaviors among the medical-surgical nurses at the selected hospital. The three phases of the project included planning and implementing a project that would include (a) the identification of baseline perceptions regarding barriers to mobilization of hospitalized patients, (b) the introduction of a poster-style education that would reinforce appropriate behaviors associated with mobilizing hospitalized patients, and finally (c) the evaluation of the effectiveness of the educational intervention with changes in newly informed perceptions concerning nurse-led mobility promotion by assessing knowledge, attitude, and behavior changes.

PICOT Question:

Nursing staff members in an acute care hospital, who participate in an educational intervention that promotes nurse-led mobility strategies will demonstrate improved knowledge, attitude, and behaviors following the intervention.

P: Population: Nursing staff members in a selected unit within an acute care hospital, who volunteer to participate in an EBP project.

I: Intervention: An evidence-based educational intervention which included an educational poster-style presentation (specific knowledge component) tailored to strategically reinforce positive attitudes and behaviors associated with promoting nurse-led mobility promotion.

C: Comparison: When compared to the perceived barriers to the promotion of nurse-led mobility interventions among bedside nurses prior to and following participation in a poster-style educational intervention on patient mobilization strategies.

O: Outcome: Improved knowledge, attitude, and behaviors, defined as scores from responses to the Johns Hopkins Patient Mobilization Attitudes and Beliefs Survey (Hopkins Medicine, 2020).

T: Time: Overall time of one month from distribution of pre-survey, educational styled poster presentation to completion of post-survey

Project Question

The project questions included: (a) What are the perceived barriers to the promotion of nurse-led mobility interventions among bedside nurses prior to and following participation in a poster-style educational intervention on patient mobilization strategies. (b) What are the characteristics of the nurses who participated in the poster-styled educational intervention and what relationships exist regarding their perceptions of barriers to nurse-led mobility promotion in the areas of knowledge, attitude, and behavior?

Conceptual Framework:

Kurt Lewin's Force-Field theory has been identified as a widely used theory associated with planned change in clinical settings (Murray, 2017). Lewin's theory of

unfreezing, movement, and refreezing was used to investigate the association of continuing education strategies on improvements with EBPs (Manchester et al., 2014). Lewin's change theory served as a dynamic framework to gain an understanding of how the organization benefitted from clinicians' growth after practice behaviors have changed.

Lewin (1951) purports that change results from two field or environmental forces, which require organizations to implement planned change activities. Driving forces help to facilitate and move change in a direction that causes the intended change to occur, while restraining forces attempt to impede change and maintain the status quo. Components of driving forces are necessary to overcome restraining forces. The three-step change model involves unfreezing the status quo, moving towards a new way and refreezing the change for sustainability (Lewin, 1951; Shirey, 2013). *Unfreezing* occurs when the determined need for change as well as the driving and restraining forces have been identified. During this stage, nurse leaders are responsible for motivating staff to recognize the need for change (Murray, 2017).

Moving occurs when the new innovation is examined, accepted and tried. Within the clinical setting, nurse leaders are frequently charged to coach those who are to be affected by the intended change and help to overcome their fears (Murray, 2017). *Refreezing* involves stabilizing the change and achieving equilibrium. During this stage nurse leaders are responsible for reinforcing the change through formal as well as informal processes with policies and procedures that relate to standards of care (Murray, 2017). Similar to the contextual factors of Manchester et al.'s (2014) inquiry of collaborative practices Lewin's change theory focuses on implementing an intervention that promotes change from the usual type of safe patient care to early nurse-led mobilities. The nurses

affected by the project expressed many reservations suggesting the intended plan for change might be met with resistance. (See Figure 1, the Fishbone Diagram). Evidence of resistance included statements and perceptions of competing nursing tasks, fear of patient and staff injuries, a lack of knowledge of the facility and system resources that could potentially provide guidance and resources. Figure 1 outlines the barriers described focused on workflow/staffing, environment, nurses' perception, patient factors, and the like.

Lewin's change theory provided an excellent framework for this evidence-based project. The *Unfreezing*, or first stage was illustrated by the identification of the need for change from data collected during the preliminary meetings and the review of the quality metrics of the agency (Shirey, 2013). Driving forces which helped to facilitate positive changes were interdisciplinary committee meetings and huddles held early in the planning stage. Additional driving forces included the assessment of the staff perceived barriers in pre-project meetings and the use of the survey instrument, and the poster-style educational intervention that addressed the staff's identified educational needs. The restraining forces included increased staff/workflow needs particularly as there were perceptions of a high census with excessive call light demands, feelings of inability to add more work to the daily workflow tasks, and an unclear understanding of the current standards of practice. Other perceived barriers were cluttered patient rooms, and concerns of a lack of physical and occupational therapy support in the evenings, as well as a lack of the necessary durable medical equipment, such as bedside commodes, walkers, and wheelchairs.

Disequilibrium of the system was illustrated by using information from the needs assessment to inform the project team about barriers needed to be addressed through

educational programming (Manchester et al., 2014). According to Shirey (2013) and Lewin (1935), these action steps strengthen the resolve and drive of nursing leadership to initiate the necessary dialogue. The project was designed to transform the knowledge, attitudes and behaviors associated with mobilizing patients,

During the *Movement stage*, the responses from the survey and pre-project meetings provided useful information on the promotion of nurse-led mobilities. While considering the time constraints and work-flow practices, the team designed an educational intervention (poster-style) that allowed the information to stay in place to reinforce the desired strategies for mobilization.

Lastly, the *Refreezing* phase encouraged discussions of sustainability. Specifically, Lewin's change theory calls for the evaluation of the intervention for success and establishes the need for greater empowerment and increased self-efficacy. During this stage, it is appropriate to make protocol changes, develop ongoing competencies, and implement nurse-led mobility practices based on the outcomes of the intervention (Manchester et al., 2014).

Section II: Presentation of Evidence

Evidence-based practice (EBP) involves approaching evidence-based practice from a problem-solving perspective to clinical decision-making within health care systems that integrate the best available scientific knowledge, while considering patient and family preferences and practitioner experiences (Dang & Dearholt (2017). Although EBP is accepted throughout health care, academia, and clinical nursing practice, the implementation of new scientific knowledge in the clinical setting requires acceptable

levels of evidentiary support to improve and sustain the quality of care and health outcomes (Melnyk et al., 2014).

The specific aims of the project were the following: (a) identify the baseline perceived barriers and facilitators associated with nurse-led mobility promotion among hospitalized patients in a medical-surgical acute care hospital; (b) introduce a poster style intervention that would transform the perceived knowledge, attitudes and behaviors associated with mobilizing patients; and (c) evaluate changes in the perceived knowledge, attitude and behavior barriers concerning mobilization following the poster-style intervention.

Restatement of Project Question

The project questions included: (a) What are the perceived barriers to the promotion of nurse-led mobility interventions among bedside nurses prior to and following participation in a poster-style educational intervention on patient mobilization strategies. (b) What are the characteristics of the nurses who participated in the poster-styled educational intervention and what relationships exist regarding their perceptions of barriers to nurse-led mobility promotion in the areas of knowledge, attitude, and behavior?

Search Strategies

An aim of the evidence review was to find relevant peer-reviewed, scientific research in support of the immediate phase of the project, which was to gain a better understanding of the nurses' knowledge, attitudes and beliefs associated with EBP and patient mobility strategies. The preliminary literature review was guided by the Johns Hopkins Nursing Evidence-Based Practice "Evidence Level and Quality Guide, Step 8" (Dang & Dearholt, 2017), (see Appendix C) from the Johns Hopkins Nursing Evidence-

Based Practice Toolkit (Dang & Dearholt, 2017). Search terms associated with mobility were identified to generate and access the relevant literature. Predetermined limiters, inclusion, and exclusion criteria were also defined. The following search terms and phrases, "hospital mobility" and "mobility patient safety" were used to begin the search. The queries to generate pertinent articles included searches from databases such as Pub-Med Central, CINAHL Complete, and MEDLINE and Google Scholar through the TWU online library searches, using the following terms: (a) mobility guidelines; (b) nurse perceptions; (c) nurse barriers; (d) nurse-led mobility; (e) perceived inpatient mobility barriers; (f) mobility attitudes and beliefs; (g) Johns Hopkins mobility survey; and (h) inpatient mobility tool/instruments.

The queries to generate pertinent articles included searches from databases such as Pub-Med Central, CINAHL Complete, MEDLINE and Google Scholar through the TWU online library services, using the following terms: (a) mobility guidelines; (b) nurse perceptions; (c) nurse barriers; (d) nurse-led mobility; (e) perceived inpatient mobility barriers; (f) mobility attitudes and beliefs; (g) Johns Hopkins mobility survey; and (h) inpatient mobility tool/instruments. The initial query generated greater than 150,000 articles. The criteria for inclusion/exclusion were refined to include research articles relevant to patient mobility and barriers to mobility and exclude unrelated and duplicated articles, and those not published in English. A review of the remaining 1,505 articles were next further refined to consider: date range, publication type, peer-reviewed, patient age, words in title, population, language, included citations, medical-surgical and telemetry units, geographic location, and word-derivative edits. A remaining 127 articles were screened and those lacking full-text, mobility subject matter, nurse perceptions and

barriers, and or survey instruments/tools, and another 110 articles were excluded. This yielded the most pertinent 17 studies that were analyzed, summarized and synthesized. They were also appraised for quality and hierarchical levels of evidence The results provided rationales with evidence for the ways in which an organization can identify the potential barriers to mobility and deliver a pertinent educational strategy to overcome those perceptions (see Literature Synthesis Matrix in Appendix D). The following research studies led to the identification of several themes found in the literature and included: barriers to EBP and mobility promotion; barriers to knowledge, attitudes, and behaviors; and overcoming barriers through EBP competencies and clinical education.

Themes

Barriers to EBP & Functional Mobility Improvements

In order to identify the incidence of disabilities that occurred during hospitalizations Sourdet et al. (2015) and Hoyer et al. (2013) used retrospective chart reviews to determine the effects of immobility on functional status. While Sourdet et al. (2015) and Hoyer et al. (2013) each used different methods of measurement upon admission to the hospital and at discharge, they both concluded that a patient's physical disabilities and functional status associated with hospitalizations were modifiable risk factors that could be remedied with mobility activities. Later, Hoyer et al. (2016) and Jones et al. (2019) each led quality improvement projects to overcome the existence of the sequelae associated with immobility with the implementation of strategies to increase early mobilization of hospitalized patients. They found that the strategies to actively prevent decrease physical function within their programs were effective in preventing injurious falls, with significant

improvements in function that were identified from the time of admission to discharge from the hospital.

The specific strategies of Hoyer et al. (2016) included efforts to mobilize patients three times daily, quantify and document the mobility of the patients, set daily goals to increase mobility and standardize the description of patient mobility across all hospital staff. To measure the effectiveness of the project, Hoyer et al. (2016) developed the Johns Hopkins Highest Level of Mobility (JH-HLM). The JH-HLM is an 8-point ordinal scale that lists mobility milestones that advance from scores of 1 through 8, and represent mobility activities from lying, bed activities, sitting at the edge of bed, transferring to a chair, standing for > 1 minute to walking from 10+ steps to 250+ feet. In conclusion, Hoyer et al. (2016) found that mobility promotion was not associated with an increase in injurious falls on the QI units. The project revealed that active prevention of a decline in physical function and a reduction of length of stays among their patients could be achieved with a structured QI approach.

In a similar way, Jones et al. (2019) introduced a quality improvement project to increase early mobilization with a nurse led mobility program that would reduce their dependency on physical therapists for routine mobility purposes. Although the implementation of the project led to more observations of patients independently ambulating in the halls of the hospital, they identified barriers that affected the nurses' decisions to not mobilize their patients. Those barriers were related to patients who were large, heavy, unsteady, and cognitively impaired. In addition, nurses who considered themselves lacking in physical strength, experience, or confidence, reported reductions in their mobility standards to mobilizing patients into the chair. Lastly, work demands and

unit cultures that provided unclear expectations and a lack of accountability contributed to other types of lowered patient mobilities.

Barriers to Knowledge, Attitudes, and Behaviors

As early as 1999, Cabana et al. (1999) completed a systematic review of 76 published studies that described barriers to clinical practice guidelines among physicians. Responses to the surveys from the studies were organized into three categories: knowledge, attitudes, and behaviors (Cabana et al., 1999, p. 1459). Issues that limited adherence through (a) cognitive components were considered barriers that affected knowledge, (b) affective components were considered barriers of attitude, and (c) limitations on one's abilities, were thought of as barriers affecting behavior (Cabana et al., 1999). Lack of familiarity and lack of awareness of the guideline information were listed as barriers associated with knowledge, while lack of self-efficacy and physician beliefs or expectancy as well as motivations were identified as barriers associated with attitudes. Cabana et al. (1999) recommended that interventions to adherence should report the baseline barriers to adherence and added that the effectiveness of interventions was also dependent on the existence and intensity of baseline barriers.

Cabana et al. (1999) stated "before a practice guideline can affect patient outcomes, it first affects knowledge, then attitudes, and finally behavior. Although behavior can be modified without knowledge or attitude being affected, behavior change based on the influence of knowledge and attitudes is likely more sustainable than indirect manipulation of behavior alone" (Cabana et al., 1999, p. 1459).

The need to identify the potential barriers associated with mobilizing hospitalized patients was explored by Hoyer et al. (2015), Dermody (2016), Dermody and Kovach

(2017), Kanaskie and Snyder (2018), and Alqahtani et al. (2020). Each of the research groups identified a number of barriers to improving mobilities among hospitalized patients with similar conclusions. They reported that even experienced nurses need knowledge and support to overcome the barriers to the promotion of mobilization. Each of the researchers recognized a need for hospital-wide support for nurses who are expected to promote mobilities. Some of the specific methodologies and findings of the studies are listed below.

Hoyer et al. (2015) tested and refined the self-administered Johns Hopkins Patient Mobilization Attitudes and Beliefs Survey (JH-PMABS). As they sought to identify the potential barriers to mobilizing hospitalized patients associated with the providers' knowledge, attitudes, and behaviors for early efforts to improve mobility, they studied members of interdisciplinary teams. Their sample of participants included 82 nurses and 38 rehabilitation therapists from six general medicine units across two hospital settings. The findings of their study indicated that the survey instrument met the criteria of a valid and reliable tool for soliciting attitudes about patient mobilities (Hoyer et al., 2015). The survey instrument demonstrated internal consistency reliability, item consistency, and acceptable discriminant validity psychometric properties. As the participants were from different disciplines, the results of the study showed that the overall perceived barriers among the respondents were similar in both hospitals, but they were higher among less experienced nurses and rehabilitation therapists.

Through the use of the Modified Overall Provider Barrier Scale, Dermody (2016) found that the most commonly expressed knowledge barrier was that the nurses had not been trained to safely mobilize hospitalized patients or how to assess lower leg strength. In terms of attitudes or self-efficacy, some of the nurses felt that their patients were too sick or

they lacked confidence. In terms of behaviors, the nurses reported that their nurse-to-patient staffing was inadequate and there was a risk for injury associated with promoting mobility. Dermody (2016) concluded that even experienced nurses need knowledge and support to overcome the barriers to the promotion of mobilization. Later in 2017, Dermody and Kovach used the JH-PMABS to identify how differences in nurses' experiences impacted them to promote physical activities in non-critical hospitalized older adults. While using the JH-PMABS survey, the overall results of this study indicated that nurses with >5 years' experience, and those with less experience had considerably lower perceptions on three knowledge items related to: (a) training experiences, (b) when to refer to physical therapy, and (c) when to make referrals to occupational therapy.

The findings from the qualitative descriptive analysis of Kanaskie and Snyder (2018) confirmed the findings that physical barriers, knowledge, and skill as well as unit cultures impeded the nurses' decision-making beliefs to mobilize patients. While considering the risks associated with patient safety and harm to themselves, they expressed a need for the collaborative teamwork from physical therapists and occupational therapists. Other similar staff factors associated with the implementation of EBP practices were found to be linked to the existence of mentorships and there were reported differences between those who had received EBP training and those who had never received training in EBP (Alqahtani et al., 2020)

Overcoming Barriers through EBP Competencies and Clinical Education

To identify how nurses perceived EBP competencies related to the knowledge, beliefs, culture, mentorship and the Iowa Model of EBPs, two studies reported on the perceptions of large numbers of nurses. Melnyk et al. (2018) used a descriptive

observational study to discover that nurses perceived those gains in knowledge through education was a key predictor of self-reported EBP competencies. However, knowledge was not the only attribute of competence; but a combination of knowledge, skills, and attitudes. Melnyk et al. (2018) concluded that EBP must be in the organizational vision, mission, and goals, and nursing leaders must embrace and support EBP infrastructures with available resources for EBP. Finally, there should be a culture or an underpinning that addresses the nurses' beliefs and attitudes about what is possible in their workplace. The EBP Competencies can be found in Appendix E.

Saunders et al. (2019) published an overview of systematic reviews to summarize and synthesize the international peer reviewed research literature that reported on studies that described the EBP competencies among practicing healthcare professionals. EBP was described as a shared competency that is considered a priority along with use of actual validated outcome measures. The findings of eleven systematic reviews, with a total of 204 source studies from 24 different countries and a total sample of 59,382 healthcare professionals self-reported that their EBP knowledge, skills, attitudes, and beliefs were at a moderate to high level, but these competencies did not translate into implementation.

Saunders et al. (2019) added that there are widespread misunderstandings about the basic concepts of EBP and there is a need to increase engagement in the implementation of EBP and a need to attain care quality and patient outcomes among practicing healthcare professionals. The findings of the overview of systematic reviews indicated that large proportions of practicing healthcare professionals perceive their EBP competencies to be insufficient for daily care delivery. They identified widespread confusion and misunderstandings about the meanings of the most basic concepts of EBP, in terms of the

principals and processes of EBP. Few of the systematic reviews reported on the impact of the EBP competencies on changes in care processes. Saunders et al. (2019) advised that until healthcare professionals become competent in EBP, they are not likely to engage in EBP in their daily work and patient care delivery systems. This was described as a gap that urgently requires attention and immediate action in world-wide healthcare organizations.

On a more local level Boswell et al. (2020) and Porter et al. (2018) described some of the external environmental factors that influence the association of EBP and self-reports of self-efficacy among front line RNs from acute care agencies. Boswell et al. (2020) found that organizational and unit cultures, knowledge, skills, time and attitudes had significant relationships indicating that disparities associated with educational preparation, work expectations, access to EBP resources, and leadership qualities of the administration may affect self-efficacy among RNs. They concluded that practice sites must engage with frontline nurses to provide professional development activities to ensure that their RNs' knowledge and skill levels are based on EBP despite time constraints and attitudes toward EBP.

Porter et al. (2018) used focus groups to address the perceived knowledge gaps between implementing and sustaining evidence-based practices that were specific to fall prevention. The findings of the study indicated that all of the team members considered fall prevention a priority for patient safety. However, they added there should be a shared understanding of the various roles of the providers, which included an expectation for nurses to develop a cohesive, individualized plan for each patient, with a consistent use of fall data to guide the use of fall prevention strategies. The implications for practice

included the use of ongoing risk assessments of the patients, assistive devices for safe patient handling, and the use of organizational data trends to inform fall prevention efforts.

Although there are gaps in the literature that specifically speak to the promotion of EBP as it relates to mobility through the use of educational strategies, Toole et al. (2013) and Case (2017) provided examples of researched strategies that influenced improvements in nurses' knowledge, attitudes and behaviors associated with EBP. In the case of Toole et al. (2013) nurses were randomly assigned to participate in either a control group, a self-administered computer-based learning (CBL) module or a formal face to face class with the same educational content as the CBL module. Baseline responses to the Clinical Effectiveness and Evidence Based Practice Questionnaire (EBPQ) (Upton & Upton, 2006), were used as a preintervention assessment survey that measured items that were organized into subscales for nurses' knowledge, attitudes, and practices of EBP. Following the completion of the various interventions, the same survey was used as a post-test to assess for differences in the responses to the same subscale items. Their findings suggested that both types of educational strategies improved the participants reported practices of EBP. It was not necessarily important that the learners needed to participate in a formal face to face class. Toole et al. (2013) concluded that the opportunity to participate in any educational intervention may have reinforced the nurses' knowledge and role in EBP.

Case (2017) implemented a quality improvement (QI) project that included a nursing education intervention designed to improve the delivery of care for stroke patients by encouraging EBP for bedside nursing at a primary stroke center. The RNs were expected to demonstrate an awareness of the evidence behind standardized stroke order sets for Joint Commission recertification purposes. The interventional strategy consisted of: (a)

the creation of a poster that linked quotes from the current standardized order sets and bedside interventions; (b) compilation of a binder complete with the stated guidelines with highlighted quotes from the poster; (c) a 90-second verbal poster presentation to the RNs during their pre-shift huddles; and (d) the extended provision of the poster and a binder in the breakroom for a week following the verbal presentation (Case, 2017).

The intended nurse participants were sent emails with an explanation of the project and a preintervention online survey link for SurveyMonkey (Case, 2017). The poster was presented during pre-shift huddles for both the day and night shift RNs, and everyone had access to the poster and supplemental binder for the week prior to a postintervention online survey. The preintervention survey consisted of questions related to the performance of ordered interventions and confidence about the evidence associated with the order-sets. Responses to the postintervention survey confirmed that the participants could confidently state how the order sets reflected the current evidence associated with care (Case, 2017).

The effectiveness of the project was determined by a comparison of the pre and post-test opinions about their attitudes and confidence to explain how the standard orders reflected the current evidence (Case, 2017). As the pilot advanced through time, there were modifications made on the units to encourage participation (Case, 2017). The results indicated that there was no significant difference in the mean overall perceived confidence scores between the pre and post intervention surveys. However, the mean confidence scores from the RNs in the ED were statistically significant with a p =.02.

Additionally, the respondents from all the units overall reported a higher likelihood of performing ordered nursing interventions when they were confident that the order was evidence-based (Case, 2017). This suggested that the RNs were more likely to adhere to an

order if it was supported through educational interventions. As the poster presentation was a cost and time efficient intervention, it had the potential of greatly impacting nursing care as it increased their awareness of EBP at the systems level and also added to nurses' confidence in the care that they provided. For sustainability purposes, Case (2017) recommended that this education intervention could be performed for new employees during orientation, and for current employees each time the guidelines are updated.

Evidence Synthesis

The relevant literature for this project consisted of 17 peer-reviewed articles that guided the strategies to meet the objectives of this project. There were two systematic reviews, one randomized control trial, three quality improvement projects, three descriptive correlational design studies, two retrospective chart designs, three cross-sectional designs, and three qualitative design studies. Most of the selected studies were ranked as level I and III of evidence. According to the Johns Hopkins Nursing Evidence-Based Practice "Evidence Level and Quality Guide, Step 8" (Dang & Dearholt, 2017), five studies were rated as high quality, nine were rated as good quality and four were considered to be of low quality.

A review of the literature indicates that there is a consensus among healthcare professionals that there is a need to implement evidence-based practices in order to improve the quality of care and outcomes for hospitalized patients (Melnyk et al., 2014; Case, 2017; Cabana et al., 1999). Despite the fact that nurses agree to the need for EBP, they have reported a lack of self-efficacy and confidence in implementing it (Cabana et al. 1999; Jones et al., 2019; Saunders et al., 2019). The research suggests that the training of nurses is an important facilitator for EBP (Saunders et al., 2019; Case, 2017; Dermody,

2016). Throughout the world, nurses have not only identified knowledge as a predictor for the implementation of EBP, but also many external environmental factors, such as lack of available equipment, supportive organizational and unit cultures, unclear expectations, lack of access to EBP resources, and disparities for educational preparation, that create barriers to that goal (Porter et al., 2018; Boswell et al., 2020; Saunders et al., 2019). Thus, there is a consensus that organizations must develop a culture that supports EBP in order to introduce sustainable standards of care for specific practices (Cabana et al., 1999; Porter et al., 2019).

In the case of nurse-led mobilities, there is agreement that simple strategies, such as mobilizing patients three times daily, quantifying and documenting the mobility of patients, and setting daily goals to increase mobility according to the JH-HLM, that promote EBP have improved the functional abilities of hospitalized patients upon discharge (Sourdet et al., 2015; Hoyer et al., 2013; Hoyer et al., 2016; Jones et al., 2019). A number of research studies have identified barriers that impede the practices of nurses mobilizing their patients (Hoyer et al., 2015, Dermody, 2016; Dermody & Kovach, 2017; and Kanaskie & Snyder, 2018). Researchers agree that barriers must be identified before an EBP program can be introduced in a sustainable manner (Kanaskie & Snyder, 2018; Melnyk et al., 2014; Saunders et al., 2019). The JH-PMABS survey, a valid and reliable instrument has served to identify the perceptions of nurses' barriers to mobilization (Dermody, 2016; Dermody & Kovach, 2017; and Hoyer et al., 2013). Although there is agreement that nurses need opportunities to learn about EBP, there are gaps in the literature that describe which strategies can best support the implementation of nurse-led mobilities. Upon a review of the published research, only a few projects that were implemented to improve an EBP

provide guidance for a plan to address the barriers associated with EBP from an educational perspective (Case, 2017; Toole et al., 2013; Porter et al., 2018).

Summary

According to the research literature there is a need to implement evidence-based practices in order to improve the quality of care and outcomes for hospitalized patients. Although nurses agree to the need for EBP, they lack self-efficacy and confidence in implementing it. The education and training of clinical practices associated with EBP is a recognized facilitator for EBP, while there are many environmental factors that discourage nurses from implementing them. There is a consensus that organizations must work on developing a culture that supports EBP in order to introduce sustainable standards of care. In the case of nurse-led mobilities, simple strategies have been shown to improve functional abilities in patients upon discharge from the hospital. In order to overcome the barriers that impede these activities, there is a need to identify them, as well as provide learning opportunities to implement them. The JH-PMABS survey, is a valid and reliable instrument that has been used to identify the perceptions of nurses' barriers to mobilization. Only a few projects that were implemented to improve an EBP provide guidance for a plan to address the barriers associated with EBP from an educational perspective. However, the research does provide guidance on which concepts should be included in an effort to promote EBP in general.

Needs Assessment

A review of the selected hospital's quality data from a past year and the completion of an organizational needs assessment provided a rationale to pursue an EBP project in support of nurse-led mobilities. The data indicated there were gaps in the delivery of

services, as the agency had not achieved a “zero harm” safety goal. There was a desire to align the vision, mission and published system objectives to prevent harm to their patients.

Several factors were considered for meeting the hospitals expressed goals. Discussions with the leadership and staff identified nurse led mobilities as a priority for their goals. However, there were concerns that the staff might resist implementing what would be considered changes in their clinical practice. They identified barriers to the implementation of the plans that were related to the knowledge, attitudes, and behaviors that would promote the expected goals of the program. Figure 1 illustrates a Fishbone diagram that highlights the multiplicity of concerns, needs and gaps, which reinforces a need for education.

With the discovery of the specific barriers and facilitators associated with nurse-led mobilities, this author identified an initial aim of addressing the participants’ understanding of the strategies that would promote nurse-led mobilities. The project leaders agreed that there was an immediate need to identify the nurses’ perceived barriers and facilitators in terms of the knowledge, attitudes and behaviors associated with the best practices and recommendations for nurse led mobilities.

Section III: Methods

The purpose of this project was to implement an educational intervention that was tailored to strategically reinforce positive attitudes and behaviors associated with promoting nurse led mobility activities as a precursor to an eventual system-wide nurse led mobility program. The leadership of the hospital determined that the intention of the strategy would be to reinforce knowledge about mobilizing patients that would align with

nurses' workflow patterns ensuring that it was appropriate for supporting their healthcare decisions.

Type of Project

This is an evidence-based practice (EBP) project. The specific EBP framework used was the Iowa Model-Revised (Iowa Model Collaborative, 2017). The IOWA model also includes a dynamic implementation component which enhances EBP. The Knowledge-To-Translation (KTA) as the implementation framework was employed to further develop the implementation strategies.

Iowa Model-Revised

Cullen and colleagues (2015) advocate for a healthcare environment that focuses on sustaining a culture of EBP inquiry, implementation, and dissemination, which ultimately improves patient care and outcomes and promotes staff satisfaction as they replace ineffective practices with those based on current evidence-based strategies. The Iowa Model-Revised (Iowa Model Collaborative, 2017), shown in Figure 1 of Appendix G and based on Everett Roger's (1983) Diffusion of Innovation theory, grew out of the Quality Assurance Model Using Research (Iowa Model Collaborative, 2017; Watson, Bulechek, & McCloskey, 1987). The Iowa Model-Revised (2015) is a user-driven, application-oriented, framework that guides the implementation of evidence-based practices (Cullen et al., 2012). During a systematic multi-step process to revise and validate the tool, almost 70% of the clinicians surveyed (n= 431) found it useful and 94% were interested in a revised model, while 88% had experience using the Iowa Model (Iowa Model Collaborative, 2017).

The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care (2015), is intended for use by point of care clinicians who ask important clinical questions and then seek to improve quality through the systematic use of evidence with sustainable strategies of change in an organization (Iowa Model Collaborative, 2017, p. 181). The concepts within the revised version of the Iowa model (Iowa Model Collaborative, 2017), displayed within an algorithm, guided the processes of planning, implementation, and dissemination of this evidence-based practice project.

The Iowa Model-Revised (2015) is appropriate for clinical nursing roles and it prompts the project leader to advance through various steps of: (1) identifying the triggering issues for change; (2) identifying the problem; (3) determining if the problem qualifies as a priority; (4) forming a team; (5) assembling a sufficient body of evidence that will support the project; (6) to design and pilot the practice change; (7) evaluate the outcome to determine if the change is appropriate; and (8) finally to integrate and sustain the change in practice with a plan to disseminate the results. This model provided a framework for planning the phases necessary to identify the selected problem of impaired mobility, to implement an intervention and to eventually evaluate its effectiveness to provide a sustainable solution to reduce the incidence of impaired mobility.

The Implementation Strategies for Evidence-Based Practice (Cullen & Adams, 2012) drafted by the authors of the Iowa model, provided strategies for consideration. The model for the Implementation Strategies for Evidenced-Based Practice (Cullen & University of Iowa Hospitals and Clinics, 2019), found in

Appendix F, Figure 2, with the Iowa Model, identifies pathways to assist clinicians to generate purposeful ideas for the dissemination of nursing interventions.

The strategies are divided into four guiding phases for: (a) creating awareness and interest; (b) building knowledge and commitment; (c) promoting action and adoption; (d) pursuing integration and sustaining use. The four pathways are divided into interventions appropriate for either: (a) connecting with clinicians, organizational leaders, and key stakeholders, or (b) building organizational system support interventions.

In the case of the implementation of this project, the author found that connecting with clinicians, aligned best with the project's purpose, aim, objectives, and goals. The project team identified the following strategies most applicable to the efforts of improving early nurse-led mobility promotion, and those marked with an asterisk were noted to be "supported by at least some empirical evidence in healthcare" (Cullen & Adams, 2012). Relative to the activities of Pathway 1 (See Appendix F, Figure2) connecting with clinicians, organizational leaders and key stakeholder, the project team elected to develop an evidence-based practice strategy with some of the elements pertinent each of the four phases in Pathway 1, They included four phases of implementation of the project: (a) creating an awareness and interest; (b) building knowledge and commitment; (c) promoting action and adoption; and (d) pursuing integration and sustained use. Specifically, the author and clinical team elected to develop a poster, postings, and fliers described as a strategy in phase one (Cullen et. al., 2018, p. 121). Many of the

planning strategies of the project that are aligned with those concepts within the model are listed below and provided in detail.

During the leadership meetings, which included nursing, the planning discussions addressed the anticipated environment, the population focus, and how the intended patient outcomes aligned with the facility and system's vision, values, and goals. Key evidence generated from a review of the relevant literature, findings from the review of the agency's quality metrics, and data collected during pre-project interest meetings were shared with the leadership and key stakeholders in the decision to allow this project, as well as steer the team members to an appropriate topic that was fitting for this specific hospital's needs. A core interdisciplinary group, headed by PT and OT led unit-wide discussions on patient mobilities and safe care practices with the staff. This afforded ongoing team input and feedback, and aligns with the Iowa EBP model guiding the project.

The three phases of the implementation of the project included efforts (a) to identify baseline perceptions about nurse-led mobilities for hospitalized patients, (b) to display a poster style education that was meant to reinforce appropriate behaviors associated with mobilizing in-patients, and (c) to evaluate the effectiveness of the intervention concerning an improvement in perceptions of the knowledge, attitudes and behaviors of the participants on nurse led mobilities. Due to the existence of the unexpected pandemic that transformed the project site into a COVID unit, the original plans of the educational strategy were slightly revised due to the need for social distancing and the disruptions in the patient related workflow. Specifically, the poster presentation was not limited to the time in huddles, but it was secured to the huddle board during the intervention week to

expand opportunities to view the poster. Additionally, e-mails were disseminated to complement the educational concepts within the poster.

Knowledge-To-Action Implementation Framework

The KTA framework advances the notion that knowledge transference builds upon continued professional development and education in order to influence clinical practice changes (Graham, et al., 2006). Similar to the Iowa Model's methods, the KTA framework promotes relationships with stakeholders and the facilitation of exchanges of knowledge that are informed by the latest research. An illustration of the adapted components of the project's application of an action cycle that focuses on the creation of knowledge and the steps associated with the introduction of knowledge and its uses are displayed in Appendix H, along with the original KTA Model.

The action cycle of the KTA framework takes a planned action approach with phases that include: (a) identifying an issue that deserves attention, (b) determining if there is a knowledge practice gap that needs to be addressed, (c) adapting the available knowledge to the local setting, (d) surveying for potential adaptors for the implementation of the knowledge as well as assessing the barriers and facilitators of the plan, (e) developing a systematic approach to disseminating the knowledge, (f) evaluating if the application of knowledge made a difference, and (g) finally encouraging the sustainability of the action phases.

The initial phases of knowledge creation were implemented following the collaborative efforts with the agency's leadership. The author shared the literature synthesis (themes) with the team to support the approval process and the use of the KTA framework to guide the project implementation strategies. Working collaboratively with the team, the

content of information for the poster project was determined and specifically intended to change the nurses' perceptions on mobility without interrupting their workflow. The detailed outline of the development and the implementation of the interventional part of the project follows.

Participants and Setting

The participants for this EBP project were English-speaking registered nurses and nursing assistants, who were full-time, part-time, and as needed (prn) staff members, who worked on a medical-surgical, telemetry unit. A 36-bed inpatient acute care unit with a recorded history inpatient falls from 2019 was selected as the project site. The patient population was composed of non-critical medical surgical patients with stable mobility habits and no known orthopedic issues. The project took place in August and September 2020.

Sources of Resources

An easily accessible Baylor Mobility Toolkit (BSWH, 2017) and the Complimentary AMP-Hospital Toolkit from the Johns Hopkins Physical Medicine and Rehabilitation: Education and Training: Activity and Mobility Promotion (AMP) section of the Hopkins Medicine website (Hopkins Medicine, 2020) provided the necessary resources for the project.

Measurement Tool/Instrument

In keeping with the KTA framework, a valid and reliable survey instrument, the Johns Hopkins Patient Mobilization Attitudes & Beliefs Survey (JH-PMABS) (BSWH, 2017; Hopkins Medicine, 2020) was used to assess the potential barriers and facilitators

that could be potential risks for impeding the sustainability of adherence to practice guidelines (Hoyer et al., 2015, p.306; Cabana et al., 1999). The framework asserts that before individuals in clinical practice can affect patient outcomes, it is essential to first identify provider knowledge, attitudes, and behaviors in that order. The specific items for the selected survey were gleaned from published clinical practice guidelines, literature reviews, and provider meetings (Hoyer et al., 2015).

The JH-PMABS survey defines *mobilizing* as "getting a patient out of bed (e.g., sitting out of bed, toileting at the bedside or to a bathroom, standing, and ambulation" (Hoyer et al., 2015, p. 306). The instrument consists of 26 Likert scale questions and an additional free-text area for the participants to enter other thoughts about mobility not addressed in the Likert type questions. The 5-point Likert scale tool, requested participants to answer both positive and negative questions, otherwise known as a "balanced set." It includes a middle or neutral ("I do not know") response option, flanked by either "somewhat disagree and strongly disagree" or somewhat agree and strongly agree (Cooper & Johnson, 2016).

The perceived barriers of the JH-PMABS are categorized into three domains, which include 4 items for knowledge, 9 items for attitudes, and 13 items for behaviors. The knowledge subscale addresses training and education of mobilization of a patient, as well as knowing when to refer a patient for rehabilitation services. The attitude items concerning mobility examine the lack of agreement, self-efficacy, outcome expectancy, and perceptions of others' attitudes. Finally, the behaviors subscale assesses the external influences and practice pattern constraints that could prevent clinicians from mobilizing patients. The possible scores for overall barriers (or perceptions of knowledge, attitudes

and beliefs) to mobility range from 0-100, with higher scores indicating higher perceived barriers.

The psychometric properties of the data from the JH-PMABS were analyzed after the survey was piloted (Hoyer et al., 2015). Cronbach alpha analysis indicated that the instrument had internal consistency reliability of the overall scale and each subscale, with acceptable values of 0.72 or higher (Hoyer et al., 2015). Internal consistency was considered adequate with the correlation coefficients between each item at .40 or greater. The scaling assumption of item discriminant validity was supported when most items of a subscale had a higher correlation with its subscale than with the other subscales. T-tests were used to identify differences in knowledge, attitudes, and behavior subscale scores between disciplines and hospital sites (Hoyer et al., 2015).

Permission to use the instrument and add supplemental questions regarding participant characteristics and one qualitative data question for this project was granted with the condition that this author would not add or remove any questions from the original 26 item (see Appendix I). Demographic characteristics, such as professional discipline (nurse, physical or occupational therapist) and years of experience are incorporated in the instrument. The authors of the instrument recommend that the instructions for answering the questions should include advising the nursing staff to choose the best response that represents the past 1-2 weeks of nursing practice, as this adds consistency and reduces recall error (Hoyer et al., 2015). The respondents of the pilot tests used an average of 5 minutes to take the survey.

IRB & Ethical Considerations

Following an interview with the Director of the Education Department and submission of the appropriate paperwork (see Appendix J), the Institutional Review Board (IRB) at the chosen hospital approved the project as an evidence-based practice (EBP) project. Included in the approval process were examples of marketing materials (poster, signages to create staff awareness). The confidentiality of the participants was the greatest ethical consideration of the project. It was important that the respondents not feel intimidated to participate or be concerned that their responses would be used against them. Thus, informed consent for the data was obtained verbally from each participant. Rather than use the names of the respondents, alphanumeric codes were used to link the pre- and post-survey responses to each respondent. An assistant, who was blinded to the data collected was hired to distribute the surveys and create the list of participants that was linked with the alphanumeric codes. The project leader was also blinded to the participants each time the survey was administered.

As the project was not intended to generate new science or make use of animal or human research subjects, the author was not required to pursue Texas Woman's University institutional review board approval (IRB).

Project Marketing

Two weeks prior to the implementation of the project and after all of its approval processes had been completed, the introductory sign was posted on the huddle board at the projects site and an e-mail with a similar message was circulated. The project director made casual face to face rounds around the unit for a word-of-mouth introduction to the project during this same time frame. As the marketing of the project was undertaken during the COVID-19 pandemic, this approach was determined to be the best possible strategy.

Assess for Knowledge Barriers

During the first week of the project, the nurses, who were working in the morning and evening participated in daily huddles, where they were recruited to participate in the project. The project leader made daily visits to distribute the paper and pencil version of the JH-PMABS. To preserve the participants' anonymity the surveys had alphanumeric codes to replace their names on the surveys. The participants were encouraged to place their completed surveys into a manila envelope that was located on the huddle board of the unit. To limit the possibility of recall bias, as reported by Hoyer et al., 2015), the participants were asked to reflect on their experiences within the past 1-2 weeks or most recent direct care experiences with patients when they responded to the survey.

Strategy to Analyze Data

As guided by the KTA model, an analysis of the survey responses was used to tailor strategies associated with nurse led mobilities that were appropriate to the local culture. As the Baylor Scott & White Health Mobility Toolkit: Creating Safe Passage by Promoting Early Mobility in Patients (BSWH, 2017) was supported by the facility's stakeholders and system-wide leadership in the early stages of planning the project, it was the primary resource for information that was placed on the poster. Thus, the responses to the JH-PMABS survey informed the "knowledge inquiry" that led to the synthesis of facts that were selected for the poster.

Create Poster-Style Presentation

The objective of creating a poster style presentation was to overcome the selected barriers with information that would inform the participants with appropriate nurse led mobility promotion actions. The poster (see Appendix K) included a design that

incorporated themes from evidence generated during the literature review, the Baylor Mobility Toolkit (BSWH, 2017) and the Complimentary AMP-Hospital Toolkit from the Johns Hopkins Physical Medicine and Rehabilitation: Education and Training: Activity and Mobility Promotion (AMP) section of the Hopkins Medicine website (Hopkins Medicine, 2020).

Texas Woman's University (TWU), College of Nursing sponsored the printing of the 56 inches x 44 inches (width x height) poster. The PowerPoint template of the poster included the university and hospital logos on the top of the poster, reflecting a partnership between stakeholders, leadership, and an institution that promoted higher and continued learning.

One author summarized from a literature review (Moyo, 2019) five effective strategies for poster presentations, as “the 5 C’s.” Effective poster presentations, according to Moyo (2019) are: (a) “compliant, (b) catchy, (c) concise, (d) clear, and (e)clutter-free” (Moyo, 2019, p. 210).

The poster’s title was "Make a Moment for Mobility." Elements of the design and aesthetics were considered. Blue and green colors were introduced over a white background with non-serif fonts (Arial and Tahoma) used for titles and subject headings, and serif fonts (Times New Roman and Courier) were used for the body of the poster (Cullen & Williams, 2016; Moyo, 2019; Sherman, 2010).

In order to address the reported topics of greater importance to the promotion of mobility, the content of the poster was divided into four vertical columns with five sections.

- Section 1 on the poster addressed the knowledge related Risks of Bedrest

- Section 2 on the poster addressed Goals of Early Mobility.
- Section 3 on the poster addressed the topic Interdisciplinary.
- Section 4 on the poster addressed the topic Why Nurse-led Mobility Matters.
- Section 5 on the poster addressed the topic Innovate with Technology

Implementation of the Intervention

The poster style presentation was first introduced during the intervention phase in a morning huddle. In order to reinforce the educational content originally presented in the huddle, the poster was hung and left in place outside the unit's breakroom for all staff to review. A total of 4 e-mails were sent out to the study participants for the week of the intervention. The e-mails included a combination of other EBP educational strategies (see Appendix L) such as links to the Baylor Scott & White Health Mobility Toolkit (BSWH, 2017), Johns Hopkins AMP (2020) and Nurseslabs.com which housed videos, posters, and color-coded decision trees, as well as care plans based on nursing diagnoses.

Project Budget Requirements

The project did not initially have a budget, but a small amount of unexpected expenses of approximately $480 were incurred during the course of the project. The expenses included: (a) $115 for participant incentives that aided in the promotion of staff participation, (b) $50 for the colored copies of the post survey and printing services, (c) $35 for printing services for the colored badges, (d) $80 for a project assistant, who distributed the surveys and (e) $200 for hotel, food, and taxi fees to attend a conference related to the project and (f) for employer paid airfare and conference fees.

Section IV

Section IV: Findings

Project Question

The project questions included: (a) What are the perceived barriers to the promotion of nurse-led mobility interventions among bedside nurses prior and following to participation in a poster-style educational intervention on patient mobilization strategies. (b) What are the characteristics of the nurses who participated in the poster-styled educational intervention and what relationships exist regarding their perceptions of barriers to nurse-led mobility promotion in the areas of knowledge, attitude, and behavior?

Data Analysis

IBM SPSS® Statistics, version 25 was used for data analysis. Descriptive statistics included frequencies, percentages, means, and medians to describe and measure variability within the variables. Simple non-parametric testing included Related-Samples Wilcoxon Signed Rank Test to compare the pre- and post-survey responses and the Kruskal-Wallis Ranks Test was used to compare the characteristics of the nurses to the survey response scores. Visual depictions of the data outcomes were used to summarize, highlight, and organize patterns found within the raw data.

Five Greatest Perceived Barriers

Descriptive statistics were used to calculate the top five greatest perceived barriers of the 26-item questionnaire (see Appendix, Figure 1). Of the 26 original survey items on the JH-PMABS questionnaire, the responses of each question were analyzed according to the sum of the frequencies of the greatest response, whether that was “agree,” “strongly agree,” “disagree,” or “strongly disagree” on the Likert scales of 1 indicating “strongly disagree” to 5 “strongly agree”. For simplicity of analysis, the 5 greatest ranked barrier items, after

reverse coding for negatively worded questions were identified with the specific subscale to which they belonged. Coincidently, all of the top five responses were negatively worded questions. The items were:

- Item 4 (attitude subscale): "A physical therapist or occupational therapist should be the primary care provider to mobilize my inpatients" had a frequency of 18 (51% out of 35).
- Item 15 (behavior subscale): "Increasing the frequency of mobilizing my inpatients increases my risk for injury" had a frequency of 24 (71% out of 35).
- Item 17 (behavior subscale): "My inpatients are resistant to being mobilized" had a frequency of 26 (74% out of 34).
- Item 19 (attitudes subscale): "I am not sure when it is safe to mobilize my inpatients" had a frequency of 31 (89% out of 35).
- Item 23 (behavior subscale): "I do not have time to mobilize my inpatients during the workday" had a frequency of 26 (74% out of 35).

Results

Participant Characteristics

A total of 23 nurses, who worked in the telemetry and medical-surgical units of the selected hospital in a southwestern region of the United States were included in the project as volunteer participants. They responded to the Johns Hopkins Patient Mobilization Attitudes & Beliefs Survey (JH-PMABS) before and after reviewing the educational style poster presentations. Descriptive data included (a) age, (b) highest level of education, (c)

number of years and months caring for patients, (d) primary unit of work, and (e) day or night shift worked.

A majority of the participants were female, with ages reported from 28 years to 51 years and above with a mean age of 44. Most of the respondents had 5 or more years of working experience (95%). The levels of education were divided into five categories. A majority of the respondents had a bachelor's degree (78%), 8% had associate degrees and 4% reported having either a high school, trade school, or a master's degree. Of those, sixteen were RNs and seven were CNAs. Sixty-one percent of the respondents worked in the telemetry unit, while 39% worked in the medical-surgical unit. Fifty-seven percent of the respondents worked during the day, 39% worked at night and 4 % reported working during both the day and night (see Tables 3, 4, 5, and 6, below, for more visuals on participant characteristics).

Descriptive Statistics for Sample

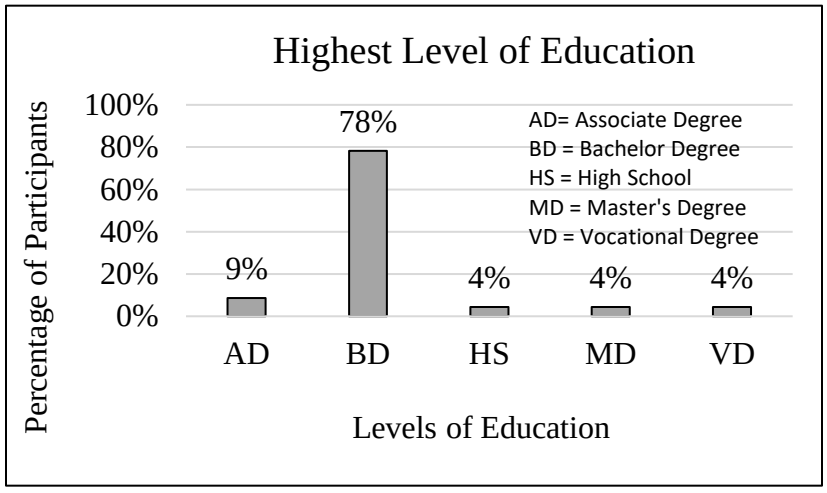


Table 3: Highest Level of Education

Table 4: Participant Ages (Years)

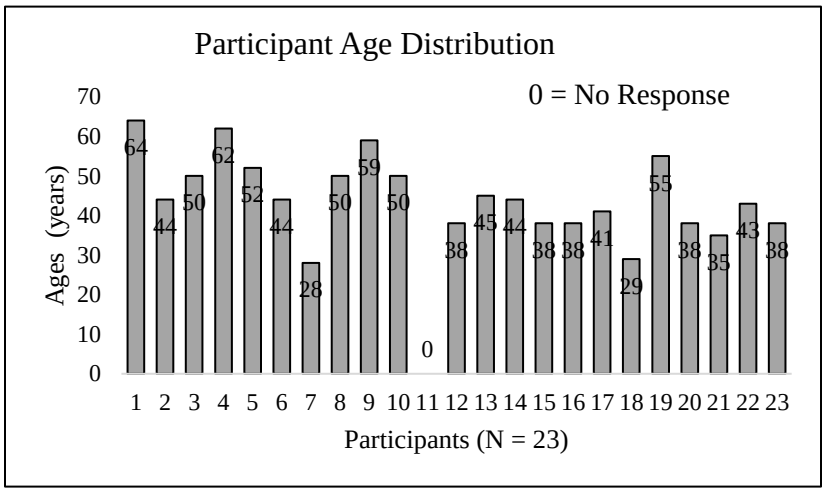
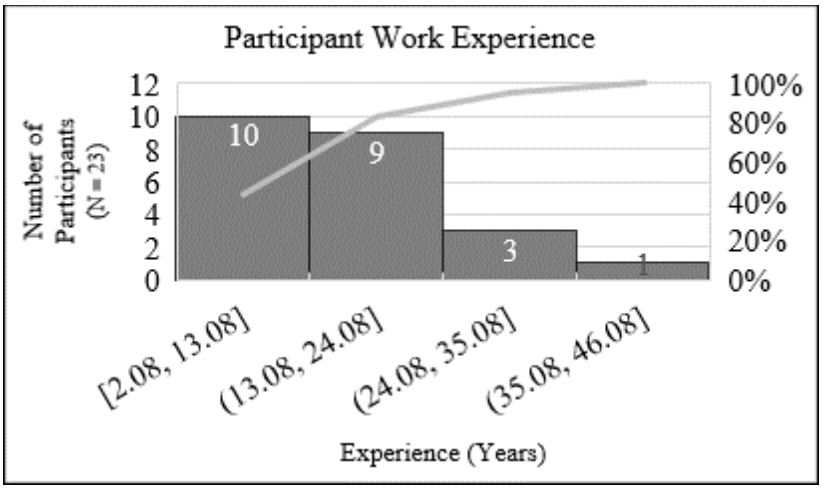


Table 5: Work Experience (Years)



Evaluation of Outcomes

At the completion of the project, following the week-long display of the poster, the data from 23 post-survey responses were matched to the 23 pre-survey responses from the participants who responded to both surveys.

- Descriptive statistics were used to identify the mean overall and subscale scores of the perceived barriers of the respondents whose pre and post survey responses were matched following the educational intervention.

- The analysis of the data associated with the intervention sought to see if there was an effect on the perceived barriers (dependent variables) following the intervention (independent variable) with its reinforcing strategies. Appendix M shows the Matrix of statistical test pertaining to the independent and dependent variables.
- The final analysis of the data was intended to identify relationships between the nursing staff's demographic characteristics, such as highest level of education, years of nursing experience, age, shift, unit, and nursing roles and the perceived barrier subscale scores, specifically the change in scores after the intervention against the nurse characteristics.

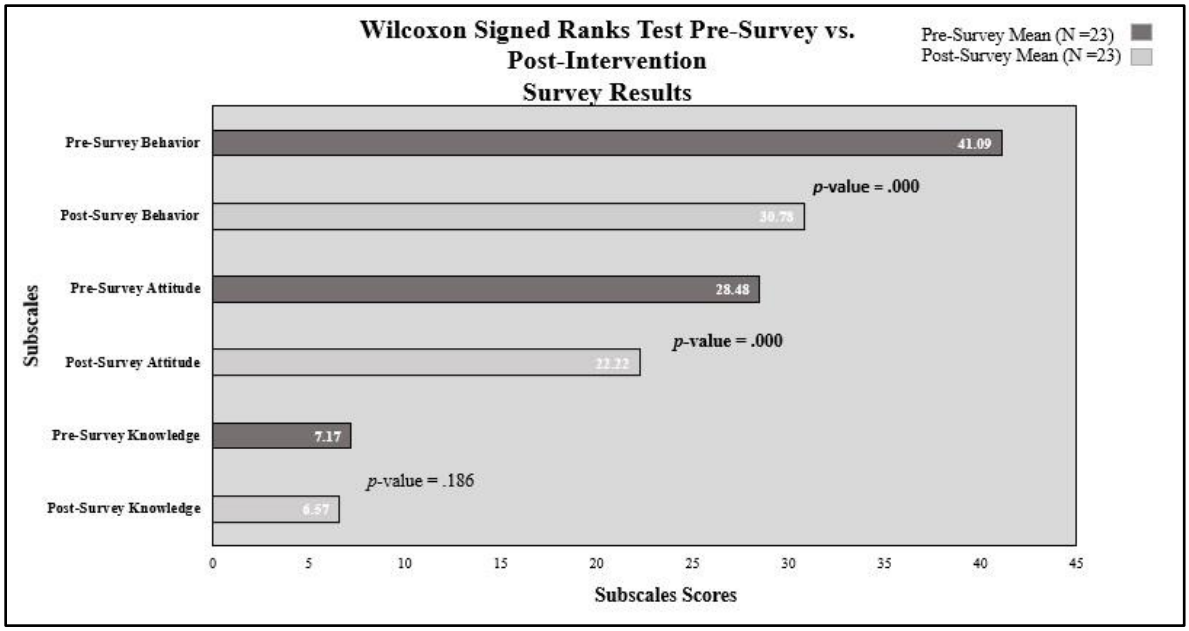
The pre survey responses for mean overall perceived barriers was 76.74 (SD 4.39) with the lowest score of 67 and the highest score of 85. The pre-survey means scores for the subscales of perceived barriers associated with knowledge, attitudes, and behaviors were 7.17 (SD 2.27), 28.48 (SD 3.03), and 41.09 (SD 4.81), respectively.

The post survey responses demonstrated reduced levels of perceived barriers. The overall mean score of the perceived barriers was 61.96 (SD 11.15) on a scale of 0 to 100). The lowest score for overall perceived barriers was 42 and the highest score was 79. The subscale of barriers associated with knowledge, attitudes, and behaviors were mean scores of 6.57 (SD 1.88), 22.22 (SD 4.43), and 30.78 (SD 6.17) respectively.

As the data from only 23 participants could be matched on a pre and post survey basis, the statistical consultant advised against using power analysis to determine if the sample size was ample. Instead, the Wilcoxon signed ranks test was used to determine if there were statistically significant improvements in perceptions after the intervention. The test results revealed a positive change in the perceived barriers in all three subscales of the instrument.

All 5 of the highest barriers had statistically significant (with a p value of less than .05) improvements after the intervention. Question 4, p = .008; Question 15, p = .004; Question 17, p = .002; Question 19, p < .0001; and Question 23 p < .0001. See Figure 2 for details of statistical results (see Figure 2),

Figure 2: Comparison of Pre and Post Subscale Scores



There was an overall improvement in nursing self-efficacy of EBP knowledge, evidenced by a decrease in the overall barrier scale scores and the subscale scores, with a meaningful change of 25 points for the participant group (n = 23), after the poster presentation, with a statistical significance of $p < .0001$, with a significance level of .05. There was an improvement in post-survey responses in knowledge, attitudes and behaviors compared to pre-survey responses following the educational intervention, however, the differences in the knowledge subscale were not statistically significant; with a *p*-value of .186 for the knowledge subscale and $p = .000$ for both the attitude and behavior subscales, rejecting the null hypothesis that there were no differences between the pre and post survey responses (for more results, see Appendix N).

Kruskal-Wallis H testing was also used to determine if relationships could be found between participant characteristics and the outcome changes. For example, there were no statistically significant relationships found between age and subscale scores and between education and subscale scores. There was a statistically significant relationship with the knowledge subscale scores based on the shift the staff participants worked, with a p-value of $p < .05$. Based on participant roles of RN or CNA, there were statistically significant relationships on all three subscale scores, with a *p*-value of $p < .05$. There was a statistically significant relationship on the attitude subscale scores based on the unit (telemetry vs medical surgical) staff participants worked, with a p-value of $p < .05$. For more visual depictions of the results, see Appendix N.

The post-surveys were only distributed to participants who returned their pre-surveys to the manilla envelope. A double-sided badge that contained both the Johns Hopkins Highest Level of Mobility (JH-HLM) Scale and the "Steps to Patient Mobilization Algorithm" was attached to the post-survey as these reinforcement tools were introduced as strategies to sustain the nurse led mobility promotion efforts during the intervention (See Appendix L) (Houlihan et al., 2018). The intended purpose of the badge was to leave a change agent tool that could reinforce the key concepts of mobility promotion and to decrease the perceived mobility barriers.

Limitations: Barriers and Unintended Consequences

Of the 44 surveys originally distributed, 35 pre-interventional surveys were returned, but only 23 post-interventional surveys were returned. This limitation of such a small sample size was an unexpected disappointment. The generalizability of the project

was limited to the units on which the educational intervention was implemented. Several factors contributed to the low participation in the project. During the span of the three weeks between the first and second survey distribution, there were staffing related changes.

Challenges existed throughout the entire process of this project. Following the planning phase, there was a change in hospital ownership. As a result of the change in senior leadership, management, and nursing leadership, there were changes made in several of the processes of care throughout the hospital.

In addition, the COVID-19 Pandemic impacted this hospital and community setting. Half of the Med-Surg/Telemetry unit on which the project was implemented, became a unit dedicated to caring for patients with COVID-19. The stress and strain of caring for patients with a possible diagnosis of COVID-19 and its added precautions decreased the ease of mobilizing the patients due to a hold on rehabilitation services until patients were tested negative for COVID. The COVID-19 procedures increased the time it took to don and doff personal protective equipment (PPE), which was an additional unexpected competing task to mobilize patients.

Based on feedback from the nurses, there were delays in returns of the surveys and printed paper surveys were used as a substitution of the originally intended digital responses to surveys. To save paper, the survey questions were printed on both sides. Due to this detail, there was lost data as some participants overlooked responding to the items on second page of the surveys.

Discussion/Conclusion

While evaluating the overall processes of this project, Lewin's change theory can be analyzed in retrospect, especially with the unexpected complication of the COVID-19

Pandemic. Driving forces that sought change, such as this author or change agent, collaborated with other driving forces, identified as nursing leadership, stakeholders, and other management entities to reduce the resistant, or restraining forces that were recognized as the nursing staff's perceived barriers to mobility. The challenges of COVID-19 and daily nursing tasks and workflow practices added to the restraining forces of the effectiveness of the plan. However, the presence of the education styled poster usefully supported the concept of equilibrium by overcoming the barriers to knowledge, attitude, and behaviors.

Similar to studies evaluated prior to implementation of this project (Dermody & Kovach, 2016; Hoyer et al, 2015), the results of this study revealed that external barriers and attitudes posed more threats to mobility promotion than knowledge hurdles. Survey items that were consistently marked high as barriers in their research, were also found to be remarkable in this group of participants. For example, items 4, 17, 23 on the survey (see Appendix N), were also three of the five greatest perceived barriers in this project.

Registered nurses, overall, had higher perceptions of barriers to promoting mobility, possibly due to more competing demands, as the highest scoring subscales were within attitudes and behaviors, and not the knowledge subscale. However, the knowledge subscale had a positive outcome, as the poster also provided a positive influence that showed a decrease in perceived knowledge barriers as well. The only participant variable shown to have a statistically significant relationship to the improvement in project outcomes was the role group (either RNs or CNAs). This may have been related more to the fact that the majority of that group of RNs were bachelor's degree-prepared. Although the results did not suggest that education played a statistically significant role in the outcomes, the sample

group was essentially comprised of nurses who must undergo competencies and skills training that are specific to their role, which requires continuing education.

Project Summary

This evidence-based nursing practice project focused on informing baseline perceived barriers to positively promote nurses' perceptions of the promotion of nurse-led mobility from the domains of knowledge, attitude, and behaviors. This project was a culmination of work based on various theoretical frameworks that sought to answer a question, and in the process, affect practice change through a translational scientific approach. Cullen et al. (2018) purport that EBP is a multifaceted process of shared decision-making that is based on research evidence, patient preferences and experiences, clinical expertise, and other informational resources on clinical nursing practice. The concepts of shared governance, quality, and safety also complement EBPs. Most nurses can share an understanding of the importance of practicing EBP from their educational background, but how to implement an EBP into clinical practice is often not understood. By providing this poster presentation, the staff had opportunities to review the necessary knowledge that allowed them to think beyond their initial reservations of resisting the idea of nurse-led mobility.

Section V: Recommendations and Implications for Practice

Recommendations

The findings of this evidence-based nursing practice project demonstrated that the educationally styled poster effectively informed the baseline perceived barriers to positively improve nurses' perceptions of the promotion of nurse-led mobility from the

domains of knowledge, attitude, and behaviors. Based on results, research evidence supporting the project, and conceptualization of the implementation and evaluation of the work, a number of recommendations have emerged. For example, ongoing surveys of the perceived barriers associated with practice changes and the use of poster presentations to strategically address the educationally appropriate topics, especially as they relate to the promotion of nurse led mobility could continue to provide sound strategies to improve patient outcomes. The Baylor Mobility Toolkit (BSWH, 2017) and the Complimentary AMP-Hospital Toolkit from the Johns Hopkins Physical Medicine and Rehabilitation: Education and Training: Activity and Mobility Promotion (AMP) (Johns Hopkins Medicine, 2020) provided rich resources for the success of this project. Ongoing use of these evidence-based resources are highly recommended for future projects of the same nature.

While reflecting on this project, the selected problem was addressed in accordance with the expectation of the project team's objectives and the outcomes were more than positive, as the nurses' responses demonstrated reduced overall perceptions of mobility barriers and an observed change in the unit culture was also produced. The decision to adopt this intervention as a sustainable part of the hospital new-hire orientation and training relies on whether the objectives of the project are determined to be effective and sustainable for the future. In this case, this project led to a successful outcome with improved perspectives associated with nurse-led mobility. The recommendation was made to continue with the implementation of this strategy for the future.

As an evidence-based practice project, it is also recommended that efforts towards a sustainable changed practice, should be a shared responsibility in collaboration with the

various disciplines that may be affected by the success of the project. In promoting nurse led mobility, it was especially important to plan the project with the leadership and management of the hospital, and the physical and occupational therapists as well as the nurses for whom the change in practice was intended.

Implications for Practice

There are several implications for practice, specifically financial, organizational, and patient specific. A large budget was not required, and the intervention successfully produced a positive outcome with potential to reduce the expenses associated with impaired functional abilities on the unit and throughout the hospital. This project serves as an underpinning for a future nurse led mobility program that will improve mobility related outcomes. It will be necessary to plan for resources to advance the actual development of the anticipated program, and the education/coaching of staff involved in the project. It would be important to consider the cost-effectiveness of training, and future development of staff. Cost-avoidance would also be an important strategy to employ considering the number of patients who could be spared from developing the many complications associated with low levels of mobility among hospitalized patients

As a result of the Centers for Medicare and Medicaid (CMS) focus on reducing preventable harms, there was a noticeable decline with fewer patient injuries among hospitalized patients in the US between 2010 and 2014 (AHRQ, 2018). An essential element of CMS's work outlines their commitment to improve healthcare equity and how all organizations should pay specific attention to identifying and reducing health care disparities. Healthcare delivery is impacted by more than the nursing staff, as shown in the

outcomes from this project. A cultural shift towards staff empowerment to initiate mobility promotion was shown to be possible, following the implementation of this project.

The introduction of the educational poster that addressed the nurses' specific barriers to promoting mobility holds great promise as a strategy for encouraging practice changes in the hospital setting. According to a systematic review, the lack of proper leadership has been a consistent barrier to the implementation, and the behaviors of point-of-care (Gifford et al., 2018). The successful implementation of this project afforded a positive example of how upper management influenced nurses and allied healthcare professionals to overcome the perceived barriers to the introduction of nurse-led mobilities among hospitalized patients.

Though this project was not directly involved with patients, it has indirect implications for the improvement of patient outcomes. Ascertaining the perceived barriers to nurse-led mobility promotion gained insight into possible staff knowledge deficits, which helped to develop an educational poster that strategically addressed the perceptions of the nurses involved in the project. This gain in knowledge promotes empowerment to indirectly improve patient health outcomes as levels of knowledge and awareness are improved. As far as mobility is concerned, avoiding functional decline can potentially add up to a positive change in the following:

- decreased lengths of stay
- decreased falls, decreased injuries from falls
- decreased need for transfer to rehabilitation facilities at discharge
- decreased unplanned readmissions

Risks/Benefits/Ethical Consideration

The Doctor of Nursing Practice Essentials (2006) were integrated and applied throughout the planning, implementation, and evaluation of this project, as suggested by the AACN (2015).This project functioned as an opportunity to integrate several essentials into practice.

DNP Essential I. Scientific Underpinnings for Practice

The ability of the Doctor of Nursing Practice (DNP) student to pursue nursing scholarship with this project was evidenced through the application of the biomedical sciences and a holistic nursing science process. First, the problem in the system was identified and a gap in the delivery of care was recognized. Nurse-patient encounters provided the clinical data from which it became apparent that there was a need to revise the current practice and implement a strategy to support new knowledge associated nurse led mobilities (Fawcett, 1999). Zaccagnini and Pechacek (2021) purport that the role of the DNP serves the nursing profession better as a whole in the ways in which they are able to improve patient outcomes through the translation of EBP into clinical settings.

DNP Essential II. Organizational and Systems Leadership for Quality Improvement and Systems Thinking

Leadership can be described as the strategies in which DNPs empower, motivate, or empower others (Gifford et al., 2018; House et al., 2004). Leadership behaviors have been shown to strongly influence nurses and allied healthcare professionals with the use of research evidence, however, a lack of authentic leadership can be a barrier to

implementation of EBP (Gifford et al., 2018). For example, Gifford et al. (2018) made a distinction between the transformational and transactional leadership types.

1. Transformational leadership is the degree to which a leader inspires and motivates a team to follow an ideal or a specific course of action

2. Transactional leadership implies a delivery of incentives, rewards, and monitoring to obtain quality standards. Transformational and transactional leadership parallels with behaviors that facilitate an anticipated change in staff perceptions of research-based evidence. By modeling change-oriented behaviors, a visual conception of the change can create a more harmonious learning environment for the staff in the clinical setting, Transactional leadership differs in its ability to align the task-oriented behaviors, thus clarifying roles, creating standardized clinical practices for a more reliable and efficient workplace (Angus et al., 2018). The opportunity to implement this project demonstrated how both concepts can be combined within the nursing leadership to positively influence a change within the unit's environment as well as among the staff who were expected to practice within the same setting.

DNP Essential III. Clinical Scholarship and Analytical Methods for Evidence-Based Practice

Basic research is the first and most essential form of scholarly activity that is underscored in the DNP Essentials. This DNP Essential invited the DNP student to translate research into practice and disseminate the new knowledge that would inform the practice of others (DNP Essentials, 2006). The components of EBP have been widely accepted as the following: (a) development of a clinical question, (b) locate qualified

research and evidence on the clinical question, (c) rigorously evaluate the found research, (d) use and adapt the evidence, and lastly, (e) re-evaluate the intervention for effectiveness and make adjustments if needed (Garritano, Glazer, & Willmarth-Stec, 2016). This author used the above five steps, in conjunction with the Iowa Model, and created an intervention to evaluate the staff's perceptions concerning nurse-led mobility promotion in collaboration with other stakeholders throughout the hospital. The process of creating evidence-based practices from new knowledge should involve other multidisciplinary roles throughout the hospital. It is not meant for the DNP to accomplish these activities alone (Garritano, Glazer, & Willmarth-Stec, 2016).

Project Sustainability

Data collected during this project provided a focus for an important practice area for the nursing staff. Once it was established that fall prevention strategies can also promote mobility, the planning phase of this project included the use of readily available resources to achieve assessment of nursing staff perceptions as they related to a potentially new strategy of care. The education department worked closely with the project team to outline strategies for sustainability of the use of the Johns Hopkins Patient Mobilization Attitudes & Beliefs Survey, especially in conjunction with the Baylor Scott and White Mobility Toolkit (BSWH, 2017).The usefulness of the strategies within the project will assist with (a) pre-employment screening for the baseline education of future employees to identify their needs concerning nurse-led mobility promotion; (b) in-services using the tools and strategies that informed the poster-style intervention, such as use of emailed “Mobility Minutes,” mobility rounding; (c) ongoing competencies and checklists specifically for assessment of mobility promotion.

Recommendations for Future Nursing Practice

For future nursing practice, it will be vital to the sustainability of mobility promotion for leadership and stakeholder involvement, as their provision of positive feedback and support throughout this project was especially valuable. Continuing to foster a change in the culture on the unit requires activities outside the routine work shift, which also allows the staff to incorporate new EBP practices into their workflow.

As a next step and also recommendation for sustainability, this project may thrive in other clinical settings and other patient populations stand to benefit from its exploration. Also, as was shown in the literature (Toole et al, 2013) and in this project the diversity within the environment appreciates varied educational platforms. This was a poster-style presentation, reinforced with computer-based learning formats, but many other learning modalities exist to deliver adult continuing education specific to this population. The nurse scientist is in the position to work with the education department to explore customizing projects for the unit that can develop into future EBP endeavors. It will be important to initiate quality improvement process to determine if implementing new strategies would be worthwhile to embed in daily practice. Completing a series of Plan-Do-Study-Act (PDSA) cycles would be important to initiating small tests of change.

Another recommendation for sustainability is that nurse-led mobility promotion competencies that were specific for the purposes of maintaining the knowledge, attitudes, and behaviors were realized during this project. The JH-Patient Mobilization Attitudes & Beliefs Survey can be used as an indicator for baseline training needs, in-service and evaluations, and new-hire orientation classes on mobility.

The outlook on sustaining this outcome and improving the culture within this unit is favorable with the appropriate amount of leadership input and mentoring. A mobility conference or Mobility Week on the unit are both positive strategies to reinforce the cultural change.

Knowledge alone will not improve mobility promotion, however is often the first step leading to progress in attitudes and behavior. Mobility competencies will give nurse managers a baseline for which continuing education strategies are needed to overcome knowledge gaps. As sustaining mobility promotion is the goal, the population and uniqueness of the environment must be considered as changes occur over time,

Future Opportunities to Advance the Science of Nursing

Understanding the value of the Baylor Scott and White Mobility Toolkit (2017) as a resource to knowledge and to empower an interdisciplinary team can bridge the clinical practice gap that exists where the implementation of EBPs fall short. The toolkit was originally disseminated from the rehabilitation sciences to survey both the nursing and rehabilitation services for barriers to mobility and ambulation of hospitalized patients. Working with other disciplines to translate research into clinical bedside practices and to standardize processes that lead to patient outcomes, allows for shared successes when patient outcomes improve and stakeholders get closer to seeing a *"zero harm"* atmosphere.

Discussions have begun using the resource tool as a baseline indicator for new staff to show what training may be needed. For veteran staff members, it is useful for ongoing competencies and continuing education opportunities. This project shed light on how versatile the Johns Hopkins Patient Mobilization Attitudes & Beliefs Survey could be and

how useful the Baylor Scott and White Mobility Toolkit (BSWH, 2017) components were in filling in knowledge gaps.

Methods for Dissemination

Forms of dissemination used for this EBP project were: A hospital huddle-style poster presentation, nursing organization conferences, discipline-specific nursing or non-nursing conferences, evidence-based practice conferences, and graduate school or university research symposiums.

The hospital huddle-style of delivery allowed for several presentations, as there were multiple groups of stakeholders within the hospital setting who could participate at different times during the day, and display of the poster on the unit showcased the positive outcomes that the community experienced during the entire process. This also promoted a culture of community, mobility, and EBP promotion.

EBP conferences and non-nursing organizations provide good opportunities to disseminate results and findings to interdisciplinary professionals, colleagues, as well as provide an opportunity to grow the project, collaborate, and receive feedback. Presenting the graduate EBP project as a student within the university setting allowed for showcasing the student's efforts, which took years to develop. It also helped develop skills of public speaking regarding the project and answering pertinent questions, before the expectation of moving on to professional projects.

Abstracts were submitted throughout the project providing opportunities to disseminate findings. The following organizations gave the DNP student forums to disseminate results in the form of a poster and or podium presentation during the

implementation of the project in the hospital and after finalization of the results. Due to the COVID-19 pandemic, not all opportunities were possible for the project team's participation, however, virtual conferences did allow for some dissemination of project findings. Despite time limitations, the following are examples of dissemination:

1. Hospital Education Department and Unit Results Poster Presentation (date postponed due to COVID-19).
2. American Colleges of Nursing (AACN) and the Graduate Nursing Student Academy (GNSA)
    a. Presented a Virtual Intervention Poster Presentation to other U.S. Graduate Students and the Leadership of the GNSA
3. National Clinical Nurse Specialist (NACNS) Conference (poster presentation)
4. Evidence-Based Practice Conferences
    a. Attended the University of Iowa Advanced Practice Institute: Promoting Adoption of Evidence-Based Practice in February 2020 to present an "elevator pitch" of the problem, project, design, and objectives. Received feedback and consultation with one-on-one librarian, statistician, and PT/OT staff at the University of Iowa.
    b. Abstract accepted for the University of Iowa Health Care and Nursing Research and EBP 28th National Evidence-Based Practice Conference, Team Science: Achieving More Together for a virtual pre-recorded oral presentation or electronic poster.
    c. The project will be submitted to the Texas Woman's University Repository@TWU at the Libraries at TWU (https://twu-

ir.tdl.org/handle/11274/11209) for poster and podium presentation and the completed manuscript.

Summary

Upon reflection of the EBP project from inception of the project, planning, implementation, analysis, evaluation, and dissemination, the DNP student has learned many lessons that provide wisdom for future projects and innovative works. The importance of planning cannot be overemphasized as barriers (and facilitators) for change require flexibility, the ability to deal with ambiguity, and the tenacity to stay the course.

Despite the many plans prior to the implementation of a project, there is a high potential that not everything will advance as expected. The necessity of a collaborative culture, with everyone contributing according to their skills and scope of practice is an essential commodity, especially in today's complex acute care settings. Despite the ultimate goal for safe and quality patient care, the nursing staff needs to be provided with a foundation of knowledge and the necessary skills to reach that goal. The Iowa Model provides excellent guidance on how to navigate the steps to promote evidence-based practice changes.

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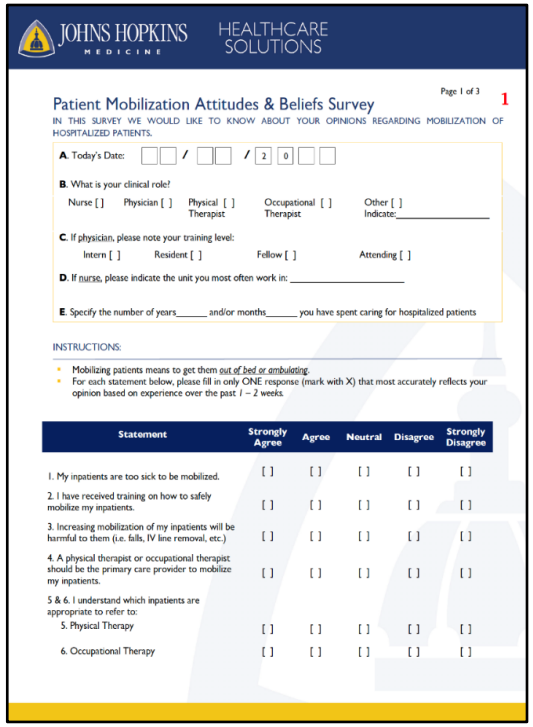
Appendix A

Patient Mobilization Attitudes & Beliefs Survey



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Patient Mobilization Attitudes & Beliefs Survey

IN THIS SURVEY WE WOULD LIKE TO KNOW ABOUT YOUR OPINIONS REGARDING MOBILIZATION OF HOSPITALIZED PATIENTS.

A. Today's Date: [ ][ ] / [ ][ ] / 2 0 [ ][ ]

B. What is your clinical role?

Nurse [ ] Physician [ ] Physical Therapist [ ] Occupational Therapist [ ] Other [ ] Indicate:_____

C. If physician, please note your training level:

Intern [ ] Resident [ ] Fellow [ ] Attending [ ]

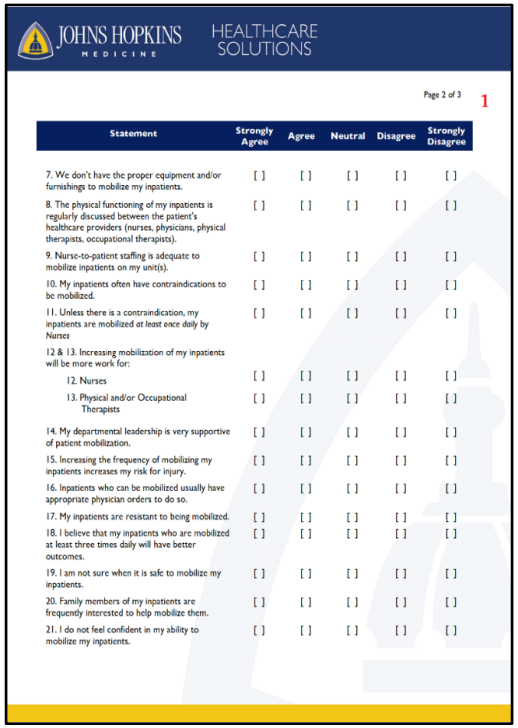
D. If nurse, please indicate the unit you most often work in: _____

E. Specify the number of years_____ and/or months_____ you have spent caring for hospitalized patients

INSTRUCTIONS:

- Mobilizing patients means to get them *out of bed or ambulating*.
- For each statement below, please fill in only ONE response (mark with X) that most accurately reflects your opinion based on experience over the past *1 – 2* weeks.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. My inpatients are too sick to be mobilized.	[ ]	[ ]	[ ]	[ ]	[ ]
2. I have received training on how to safely mobilize my inpatients.	[ ]	[ ]	[ ]	[ ]	[ ]
3. Increasing mobilization of my inpatients will be harmful to them (i.e. falls, IV line removal, etc.)	[ ]	[ ]	[ ]	[ ]	[ ]
4. A physical therapist or occupational therapist should be the primary care provider to mobilize my inpatients.	[ ]	[ ]	[ ]	[ ]	[ ]
5 & 6. I understand which inpatients are appropriate to refer to:					
5. Physical Therapy	[ ]	[ ]	[ ]	[ ]	[ ]
6. Occupational Therapy	[ ]	[ ]	[ ]	[ ]	[ ]



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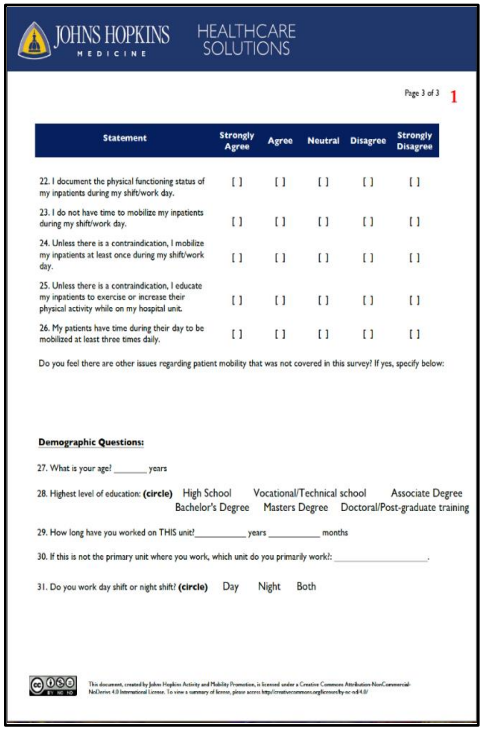
Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7. We don't have the proper equipment and/or furnishings to mobilize my inpatients.	[ ]	[ ]	[ ]	[ ]	[ ]
8. The physical functioning of my inpatients is regularly discussed between the patient's healthcare providers (nurses, physicians, physical therapists, occupational therapists).	[ ]	[ ]	[ ]	[ ]	[ ]
9. Nurse-to-patient staffing is adequate to mobilize inpatients on my unit(s).	[ ]	[ ]	[ ]	[ ]	[ ]
10. My inpatients often have contraindications to be mobilized.	[ ]	[ ]	[ ]	[ ]	[ ]
11. Unless there is a contraindication, my inpatients are mobilized *at least once daily* by Nurses	[ ]	[ ]	[ ]	[ ]	[ ]
12 & 13. Increasing mobilization of my inpatients will be more work for:					
12. Nurses	[ ]	[ ]	[ ]	[ ]	[ ]
13. Physical and/or Occupational Therapists	[ ]	[ ]	[ ]	[ ]	[ ]
14. My departmental leadership is very supportive of patient mobilization.	[ ]	[ ]	[ ]	[ ]	[ ]
15. Increasing the frequency of mobilizing my inpatients increases my risk for injury.	[ ]	[ ]	[ ]	[ ]	[ ]
16. Inpatients who can be mobilized usually have appropriate physician orders to do so.	[ ]	[ ]	[ ]	[ ]	[ ]
17. My inpatients are resistant to being mobilized.	[ ]	[ ]	[ ]	[ ]	[ ]
18. I believe that my inpatients who are mobilized at least three times daily will have better outcomes.	[ ]	[ ]	[ ]	[ ]	[ ]
19. I am not sure when it is safe to mobilize my inpatients.	[ ]	[ ]	[ ]	[ ]	[ ]
20. Family members of my inpatients are frequently interested to help mobilize them.	[ ]	[ ]	[ ]	[ ]	[ ]
21. I do not feel confident in my ability to mobilize my inpatients.	[ ]	[ ]	[ ]	[ ]	[ ]



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Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
22. I document the physical functioning status of my inpatients during my shift/work day.	[ ]	[ ]	[ ]	[ ]	[ ]
23. I do not have time to mobilize my inpatients during my shift/work day.	[ ]	[ ]	[ ]	[ ]	[ ]
24. Unless there is a contraindication, I mobilize my inpatients at least once during my shift/work day.	[ ]	[ ]	[ ]	[ ]	[ ]
25. Unless there is a contraindication, I educate my inpatients to exercise or increase their physical activity while on my hospital unit.	[ ]	[ ]	[ ]	[ ]	[ ]
26. My patients have time during their day to be mobilized at least three times daily.	[ ]	[ ]	[ ]	[ ]	[ ]

Do you feel there are other issues regarding patient mobility that was not covered in this survey? If yes, specify below:

Demographic Questions:

27. What is your age? _____ years

28. Highest level of education: **(circle)** High School Vocational/Technical school Associate Degree Bachelor's Degree Masters Degree Doctoral/Post-graduate training

29. How long have you worked on THIS unit?_____ years _____ months

30. If this is not the primary unit where you work, which unit do you primarily work?: _____.

31. Do you work day shift or night shift? **(circle)** Day Night Both

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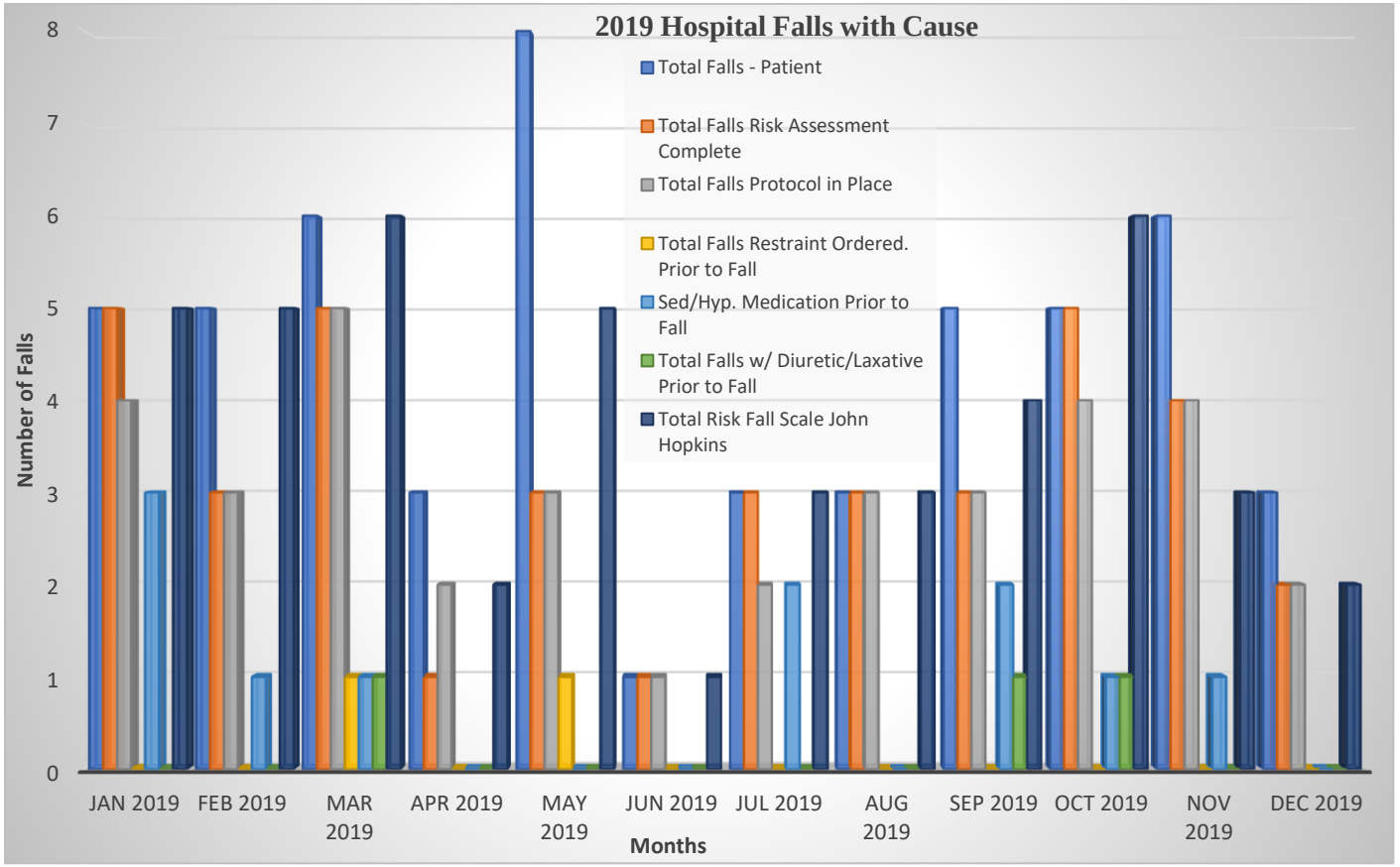
Appendix B:

Table: 2019 Chosen Acute Care Hospital Falls Data

Indicator	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Year Total
Total Falls	5	6	7	4	8	1	3	4	6	8	7	4	63
Total Falls - Non-Patient	0	1	1	1	0	0	0	0	1	3	1	1	9
Total Falls without Harm – Non-Patient	0	1	1	1	0	0	0	0	0	2	1	1	7
Total Falls with Harm – Non-Patient	0	0	0	0	0	0	0	0	1	1	0	0	2
Total Falls - Patient	5	5	6	3	8	1	3	3	5	5	6	3	53
Total Falls - Inpatient	5	3	5	2	4	1	3	3	3	5	5	2	41
Fall Rate Per 1000 Inpatient Days	2.782	2.204	3.111	1.54	2.959	0.717	2.185	2.385	2.629	3.66	3.864	1.399	2.459
Total Falls - Outpatient/Observation	0	1	1	0	3	0	0	0	2	0	1	1	9
Total Encounters - Outpt/Observation	2078	2020	2141	2201	1921	1689	2012	1946	1936	2209	1920	2024	24097
Fall Rate Per 1000 Outpatient/Observation Visits	0	0.495	0.467	0	1.562	0	0	0	1.033	0	0.521	0.494	0.373
Total Falls Risk Assessment Complete	**5**	**3**	**5**	**1**	**3**	**1**	**3**	**3**	**3**	**5**	**4**	**2**	**38**
Total Falls Risk Assessment Complete - No	0	0	0	1	1	0	0	0	0	0	0	0	2
Total Falls Risk Assessment Complete - N/A	0	0	0	0	0	0	0	0	0	0	1	0	1
% Falls with Risk Assessment Complete	**100**	**100**	**100**	**50**	**75**	**100**	**100**	**100**	**100**	**100**	**80**	**100**	**92.683**
Total Falls Protocol in Place	**4**	**3**	**5**	**2**	**3**	**1**	**2**	**3**	**3**	**4**	**4**	**2**	**36**
Total Falls Protocol in Place - No	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**
Total Falls Protocol in Place - NA	1	0	0	0	1	0	0	0	0	0	1	0	3
% Falls with Protocol in Place	**80**	**100**	**100**	**100**	**75**	**100**	**66.667**	**100**	**100**	**80**	**80**	**100**	**87.805**
Total Falls Restraint Ordered. Prior to Fall	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
Total Falls Restraint Ordered - No	**4**	**1**	**2**	**1**	**3**	**0**	**2**	**1**	**3**	**4**	**3**	**1**	**25**
Total Falls Restraint Ordered - NA	**1**	**2**	**2**	**1**	**0**	**1**	**1**	**2**	**0**	**1**	**2**	**1**	**14**
% Falls with Restraint Ordered	**0**	**0**	**20**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4.878**
Sed/Hyp. Medication Prior to Fall	**3**	**1**	**1**	**0**	**0**	**0**	**2**	**0**	**2**	**1**	**1**	**0**	**11**
Total Falls Medication Prior to Fall - No	**0**	**0**	**3**	**1**	**3**	**1**	**0**	**2**	**0**	**3**	**1**	**1**	**15**
Total Falls Medication Prior to Fall - NA	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**2**	**0**	**8**
% Falls with Medication Prior to Fall	**60**	**33.333**	**20**	**0**	**0**	**0**	**66.667**	**0**	**66.667**	**20**	**20**	**0**	**26.829**
Total Patient Falls	**5**	**5**	**6**	**3**	**8**	**1**	**3**	**3**	**5**	**5**	**6**	**3**	**53**
Total Falls w/ Diuretic/Laxative Prior to Fall	0	0	1	0	0	0	0	0	1	1	0	0	3
Total Falls Med Prior to Fall - Diuretic/Lax without Ha	0	0	1	0	0	0	0	0	1	1	0	0	3
Total Falls Med Prior to Fall - Diuretic/Lax with Harm	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Risk Fall Scale Schmid	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Risk Fall Scale Humpty Dumpty	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Risk Fall Scale John Hopkins	**5**	**5**	**6**	**2**	**5**	**1**	**3**	**3**	**4**	**6**	**3**	**2**	**45**
Total Risk Fall Scale None	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**5**
Total Risk Fall Scale Totals	**5**	**5**	**6**	**2**	**7**	**1**	**3**	**3**	**4**	**6**	**5**	**3**	**50**

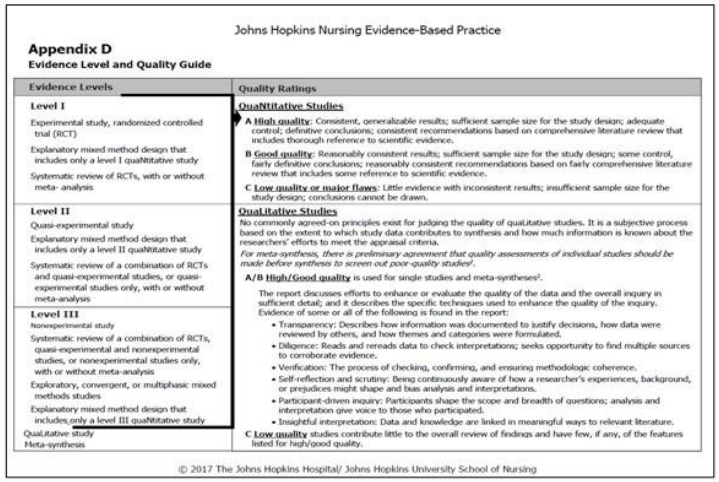
Appendix B

Chart: 2019 Chosen Acute Care Hospital Fall Data with Cause



Appendix C

Johns Hopkins Nursing Evidence-Based Practice Evidence Level and Quality Guide, Step 8. Taken from the Johns Hopkins Nursing Evidence-Based Practice Toolkit (Dang & Dearholt, 2017)



Johns Hopkins Nursing Evidence-Based Practice

Appendix D
Evidence Level and Quality Guide

Evidence Levels	Quality Ratings
Level I Experimental study, randomized controlled trial (RCT) Explanatory mixed method design that includes only a level I quaNtitative study Systematic review of RCTs, with or without meta- analysis	**QuaNtitative Studies** **A High quality**: Consistent, generalizable results; sufficient sample size for the study design; adequate control; definitive conclusions; consistent recommendations based on comprehensive literature review that includes thorough reference to scientific evidence. **B Good quality**: Reasonably consistent results; sufficient sample size for the study design; some control, fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence. **C Low quality or major flaws**: Little evidence with inconsistent results; insufficient sample size for the study design; conclusions cannot be drawn.
Level II Quasi-experimental study Explanatory mixed method design that includes only a level II quaNtitative study Systematic review of a combination of RCTs and quasi-experimental studies, or quasi-experimental studies only, with or without meta-analysis	**QuaLitative Studies** No commonly agreed-on principles exist for judging the quality of quaLitative studies. It is a subjective process based on the extent to which study data contributes to synthesis and how much information is known about the researchers' efforts to meet the appraisal criteria. *For meta-synthesis, there is preliminary agreement that quality assessments of individual studies should be made before synthesis to screen out poor-quality studies[2].* **A/B High/Good quality** is used for single studies and meta-syntheses[2]. The report discusses efforts to enhance or evaluate the quality of the data and the overall inquiry in sufficient detail; and it describes the specific techniques used to enhance the quality of the inquiry. Evidence of some or all of the following is found in the report: • Transparency: Describes how information was documented to justify decisions, how data were reviewed by others, and how themes and categories were formulated. • Diligence: Reads and rereads data to check interpretations; seeks opportunity to find multiple sources to corroborate evidence. • Verification: The process of checking, confirming, and ensuring methodologic coherence. • Self-reflection and scrutiny: Being continuously aware of how a researcher's experiences, background, or prejudices might shape and bias analysis and interpretations. • Participant-driven inquiry: Participants shape the scope and breadth of questions; analysis and interpretation give voice to those who participated. • Insightful interpretation: Data and knowledge are linked in meaningful ways to relevant literature.
Level III Nonexperimental study Systematic review of a combination of RCTs, quasi-experimental and nonexperimental studies, or nonexperimental studies only, with or without meta-analysis Exploratory, convergent, or multiphasic mixed methods studies Explanatory mixed method design that includes only a level III quaNtitative study QuaLitative study Meta-synthesis	**C Low quality** studies contribute little to the overall review of findings and have few, if any, of the features listed for high/good quality.

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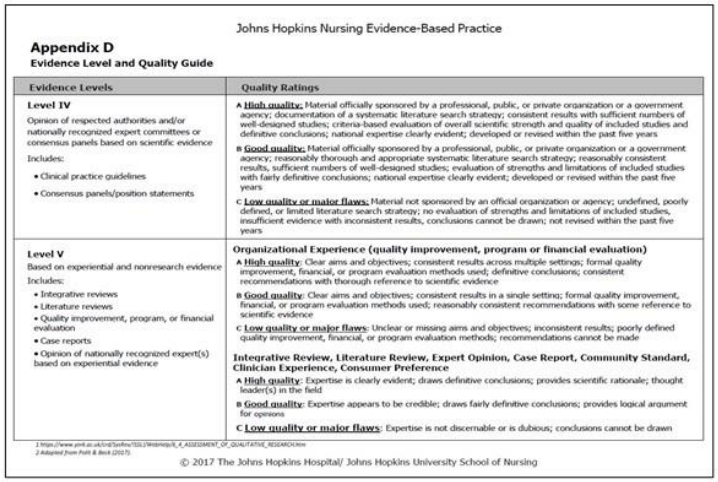

Johns Hopkins Nursing Evidence-Based Practice

Appendix D
Evidence Level and Quality Guide

Evidence Levels	Quality Ratings
Level IV Opinion of respected authorities and/or nationally recognized expert committees or consensus panels based on scientific evidence Includes: • Clinical practice guidelines • Consensus panels/position statements	**A High quality:** Material officially sponsored by a professional, public, or private organization or a government agency; documentation of a systematic literature search strategy; consistent results with sufficient numbers of well-designed studies; criteria-based evaluation of overall scientific strength and quality of included studies and definitive conclusions; national expertise clearly evident; developed or revised within the past five years **B Good quality:** Material officially sponsored by a professional, public, or private organization or a government agency; reasonably thorough and appropriate systematic literature search strategy; reasonably consistent results, sufficient numbers of well-designed studies; evaluation of strengths and limitations of included studies with fairly definitive conclusions; national expertise clearly evident; developed or revised within the past five years **C Low quality or major flaws:** Material not sponsored by an official organization or agency; undefined, poorly defined, or limited literature search strategy; no evaluation of strengths and limitations of included studies, insufficient evidence with inconsistent results, conclusions cannot be drawn; not revised within the past five years
Level V Based on experiential and nonresearch evidence Includes: • Integrative reviews • Literature reviews • Quality improvement, program, or financial evaluation • Case reports • Opinion of nationally recognized expert(s) based on experiential evidence	**Organizational Experience (quality improvement, program or financial evaluation)** **A High quality**: Clear aims and objectives; consistent results across multiple settings; formal quality improvement, financial, or program evaluation methods used; definitive conclusions; consistent recommendations with thorough reference to scientific evidence **B Good quality**: Clear aims and objectives; consistent results in a single setting; formal quality improvement, financial, or program evaluation methods used; reasonably consistent recommendations with some reference to scientific evidence **C Low quality or major flaws**: Unclear or missing aims and objectives; inconsistent results; poorly defined quality improvement, financial, or program evaluation methods; recommendations cannot be made **Integrative Review, Literature Review, Expert Opinion, Case Report, Community Standard, Clinician Experience, Consumer Preference** **A High quality**: Expertise is clearly evident; draws definitive conclusions; provides scientific rationale; thought leader(s) in the field **B Good quality**: Expertise appears to be credible; draws fairly definitive conclusions; provides logical argument for opinions **C Low quality or major flaws**: Expertise is not discernable or is dubious; conclusions cannot be drawn

1 https://www.pmk.ac.uk/cmd/SynRev/SSLI/WebHelp/8_4_ASSESSMENT_OF_QUALITATIVE_RESEARCH.htm
2 Adapted from Pohl & Beck (2017)

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Dang, D., & Dearholt, S. (2017). Appendix D: Evidence level and quality guide. *Johns Hopkins Nursing Evidence-Based Practice: Model and Guidelines*. 3rd ed. Indianapolis, IN: Sigma Theta Tau International

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Appendix D

Evidence Synthesis Matrix

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
Barriers to Knowledge, Attitudes, and Behaviors							
1	Cabana et al. 1999	Systematic Review Reviewed 76 published articles to describe barriers to clinical practice guidelines among physicians. .	Two investigators organized barriers to adherence into a framework according to their effect on physician knowledge, attitudes, or behavior. 76 articles included 120 different surveys examining 293 potential barriers to physician guideline adherence, including awareness (n = 46), familiarity (n = 31), agreement (n = 33), self-efficacy	Behavior can be modified without knowledge or attitude being affected, but behavior change based on influencing knowledge and attitudes is probably more sustainable than indirect influence behavior alone. Factors limiting adherence through a cognitive component was considered barriers affecting knowledge, through an affective component were considered barriers	Yes, though the study addresses physician clinicians, and not specifically nurses, it was found that barriers affected knowledge (lack of awareness or lack of familiarity), attitudes (lack of agreement, lack of self-efficacy, lack of outcome expectancy, or the inertia of previous practice), or behavior (external barriers), and this theme has been researched by nursing scientists as well, with similar findings.	Most of the surveys (70 [58%] of 120) appraised only 1 type of barrier; Studies on improving physician guideline adherence may not be generalizable, since barriers in one setting may not be present in another. Included 5 qualitative studies	JH I Quality: C Low

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
			(n = 19), outcome expectancy (n = 8), ability to overcome the inertia of previous practice (n = 14), and absence of external barriers to perform recommendations (n = 34)	affecting attitude, and through a restriction of physician ability was considered barriers affecting behavior			
2	Alqahtani et al., 2020	Cross-sectional, descriptive, correlational Self-administered paper-pencil questionnaire To measure nurses' self-reported knowledge/skills, attitudes and practice of EBP STROBE checklist.	Staff Nurses with direct patient care N = 227	Nurses involved in research reported statistically significant higher knowledge in EBP. Nurses with training reported higher knowledge. Positive moderate correlations between attitudes and implementation ($p < .001$), knowledge and attitudes ($r = .357$, $p < .001$), and knowledge and implementation ($r = .545$, $p < .001$). Mean significant difference between who received EBP	Yes. EBP training improved nursing knowledge regarding EBP. EBP training did not improve nursing attitudes and implementation of EBP. Nursing educators need a better approach during EBP trainings to aid in the involvement of the EBP process.	Cross-sectional design does not allow for cause-and-effect relationships. Findings limited to on urban city hospital. Risk of using self-reported questionnaires may lead to false and/or socially desirable responses. .	JH II Quality: B Good

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
				training who had never received training in knowledge only (p = .005). Nurses with training reported higher knowledge. Positive moderate correlations with attitudes and implementation (p < .001), knowledge and attitudes (r = .357, p < .001), and knowledge and implementation p < .001).			
3	Kanaskie & Snyder, 2018	Qualitative descriptive study Used four 60-minute focus groups of RNs and NAs To identify decision-making regarding the use of safter patient handling and mobility techniques.	Two focus groups consisted of all RNs (n =14) and two consisted of all NAs (n =11).	Qualitative analysis showed 3 major themes: barriers to use, perceived risk, and coordination of care. Barriers to use include ed subthemes of physical barriers, knowledge and skill, and unit culture. Perceived risk included patient risk and	Coordination of care included patient factors and characteristics, assessment of patient needs and abilities, and interprofessional collaboration	Qualitative and not able to predict generalizability across healthcare. Study included subjects from only one medical center, who only worked primarily in the daytime. Did not address challenges in the night or weekends	JH III Quality: C Low

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
				perceived risk to self.			
4	King et al., 2018	Qualitative Research Design - Grounded Dimensional Analysis Used unstructured open-ended questions The purpose was to explore acute care nurses' experiences with fall prevention	N = 27 (RNs and CNAs who were employed on a medical, surgical, or medical/surgical adult inpatient unit and caring for patients aged 65 years and older). Site A sample consisted of 2 nurse managers, 1 clinical nurse specialist (CNS), 2 CNAs, and 11 RNs. Site B sample consisted of 10 RNs and 1 charge nurse (management). This study did not collect participant demographic data	Two conditions were identified that influenced nurse decisions to progress patients identified as fall risk. One condition involved an external source, support from nursing. administration, whereas the other was an internal source, nurse characteristics. All participants stated that the goal within their institution was "zero falls." Falls were defined by staff nurses as any occurrence in which the patient descends to the floor. Many nurses described frustration in this definition, because even	Yes, Intense messaging from hospital administration to achieve zero falls resulted in nurses developing a fear of falls, protecting self and unit, and restricting fall risk patients. Nurses described three primary strategies used to prevent falls: (a) identify patients at risk; (b) place bed/chair alarms on patients; and (c) run to alarms. Strategies have been shown to be ineffective at preventing or reducing falls.	Could have strengthened the analysis by allowing the researcher to seek clarification if participants engaged in actions that were not consistent with what they described. Participants were recruited from one setting, from 2 hospitals in Wisconsin, so results might only be applied to those settings. Other hospital units, such as rehab, may produce different results because falls may be seen as an inevitable part of the rehabilitation.	JH III Quality: C Low

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
				if a patient was intentionally lowered to the floor to prevent injury, the event was counted against them			
5	Hoyer et al., 2015	Cross-sectional, descriptive design Used interdisciplinary teams of nurses and PT and OTs To test and refine the Johns Hopkins Patient Mobilization Attitudes and Beliefs Survey	N= 120 One system; 2 different hospitals; 120 nurses and physical and occupational therapists (rehabilitation therapists, 38; nurses, 82); 6 general medicine units. Between January and March 2013	Highest perceived barrier: "Increasing mobilization of my inpatients will be more work for the nurses."	Yes, because "understanding the barriers to increasing inpatient mobility using a multidisciplinary perspective is important to translate evidence into practice and improve patient outcomes" (p.8).	Bias of providers; therapist group was a smaller size than nurses; nurse aids were not considered in this evaluation of barriers. It might be good to include them next time	JH II Quality: B Good
6	Dermody, 2016	Cross-sectional, descriptive, correlational design Used the Overall Provider Barrier Scale to measure nurse perceptions of barriers to nurse led-mobilities/ Purpose to identify	Convenience sample of nurses caring for 98 patients who were aged 65 years and older N = 85	Validated the use of a measurement of nurses' knowledge, attitude and external barriers against a validated 5-point Likert Scale survey. Helped to identify Patient conditions	This project findings imply that nursing staff need to be educated and that it should be an organization priority and ongoing to include competencies since the newer nurses in this study showed more promotion for	Limited generalizability due to sampling approach, sample size, methods and measurement. Potential systematic sampling error and sampling bias Causality could not	JH I Quality: B Good

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
		and describe nurses' knowledge, attitudes and external barriers related to nurse-led mobilities study		that nurses perceived could be harmed, during mobilization, perceptions of heavy workload, difficulty prioritizing nursing care, and staffing shortages. Novice nurses, viewed promoting mobility as less of priority but seemed to promote more mobility.	mobilizing.	be deduced this design No control for other potential variables. Sample was a small convenience sample located in one area	
7	Dermody & Kovach, 2017	Descriptive correla-tion study/ Surveyed nurses with the JH-PMABS (formerly the Overall Provider Barrier Scale/ Purpose: to identify which knowledge, attitudes, and external barriers negatively impacted the promotion of mobility in hospitalized patients.	Nurse in Community based hospitals N = 85	A 5-year increase in nursing experience significantly decreased perceptions of overall barriers to promoting mobility (p = 0.02), knowledge barriers (p = 0.009), and attitude barriers (p = 0.04). This study found differences between nurses with ≤5 years (n =	Yes. Findings in this study suggested nurse attitudes AND external barriers, rather than nurse knowledge alone, may contribute to insufficient mobility promotion by nurses for hospitalized older adults.	Measurement of nurses' perceptions regarding receiving training did not specify the type of training (e.g., transfer techniques, gait walking) Issues other than experience and hospital unit may change perceptions of barriers to promoting mobility and were not examined or controlled for.	JH I Quality: B Good

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
				35) and >5 years (*n* = 50) of experience for some scale items, compared to nurses with >5 years' experience, those with less experience had significantly lower perceptions		Causality could not be inferred with this study design. Hawthorne effect or inaccuracies because of time limits. Using a 5-point Likert scale can result in responses being toward the middle (neutral) too often. sampling approach, sample size, methods and mea-surement, may li limit generaliz-ability and or threaten internal validity.	
Barriers to EBP & Functional Mobility Improvements							
8	Sourdet et al., 2015	Cross-sectional chart review To determine causes and preventability of disability induced by the processes of care or "iatrogenic disability"	Elderly patients >75 years of age hospitalized in 105 med-surg units at a University Hospital N= 503	Most common causes of low mobilization: excessive bed rest (26.5%) and lack of physical therapist intervention (55.1%)], overuse	Yes. Increasing nurse-led mobility efforts showed its ability to decrease those hospital-associated conditions most commonly seen	Low inter-rater agreeability between experts. The acuity level at this hospital was higher than most as it was a teaching hospital with more risks for adverse	JH II Quality: A High

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
				of diapers (49.0%), and transurethral urinary catheterization (30.6%)		events.	
9	Hoyer et al., 2013	Retrospective Design Purpose was to evaluate the association between functional status on admission to a Inpatient Rehabilitation Program (CIIRP) with 30 day readmissions	N= 1515	Among the 1515 patients, there were 347 total readmissions. (20%) patients had an unplanned readmission, with 177 (51%) readmitted before discharge from the CIIRP and 170 (49%) readmitted within 30 days after CIIRP discharge (mean time to readmission from the CIIRP discharge). This rate of readmission is similar to other reported CIIRP readmission rates. Also, patient who were readmitted versus those did not have their characteristics compared: LOS in an acute care	Yes, functional status on admission to the CIIRP was strongly associated with readmission, especially for motor properties of functional status and readmission before planned discharge from the CIIRP. Efforts should be made to reduce hospital readmissions by considering modifiable risk factors; should consider patient functional status.	Possible limited generalizability due to study conducted at a single medical institution and the patient population excluded certain diagnoses (amputees and burn patients). It is possible that readmissions to outside hospitals were missed because post-discharge patient phone interviews had high completion rates, but not at 00%. Lastly, they did not include clinical data available at admission to the CIIRP, like vitals and labs, though other similar studies showed that	JH III Quality: B Good

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
				hospital, presence of a pressure ulcer on CIIRP admission, AHRQ comorbidity index, expected University Health System Consortium readmission rate		did not affect outcomes.	
10	Hoyer et al., 2016	12-month QI Project Introduced a protocol to increase mobility and reduce hospital lengths of stay Purpose: To mobilize patients three times daily, and set daily goals to increase mobility and standardize the description of patient mobility across all staff. mobility with goal of reduced LOS	Patients in 2 General Medicine Units in large academic medical center N= 3352	Mobility was improved with association of reduction in the length of stay (LOS), patients ambulating more, improved mobility status from admission to discharge. Overall significant reduction in LOS for more complex patients with longer expected LOS (4 days or longer). Shows importance of maintaining or improving patients' functional status during	Yes. Mobility, defined as "a patient getting out of bed" (p. 342). Multidisciplinary groups addressed barriers to mobilizing patients, such as optimizing pain control, facilitating discharge location planning, and expediting physician consultation with physical and occupational therapy for appropriate patients.	Highest level of mobility was documented but not the other possible reasons, such as PT/OT involvement or patients self-promoted activities.	JH V Quality: A High

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
				hospitalization in a safe and cost-effective way.			
11	Jones et al., 2019	Quality improvement project Implemented nurse led mobility program To increase early mobilization, reduce physical therapy referrals and reduce sequelae of immobility.	N = 14, 081 pre-implementation patients; N = 13, 673 post-implementation patients N = 104 nurses surveyed in pre-implementation N = 480 RNs participated in an intervention once knowledge deficits were known (60-minute classroom sessions- over a 1-month period).	Postimplementation, nurse-led patient mobilizations increased by 40%, inappropriate physical therapy orders decreased by 14%, and there was no significant change in patient falls or pressure injuries. nurses across the 5 units. A survey assessed belief of knowledge, confidence, attitude, commitment, and barriers to mobility, using a 0 to 100 scale. A score of 80% was considered the cutoff for meeting the standard. The overall mean scores for knowledge and confidence were 75%	Yes, knowledge gains in that this nurse-led mobility program proved effective in increasing safe, early mobilization of patients and improved early mobility culture.	One limitation was the lack of compliance to consistently document of all mobility completed by patients; they were being mobilized, but documentation did not reflect every occurrence, which led to a skewing of the initial postimplementation data. Timing: initiatives divided unit leaders' attention and slowed the integration. Also, the success of the project leaned heavily on the individual unit leader's buy-in and depended on the leader making the	JH V Quality: A High

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
				and 74%, respectively. The postoperative surgical unit nurses scored 85% knowledgeable and 90% confident, possibly skewing the data higher. This could be explained by the 4 hours of mobility training by physical therapists. 22% percent of PT orders were found to be inappropriate prior to intervention.; and postimplementation audits revealed a reduction to 4% at 6 months and 8% at 1 year. Mobility increased. .		mobility initiative a priority. This was evidenced by the higher number of mobilizations noted on the units of leaders who were a part of the mobility program core team	
Overcoming Barriers through EBP Competencies and Clinical							

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
Education							
12	Boswell et al. 2020	Descriptive correlational design Surveyed frontline nurses To describe association between EBP and self-reports of self-efficacy	245 frontline RNs employed in acute care settings. .	The correlation between EBP and self-efficacy was strongly correlated: r(170) = .537, p=.01. Sections within the Nursing Evidence-Based Practice Survey were calculated and found to be significant (unit culture r = .241, p = .01; organizational culture r = .570, p = .01; knowledge, skills, attitude r = .538, p = .01). Data supported the integration of EBP standards in Magnet facilities	Yes, nursing school programs incorporate EBP into the curriculum so that nurses have a foundation for EBP, but staff development staff and or managers in clinical settings have to continue to build on the nurses' knowledge and skill, thus increasing self-confidence for EBP. Nursing management can provide the resources for staffing models and policies to reinforce the value of EBP and positive patient outcomes.	Convenience sampling	JH I Quality: B Good
13	Toole et al. 2013	Randomized controlled pretest/posttest Compared the effects of computer-based learning module and face to face class with	N = 596 130 nurses in the control group, 192 in the computer-based learning (CBL) group, and 274 in the in-class group.	Literature review found statistically significant improvements from pretest to posttest with online learning, but no significant differences	Yes, as no statistical differences between the CBL and in-class groups on the posttest mean scores, both types of educational interventions seem to be effective in	The team could not pair pretest and posttest responses between participants in the intervention arm. Participants self-selected an identification tag	JH II Quality: B Good

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
		educational contents on knowledge, attitudes and behaviors on EBP To evaluate the effect of an educational strategy to improve nurses' knowledge, attitudes and behaviors associated with EBP.		between online learning in comparison to classroom learning. and ability to apply research evidence to patient care, p = .02. Most of the respondents in all three groups were female. No significant differences noted among the three groups on the pretest and posttest scores of the EBP attitudes subscale. No significant difference noted in posttest means, significant relationship was found between EBP skill and EBP practice ($p \leq .01$), which supports the importance of education (CBL or in-class) to enhance nurses' skill in EBP and, therefore, their practice of EBP	improving self-reported EBP, which validates previously published studies	with directions to use the same ''tag'' on both preintervention and post-intervention instruments. During data analysis, only 8.3% of responses in the CBL group and only 7.6% of the in-class group could be paired; therefore, only aggregated pretest and posttest scores could be used rather than pairwise comparisons. The sample size was too small to generalize any findings from pairwise comparisons on the effectiveness of learning methodologies.	

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
14	Case, 2017	QI project Provided a nursing education intervention designed to improve delivery of care for stroke patients. Purpose: to improve the delivery of care for stroke patients	N= 20	RNs reported a significant increase in perceived confidence in their ability to explain how standardized stroke order sets reflect current evidence after the intervention (n = 20, P < .001). This strategy increased RNs' confidence in ability to explain the path from evidence to bedside nursing care by showing how evidence-based clinical practice guidelines give current evidence used to create standard order sets. This education intervention has the potential for generalization to different types of standardized order sets to increase nurse confidence in	Yes. RNs reported sig. increase in perceived confidence in their ability to explain how standard stroke order sets reflect current evidence after the intervention (n = 20, p< .001). Strategy increased confidence in ability to explain the path from evidence to bedside by showing how evidence-based guidelines give current evidence used to create standard order sets. Intervention has potential to generalize to other types of standard order sets to increase nurse confidence in utilization of EBP.	Small sample size from low survey response rate limited the conclusions that could be taken from the data. Knowledge of the concept was not directly measured and the focus of a researcher on maintaining anonymity of participants compromised the usefulness of part of the data collected.	JH V Quality: B

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
				utilization of evidence-based practice.			
15	Porter et al., 2018	Studies and reviews of studies of CPG implementation strategies. Emphasized RCTs and trials that objectively measured physicians' performance or health care outcomes. Literature reviewed to determine the effect of various factors on the adoption of guidelines.	N = 55 (studies) Four homogenous semi-structured focus groups and three individual interviews involving a total of 20 clinicians were conducted between October 2013 and March 2014. Audio-recorded data were transcribed and analyzed using inductive qualitative analysis	Variables that affect the adoption of guidelines include qualities of the guidelines, characteristics of the health care professional, characteristics of the practice setting, incentives, regulation and patient factors. Divided into 2 categories: primary strategies involving mailing or publication of the actual guidelines and secondary interventional strategies to reinforce the guidelines. Interventions found	Yes. The evidence showed there is a significant deficiency in the adoption of CPGs in clinical practice. Authors suggested future implementation strategies need to overcome this failure through an understanding of the forces and variables influencing practice and through the use of methods that are practice- and community-based rather than didactic. A theory, the guideline cascade was suggested, and it showed the	Qualitative. The search process was limited to the RDRB/CME and MEDLINE and may have excluded articles from other databases. There was no analysis or comparison of effect sizes, as interventions were typically not comparable. Third, many articles could be classified in more than 1 area: therefore, it may be difficult to generalize a particular intervention because it may	JH III Quality: B Good

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
				to be weak: didactic, traditional continuing medical education and mailings; moderately effective: audit and feedback, especially concurrent, targeted to specific providers and delivered by peers or opinion leaders; and relatively strong: reminder systems, academic detailing and multiple interventions	relationship between clinical experience, provider knowledge, attitudes, and behaviors that can influence patient outcomes	depend on the practice environment in which the study took place or on other factors.	
16	Melnyk et al., 2018	A cross-sectional descriptive study Used surveys to EBP knowledge, beliefs, culture, mentorship, implementation, and reported competency for each of the 13 EBP competencies	Nurses that completed the survey from 19 hospitals/healthcare systems N = 2,344	Nurses reported they were not yet competent in meeting any of 24 EBP competencies. Younger nurses and those with higher levels of education reported higher EBP competency ($p < .001$). Surprisingly,	Yes. Competencies of EBP include a combination of EBP culture, EBP knowledge, believing in the value of EBP and one's ability to implement it, and EBP mentorship supports the implementation of	This convenience sample may not be generalizable across the U.S. Response rates were not able to be calculated because it was unknown how many nurses actually opened their email. Nurse self-report of their level of EBP	JH II Quality: A High

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
		The purpose: to describe the state of EBP competency of U.S. nurses and decide on the important factors associated with EBP competency.		the study elucidated that the EBP competency scores were not significantly different between nurses in Magnet and non-Magnet designated organizations (p = .28). There were strong positive associations between EBP competency with EBP beliefs (r = .66) and EBP mentorship (r = .69), a moderate positive association between EBP competency and EBP knowledge (r = .43), and a small positive association between EBP competency and culture (r = .29)	EBP	competency, could be inaccurately estimated	
17	Saunders et al. (2019)	overview of systematic reviews;	204 source studies in the 11 reviews,	reported on studies that described the EBP	described EBP as a shared	the potential for various biases,	JH I Quality: A

Article # & Category	*Author & Date*	*Study Design, Methods & Purpose*	*Sample*	*Study Findings That Help Answer EBP Question*	*Study Advances Nursing Science?*	*Study Limitations*	*Evidence Level & Quality Rating*
		The relevant data in the reviews were systematically extracted and synthesized according to the guidelines provided by the Cochrane Collaboration. PubMed/Midline, Cumulative Index for Nursing and Allied Health Literature, Scopus and the Cochran Library were searched for primary empirical studies and review published between July 1, 2012 and Jul 31, 2017.	which ranged from n = 6 to n = 32, with a total of sources studies from 24countries. There was a total of 59,382 healthcare professionals who participated in the studies	competencies among practicing healthcare professionals. The findings of the overview of systematic reviews indicated that large proportions of practicing healthcare professionals perceive their EBP competencies to insufficient for daily care delivery. They identified widespread confusion and misunderstandings about the meanings of the most basic concepts of EBP, in terms of the principals and processes of EBP. The practicing healthcare professionals self-reported EBP knowledge, skills, attitudes, and beliefs were at a moderate to high level, but these competencies did not translate into implementation. Few of the reviews reported on the impact of the EBP competencies on changes in care processes	competency that is a priority that is considered a priority along with using the actual validated outcome measures. They added that there are wide spread misunderstandings that exist among practicing healthcare professionals about the basic concepts of EBP and there is a need to increase engagement in EBP implementation and a need to attain care quality and patient outcomes.	including selection, publication, and indexing biases; the quality of the identified systematic reviews and the relatively low quality of reporting of the results in the systematic reviews may have affected the results; self-reported assessments were used to measure healthcare professionals' EBP competencies in all of the 11 included reviews (i.e., perceived EBP competencies were assessed, instead of using more objective measures of actual performance, such as EBP knowledge tests	High

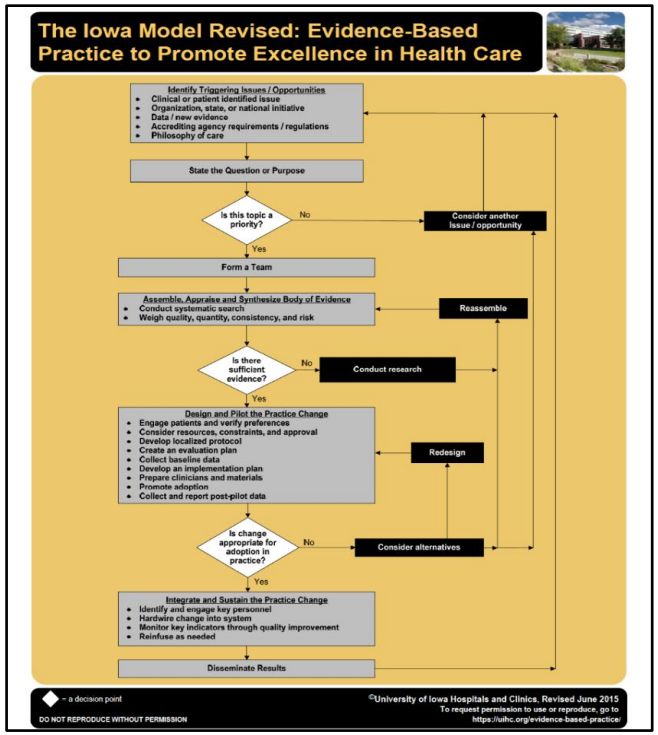
Appendix E

Evidence-based Practice Competencies for RNs and APRNs

Evidence-based practice competencies for practicing registered professional nurses
1. Questions clinical practices for the purpose of improving the quality of care.
2. Describes clinical problems using internal evidence.* (internal evidence* = evidence generated internally within a clinical setting, such as patient assessment data, outcomes management, and quality improvement data).
3. Participates in the formulation of clinical questions using PICOT* format. (*PICOT = patient population; intervention or area of interest; comparison intervention or group; outcome; time).
4. Searches for external evidence* to answer focused clinical questions. (external evidence* = evidence generated from research).
5. Participates in critical appraisal of preappraised evidence (such as clinical practice guidelines, evidence-based policies and procedures, and evidence syntheses).
6. Participates in the critical appraisal of published research studies to determine their strength and applicability to clinical practice.
7. Participates in the evaluation and synthesis of a body of evidence gathered to determine its' strength and applicability to clinical practice.
8. Collects practice data (e.g., individual patient data, quality improvement data) systematically as internal evidence for clinical decision making in the care of individuals, groups and populations.
9. Integrates evidence gathered from external and internal sources in order to plan evidence-based practice changes.
10. Implements practice changes based on evidence and clinical expertise and patient preferences to improve care processes and patient outcomes.
11. Evaluates outcomes of evidence-based decisions and practice changes for individuals, groups and populations to determine best practices.
12. Disseminates best practices supported by evidence to improve quality of care and patient outcomes.
13. Participates in strategies to sustain an evidence-based practice culture.
Evidence-based practice competencies for practicing advanced practice nurses
All competencies of registered professional nurses plus:
14. Systematically conducts and exhaustive search for external evidence* to answer clinical questions. (external evidence*: evidence generated from research).
15. Critically appraises relevant preappraised evidence (i.e., clinical guidelines, summaries, synopses, syntheses of relevant external evidence) and primary studies, including evaluation and synthesis.
16. Integrates a body of external evidence from nursing and related fields with internal evidence* in making decisions about patient care (internal evidence* = evidence generated internally within a clinical setting, such as patient assessment data, outcomes management, and quality improvement data).
17. Leads transdisciplinary teams in applying synthesized evidence to initiate clinical decisions and practice changes to improve the health of individuals, groups, and populations.
18. Generates internal evidence through outcomes management and EBP implementation projects for the purpose of integrating best practices.
19. Measures processes and outcomes of evidence-based clinical decisions.
20. Formulates evidence-based policies and procedures.
21. Participates in the generation of external evidence with other healthcare professionals.
22. Mentors others in evidence-based decision making and the EBP process.
23. Implements strategies to sustain an EBP culture.
24. Communicates best evidence to individuals, groups, colleagues, and policy makers.
Copyright: Melnyk, Gallagher-Ford, Long, & Fineout-Overholt (2014).

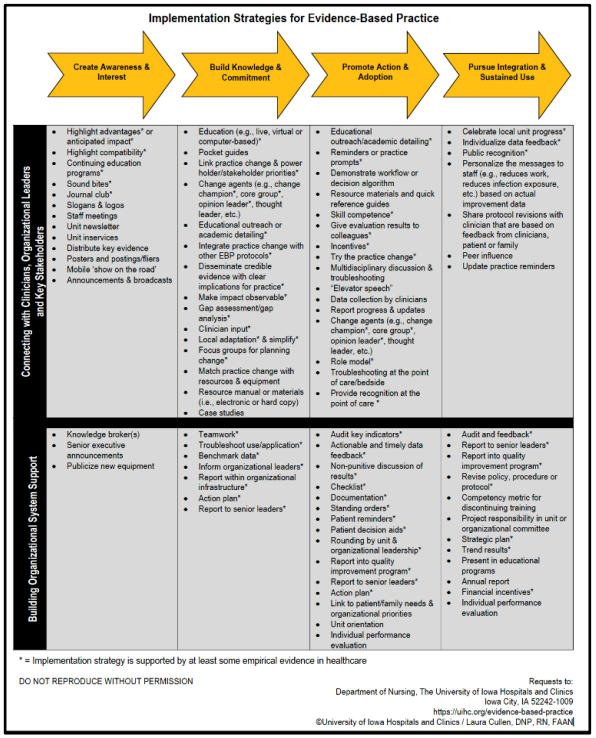
Appendix F

Figure 1: The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Practice



Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing*, 14(3), 175-182. doi:10.1111/wvn.12223. Used/reprinted with permission from the University of Iowa Hospitals and Clinics, copyright 2015. For permission to use or reproduce, please contact the University of Iowa Hospitals and Clinics at 319-384-9098.\
Cullen, L., & Adams, S. L. (2012). Planning for implementation of evidence-based practice. *Journal of Nursing Administration*, 42(4), 222–230. doi: 10.1097/NNA.0b013e31824ccd0a. Used/reprinted with permission from the University of Iowa Hospitals and Clinics, copyright 2012. For permission to use or reproduce, please contact the University of Iowa Hospitals and Clinics at 319-384-9098

Figure 2: University of Iowa Implementation Strategies for Evidence-Based Practice



Appendix G

Figure 1: Rogers: Diffusion of Innovation Theory (1983)

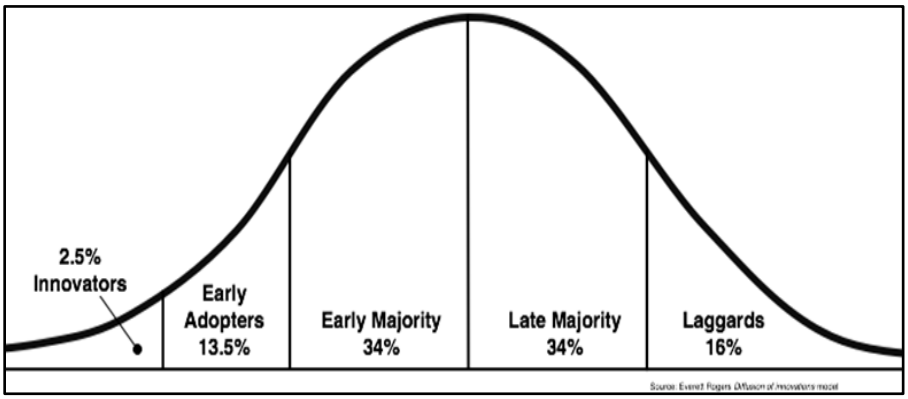
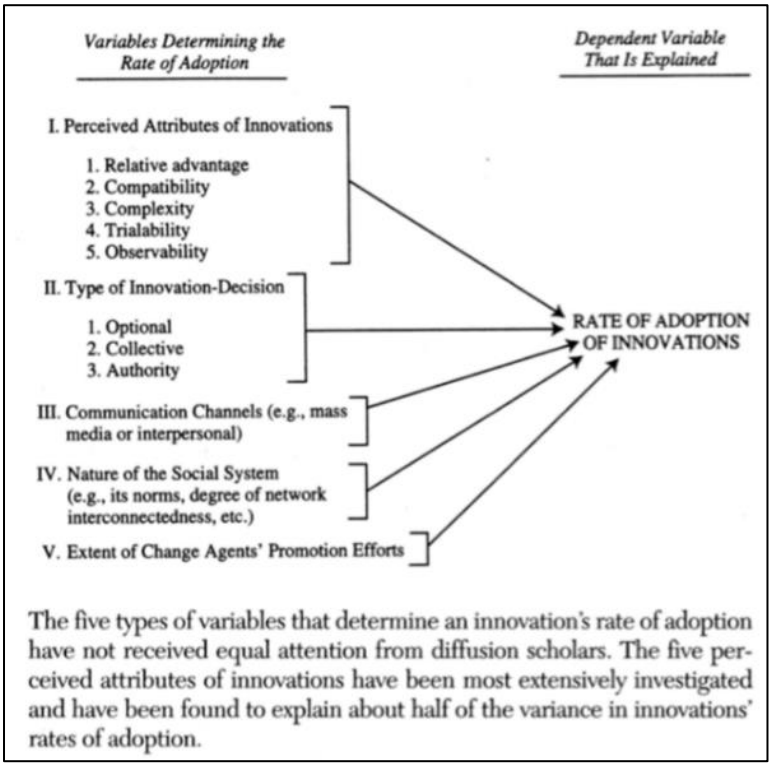
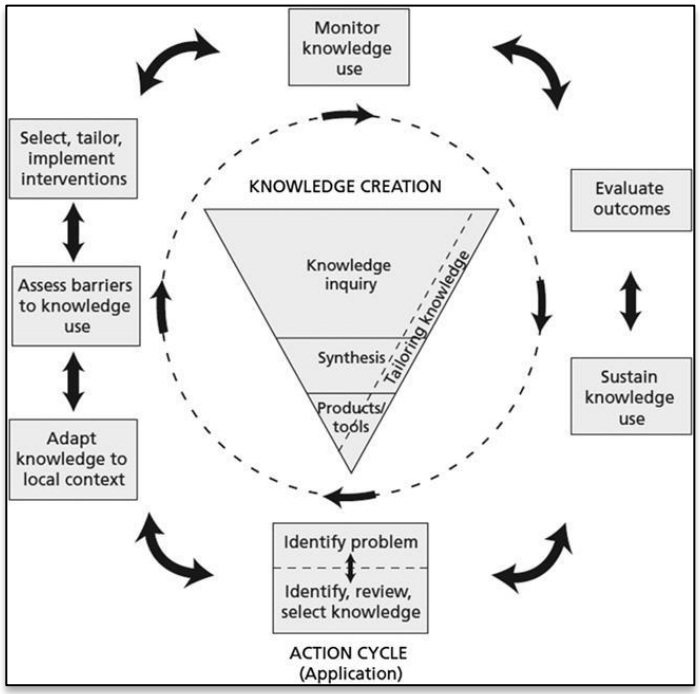


Figure 2: Rogers' Innovativeness and Adopter Categories: **Variables Determining the Rate of Adoption of Innovations**



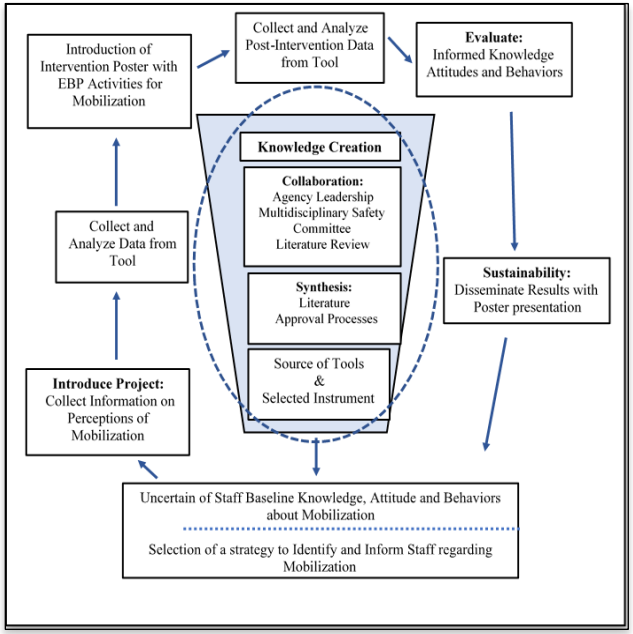
Appendix H

Figure 1: Knowledge to Action Framework



Knowledge to Action Processes. From author, "Lost in Knowledge Translation: Time for a Map?" *Journal of Continuing Education in the Health Professions*, Volume 26, Winter, page 19, 2006, Wiley InterScience as publisher, and reprinted with permission from Dr. Ian D. Graham, PhD. Note: This figure of a planned action theory demonstrates how to dynamically incorporate research findings into practice, facilitating continued education, and applying customized methods of dissemination (Graham et al., 2006). Ottawa Hospital, ASB room 2–008, 1053 Carling Avenue, Ottawa, Ontario, Canada, K1Y 4E9. E-mail: igraham@ohri.ca

Figure 2: Adapted KTA Framework for EBP Project at Chosen Acute Care Hospital to Promote In-Patient Mobilization



Appendix I

Letter to Johns Hopkins Medicine Requesting Permission to Adapt Mobility Survey

TEXAS WOMAN'S UNIVERSITY

November 11, 2019

Johns Hopkins Medicine
Healthcare Solutions
RE: Patient Mobilization Attitudes & Beliefs Survey

To All it May Concern:

Greetings!
First and foremost, thank you for your time. My name is Tasha N. Hudson and I am an Advanced Nurse Practice Registered Nurse (Adult Gerontology Clinical Nurse Specialist) and Doctoral Student at Texas Woman's University. I downloaded the Complimentary AMP-Hospital Toolkit and would like to use the Johns Hopkins Patient Mobilization Attitudes & Beliefs Survey specifically for my doctoral quality improvement project titled "Surveying Nursing Attitudes and Beliefs Prior to Implementing a Mobility Program: A Quality Improvement Project." I want to use the survey as a tool for education programming to see what the unit knowledge deficits are prior to implementing a mobility program, so that an education program can be tailored to the unit. After the education program has been prepared and delivered, I want to then re-survey that same unit with the Johns Hopkins Patient Mobilization Attitudes & Beliefs Survey.

My Questions for you are:

1. May I use the PsychData web survey system to send out the surveys? https://www.psychdata.com/content/aboutus.asp
2. Is it possible to adapt the survey to make it nursing specific or are ANY changes permissible?

Thanks again for the time you've spent reading my email and all the great work you all do.

Most sincere regards,

Tasha N Hudson, MSN, APRN, AGCNS-BC, CA-SANE, CHPN
Adult Gerontology Clinical Nurse Specialist (Board Certified)
Doctor of Nursing Practice Student

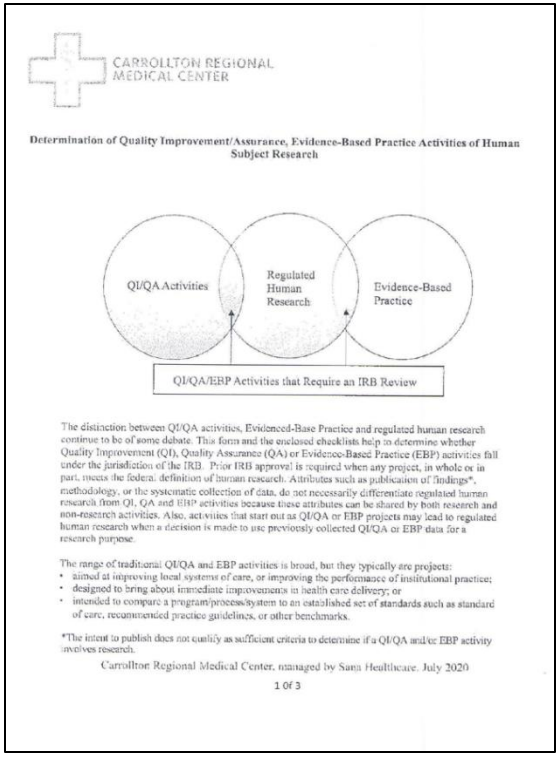
Texas Woman's University
T. Boone Pickens Institute of Health Sciences - Dallas Center
School of Graduate Nursing | Doctor of Nursing Practice
5500 Southwestern Medical Avenue | Dallas, TX 75235 | 214.689.6510 | twu.edu
nursing@twu.edu

Appendix J

Determination of Quality Improvement/Assurance, Evidence-Based Practice Activities or Human Subject Research

Figure 1:

(Page 1 of 3)



CARROLLTON REGIONAL MEDICAL CENTER

Determination of Quality Improvement/Assurance, Evidence-Based Practice Activities of Human Subject Research

The distinction between QI/QA activities, Evidenced-Base Practice and regulated human research continue to be of some debate. This form and the enclosed checklists help to determine whether Quality Improvement (QI), Quality Assurance (QA) or Evidence-Based Practice (EBP) activities fall under the jurisdiction of the IRB. Prior IRB approval is required when any project, in whole or in part, meets the federal definition of human research. Attributes such as publication of findings*, methodology, or the systematic collection of data, do not necessarily differentiate regulated human research from QI, QA and EBP activities because these attributes can be shared by both research and non-research activities. Also, activities that start out as QI/QA or EBP projects may lead to regulated human research when a decision is made to use previously collected QI/QA or EBP data for a research purpose.

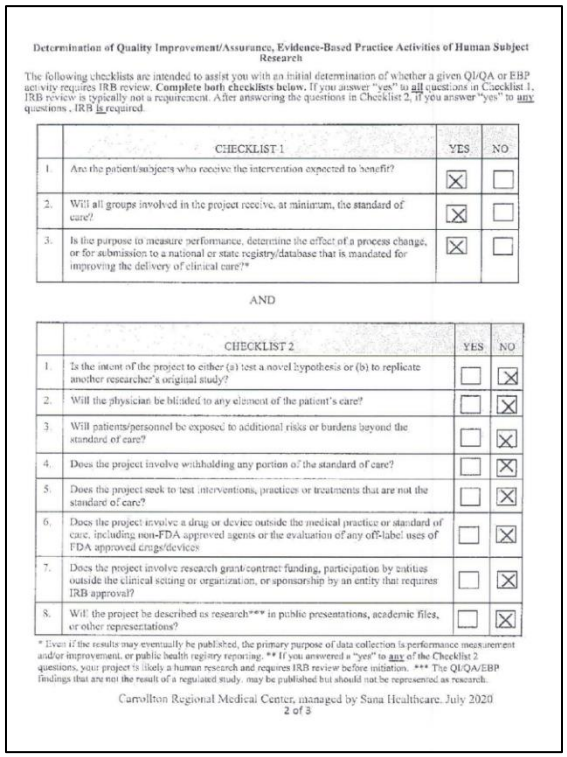
The range of traditional QI/QA and EBP activities is broad, but they typically are projects:

- aimed at improving local systems of care, or improving the performance of institutional practice;
- designed to bring about immediate improvements in health care delivery; or
- intended to compare a program/process/system to an established set of standards such as standard of care, recommended practice guidelines, or other benchmarks.

*The intent to publish does not qualify as sufficient criteria to determine if a QI/QA and/or EBP activity involves research.

Figure 2

(Page 2 of 3)



Determination of Quality Improvement/Assurance, Evidence-Based Practice Activities of Human Subject Research

The following checklists are intended to assist you with an initial determination of whether a given QI/QA or EBP activity requires IRB review. **Complete both checklists below.** If you answer "yes" to all questions in Checklist 1, IRB review is typically not a requirement. After answering the questions in Checklist 2, if you answer "yes" to any questions, IRB is required.

	CHECKLIST 1	YES	NO
1.	Are the patient/subjects who receive the intervention expected to benefit?	☒	☐
2.	Will all groups involved in the project receive, at minimum, the standard of care?	☒	☐
3.	Is the purpose to measure performance, determine the effect of a process change, or for submission to a national or state registry/database that is mandated for improving the delivery of clinical care?*	☒	☐

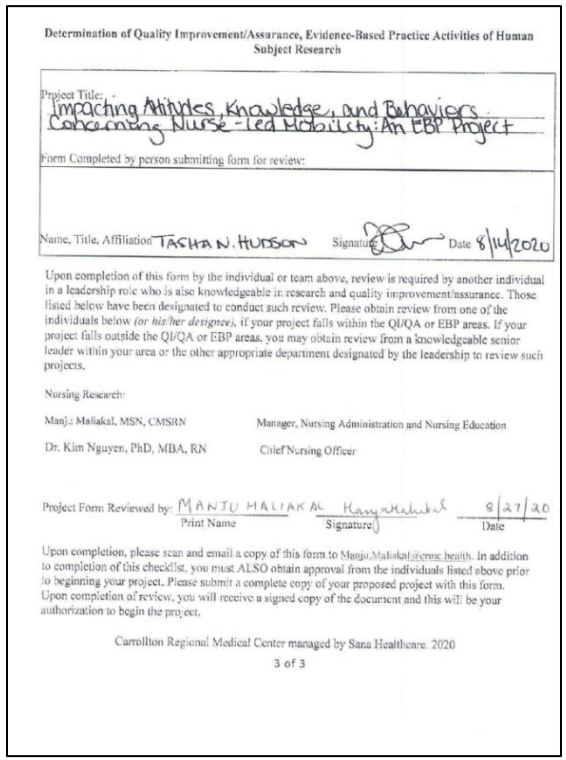
AND

	CHECKLIST 2	YES	NO
1.	Is the intent of the project to either (a) test a novel hypothesis or (b) to replicate another researcher's original study?	☐	☒
2.	Will the physician be blinded to any element of the patient's care?	☐	☒
3.	Will patients/personnel be exposed to additional risks or burdens beyond the standard of care?	☐	☒
4.	Does the project involve withholding any portion of the standard of care?	☐	☒
5.	Does the project seek to test interventions, practices or treatments that are not the standard of care?	☐	☒
6.	Does the project involve a drug or device outside the medical practice or standard of care, including non-FDA approved agents or the evaluation of any off-label uses of FDA approved drugs/devices	☐	☒
7.	Does the project involve research grant/contract funding, participation by entities outside the clinical setting or organization, or sponsorship by an entity that requires IRB approval?	☐	☒
8.	Will the project be described as research*** in public presentations, academic files, or other representations?	☐	☒

* Even if the results may eventually be published, the primary purpose of data collection is performance measurement and/or improvement, or public health registry reporting. ** If you answered a "yes" to any of the Checklist 2 questions, your project is likely a human research and requires IRB review before initiation. *** The QI/QA/EBP findings that are not the result of a regulated study, may be published but should not be represented as research.

Figure 3

(Page 3 of 3)



Determination of Quality Improvement/Assurance, Evidence-Based Practice Activities of Human Subject Research

Project Title: Impacting Attitudes, Knowledge, and Behaviors Concerning Nurse-led Mobility: An EBP Project

Form Completed by person submitting form for review:

Name, Title, Affiliation: TASHA N. HUDSON Signature: Date: 8/14/2020

Upon completion of this form by the individual or team above, review is required by another individual in a leadership role who is also knowledgeable in research and quality improvement/assurance. Those listed below have been designated to conduct such review. Please obtain review from one of the individuals below *(or his/her designee)*, if your project falls within the QI/QA or EBP areas. If your project falls outside the QI/QA or EBP areas, you may obtain review from a knowledgeable senior leader within your area or the other appropriate department designated by the leadership to review such projects.

Nursing Research:

Manju Maliakal, MSN, CMSRN — Manager, Nursing Administration and Nursing Education

Dr. Kim Nguyen, PhD, MBA, RN — Chief Nursing Officer

Project Form Reviewed by: MANJU MALIAKAL (Print Name) (Signature) 8/27/20 (Date)

Upon completion, please scan and email a copy of this form to Manju.Maliakal@sreng.health. In addition to completion of this checklist, you must ALSO obtain approval from the individuals listed above prior to beginning your project. Please submit a complete copy of your proposed project with this form. Upon completion of review, you will receive a signed copy of the document and this will be your authorization to begin the project.

Appendix K

Figure 1: Educational Intervention Poster: "Make a Moment for Mobility"

Appendix K

Figure 2: "Goals of Early Mobility"

Figure 3: "Move to Improve" Poster

Appendix L

Educational Intervention Email Topics: Needs Identified by Pre-Survey Perceived Barriers

Figure 1: Algorithm for Steps to Patient Mobilization

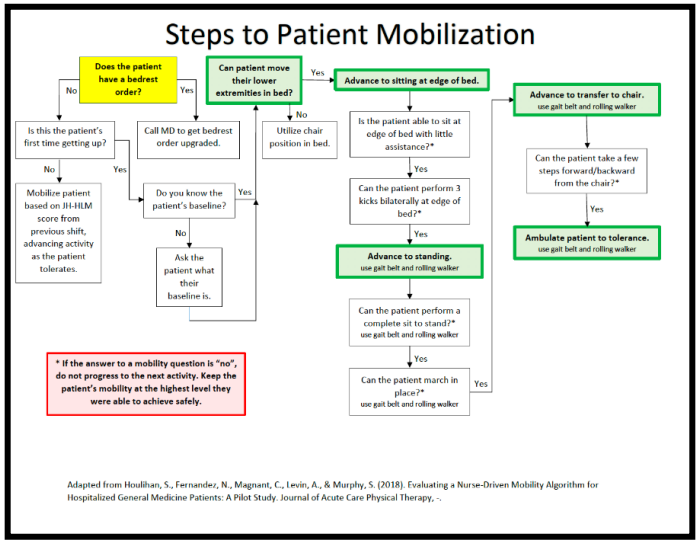


Figure 2: Guide to Nursing Assessment of Progressive Mobility

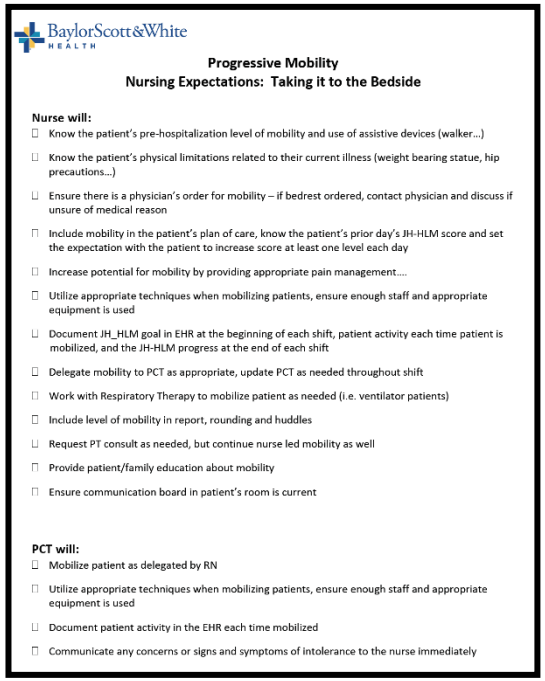
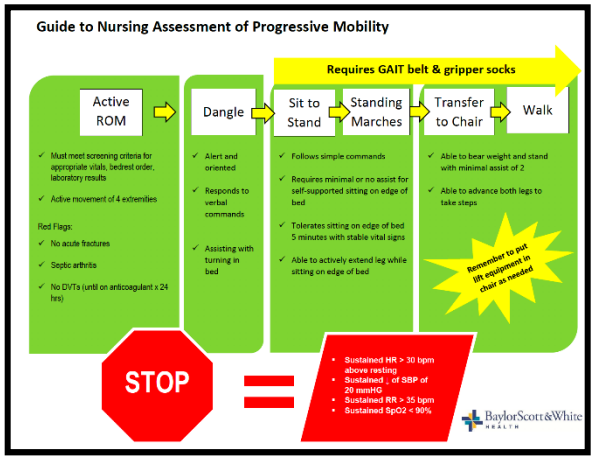


Figure 3: Progressive Mobility Nursing Expectations



Baylor Scott & White Health (2017). Mobility toolkit: Creating safe passage by promoting early mobility in patients. https://bswhealth.sharepoint.com/sites/BSWConnect/SitePages/Search.aspx?q=mobilize

Appendix L

Educational Intervention Email Topics: Needs Identified by Pre-Survey Perceived Barriers

Figure 4: Factors Impacting Patient Mobility Safety

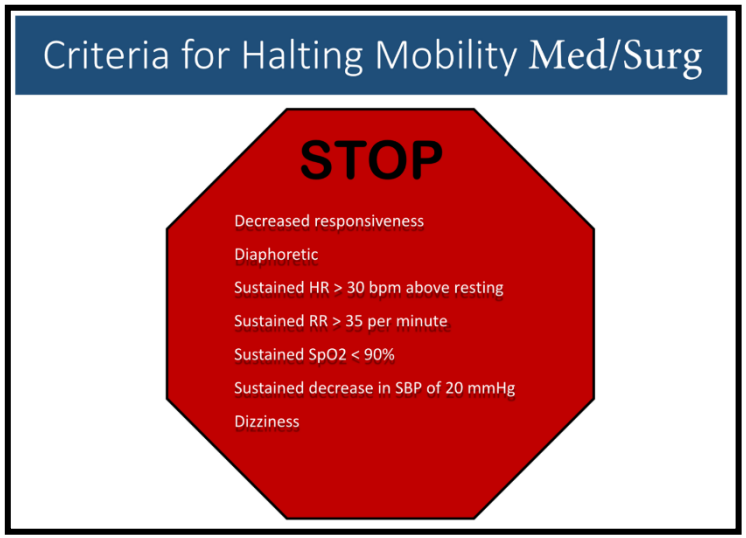


Figure 5: Criteria for Halting Mobility (Med-Surg)

GENERAL CONSIDERATIONS

Factors Impacting Patient Handling Tasks
There are many factors beyond those found in an assessment that impact the safety of patient handling tasks. The following table outlines factors that should be considered in conjunction with each transfer assessment. These factors may have an impact on the recommended transfer method.

PATIENT FACTORS

Communication	Cognition	Medical Status
Speech	Memory	Diagnosis
Vision	Judgment	Pain
Hearing	Concentration	Medication
Comprehension	Decision Making	Fatigue
Language		Devices
Physical Status		**Emotional Status/Behavior**
Weight	Endurance	Cooperative
Height	Muscle Tone	Unpredictable
Range of Motion	Flexibility	Aggressive
Strength	Sensation	Depressed
Balance	Skin Condition	Confused
Coordination	Depth Perception	Agitated
Weight Bearing Status	Body Awareness	Unreliable

OTHER FACTORS

Environment	Staff	Work Organization
Room Layout and Obstacles	Experience & Training	Time Pressures
Flooring	Capabilities	Equipment Availability
Medical Equipment	Fatigue Level	Shift Work
Space	Size Difference Between Co-Workers	Workers Available

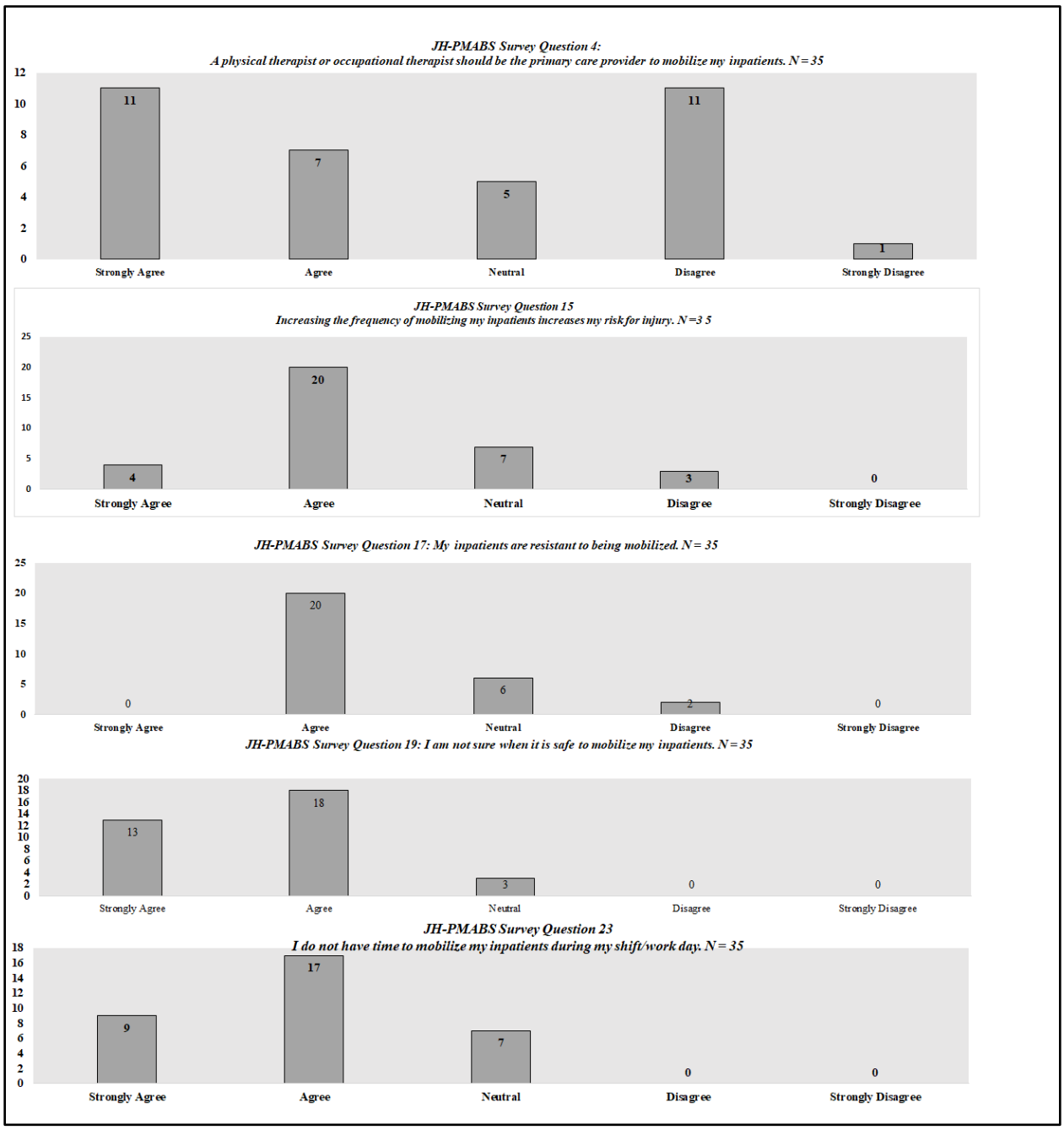
Appendix M

Matrix Table

Variable Type	Statistical Test	Rationale	Dependent Variables	Independent Variables
Independent	Kruskal-Wallis H test	non-parametric test to compare distributed means of 2 or >groups of variables useful to see if there is a statistically significant change to the top five perceived barriers after intervention, looking at differences between the means, and also useful due to than two groups to compare (knowledge, attitudes, and behavior of pre and post-tests).	Johns Hopkins-PMABS Average of the pre-survey sum of overall barrier scores: 75.2 (Adjusted for the nine unreturned pre-surveys) N = 35 (24 nurses/11 CNAs)	Role (RN or CNA/Tech)
Dependent	Descriptive Statistics → Frequencies		Top 5 Perceived Barriers to Inpatient Mobility Promotion 1. **Item 19:** I am not sure when it is safe to mobilize my inpatients. (attitude domain) a. 40.9% Agree, 29.5% Strongly Agree 2**. Item 23:** I do not have time to mobilize my inpatients during my shift/workday (behavior domain). a. 38.6% Agree, 20.5% Strongly Agree 3**. Item 17:** My inpatients are resistant to being mobilized (behavior domain). a. 45.5% Agree, 13.6% Strongly Agree 4**. Item 15:** Increasing the frequency of mobilizing my inpatients increases my risk for injury (behavior domain). a. 45.5% Agree, 9.1% Strongly Agree Items 4 and 12 were a tie. 5**. Item 4:** A physical therapist or occupational therapist should be the primary care provider to mobilize my inpatients. (attitude domain) § 25% both Strongly Agree/Disagree, 15.9% Agree.	
Independent	Wilcoxon signed ranks	to compare the sums of overall barrier scores of the pre-a and post-survey scores and compare the subscale pre and post-survey scores of the same participants		Work Shift (Day, Night, or Both)
Independent	see above work shift			Age 28-65 years for participants
Independent	see above age			Age Group
Independent	see above age group			Years of Total Experience (0-4 or 5 or greater)
Independent	see above years of total experience			Highest Level of Education)
Independent	N/A			Participant ID
Independent	see above highest level of education			Unit Location (Med-Surg or Telemetry)

Appendix N

Results: Chart 1: Top 5 Perceived Barriers to Nurse-Led Mobility Promotion



Appendix N

Table 1: Change in Subscale Perceptions After a Poster-Style Intervention. N = 23

SUBSCALES	N	MEAN SUBSCALE SCORES	STANDARD DEVIATION	MINIMUM TO MAXIMUM SCORE RANGE	MEAN RANK	P-VALUE (BASED ON POSITIVE RANKS)
Pre-Survey Knowledge	23	7.17	2.269	4-12	9.63	
Post-Survey Knowledge	23	6.57	1.879	4-9	9.25	.186
Pre-Survey Attitude	23	28.48	3.073	23-34	11.92	
Post-Survey Attitude	23	22.22	4.431	15-33	2.25	<.0001
Pre-Survey Behavior	23	41.09	4.814	31-50	12.95	
Post-Survey Behavior	23	30.78	6.171	20-40	5.67	<.0001

Appendix N

Table 2: Change in Overall Perceptions After Poster-Style Intervention. N = 23

(Using Independent Samples to test for statistical significance between the pre-post survey results.

Change in Perceptions: Top Five Perceived Barriers to Mobility	Ranks	N	Mean Rank	P-Value (Based on Positive Ranks)
Question 4	Negative Ranks	10	6.15	**.008**
	Positive Ranks	1	4.50	
	Ties	12		
	Total	**23**		
Question 15	Negative Ranks	16	12.28	**.004**
	Positive Ranks	5	6.90	
	Ties	2		
	Total	**23**		
Question 17	Negative Ranks	17	10.09	**.002**
	Positive Ranks	2	9.25	
	Ties	4		
	Total	**23**		
Question 19	Negative Ranks	21	11.00	**< .0001**
	Positive Ranks	0	.00	
	Ties	2		
	Total	**23**		
Question 23	Negative Ranks	19	11.47	**< .0001**
	Positive Ranks	2	6.50	
	Ties	2		
	Total	23		

Appendix N

Table 2: Kruskal-Wallis Primary Unit Worked in Relationship to Pre and Post Survey Outcomes. N = 23

SUBSCALES	UNITS	N	MEAN RANKS	*P*-VALUE
Pre-Survey Knowledge	Telemetry	14	11.79	.847
	Med-Surg	9	12.33	
	Other	0		
	Total	**23**		
Post-Survey Knowledge	Telemetry	14	12.64	.559
	Med-Surg	9	11.00	
	Other	0		
	Total	**23**		
Pre-Survey Attitude	Telemetry	14	13.04	.358
	Med-Surg	9	10.39	
	Other	0		
	Total	**23**		
Post-Survey Attitude	Telemetry	14	15.36	**.003**
	Med-Surg	9	6.78	
	Other	0		
	Total	**23**		
Pre-Survey Behavior	Telemetry	14	10.00	.091
	Med-Surg	9	14.94	
	Other	0		
	Total	**23**		
Post-Survey Behavior	Telemetry	14	14.11	.062
	Med-Surg	9	8.72	
	Other	0		
	Total	**23**		

Appendix N

Table 3: Kruskal-Wallis Age Groups in Relationship to Pre and Post Survey Outcomes. N = 22

SUBSCALES	AGE GROUPS	N	MEAN RANK	*P*-VALUE
Pre-Survey Knowledge	28-39	8	10.94	.680
	40-50	9	10.78	
	51 and Older	5	13.70	
	Total	**22**		
Post-Survey Knowledge	28-39	8	9.31	.251
	40-50	9	11.33	
	51 and Older	5	15.30	
	Total	**22**		
Pre-Survey Attitude	28-39	8	11.00	.590
	40-50	9	13.06	
	51 and Older	5	9.50	
	Total	**22**		
Post-Survey Attitude	28-39	8	12.44	.098
	40-50	9	8.28	
	51 and Older	5	15.80	
	Total	**22**		
Pre-Survey Behavior	28-39	8	12.44	.057
	40-50	9	13.94	
	51 and Older	5	5.60	
	Total	**22**		
Post-Survey Behavior	28-39	8	8.75	.088
	40-50	9	11.00	
	51 and Older	5	16.80	
	Total	**22**		

Appendix N

Table 4: Kruskal-Wallis Shift Worked in Relationship to Pre and Post Survey Outcomes

SUBSCALES	SHIFT	N	MEAN RANK	*P*-VALUE
Pre-Survey Knowledge	Day Night Both **Total**	13 9 1 **23**	13.65 10.38 5.00	.295
Post-Survey Knowledge	Day Night Both **Total**	13 9 1 **23**	13.85 8.22 22.00	**.043**
Pre-Survey Attitude	Day Night Both **Total**	13 9 1 **23**	10.23 13.33 23.00	.141
Post-Survey Attitude	Day Night Both **Total**	13 9 1 **23**	12.73 11.56 6.50	.651
Pre-Survey Behavior	Day Night Both **Total**	13 9 1 **23**	10.00 15.17 9.50	.191
Post-Survey Behavior	Day Night Both **Total**	13 9 1 **23**	13.88 8.44 19.50	.093

Appendix N

Table 5: Kruskal-Wallis Nursing Roles in Relationship to Pre and Post Survey Outcomes

SUBSCALES	ROLE	N	MEAN RANK	*P*-VALUE
Pre-Survey Knowledge	Nurse	16	12.75	.414
	CNA	7	10.29	
	Total	**23**		
Post-Survey Knowledge	Nurse	16	9.56	**.007**
	CNA	7	17.57	
	Total	**23**		
Pre-Survey Attitude	Nurse	16	10.44	.093
	CNA	7	15.57	
	Total	**23**		
Post-Survey Attitude	Nurse	16	10.00	**.031**
	CNA	7	16.57	
	Total	**23**		
Pre-Survey Behavior	Nurse	16	13.69	.068
	CNA	7	8.14	
	Total	**23**		
Post-Survey Behavior	Nurse	16	9.31	**.004**
	CNA	7	18.14	
	Total	**23**		

Appendix N

Table 6: Kruskal-Wallis Highest Level of Education Completed in Relationship to Pre and Post Survey Outcomes

SUBSCALES	HIGHEST LEVEL OF EDUCATION COMPLETED	N	MEAN RANK	P VALUE (ASYMP. SIG.)
Pre-Survey Knowledge	High School	1	5.00	.372
	Trade/Vocational School	1	22.50	
	Associates' Degree	2	11.00	
	Bachelor's Degree	18	11.64	
	Master's Degree	1	17.00	
	Total	**23**		
Post-Survey Knowledge	High School	1	7.50	.707
	Trade/Vocational School	1	16.50	
	Associates' Degree	2	16.00	
	Bachelor's Degree	18	11.81	
	Master's Degree	1	7.50	
	Total	**23**		
Pre-Survey Attitude	High School	1	15.00	.555
	Trade/Vocational School	1	3.50	
	Associates' Degree	2	15.50	
	Bachelor's Degree	18	12.22	
	Master's Degree	1	6.50	
	Total	**23**		
Post-Survey Attitude	High School	1	16.50	.228
	Trade/Vocational School	1	18.50	
	Associates' Degree	2	19.25	
	Bachelor's Degree	18	11.06	
	Master's Degree	1	3.50	
	Total	**23**		
Pre-Survey Behavior	High School	1	18.50	.296
	Trade/Vocational School	1	9.50	
	Associates' Degree	2	4.00	
	Bachelor's Degree	18	12.31	
	Master's Degree	1	18.50	
	Total	**23**		
Post-Survey Behavior	High School	1	12.50	.233
	Trade/Vocational School	1	19.50	
	Associates' Degree	2	19.75	
	Bachelor's Degree	18	11.14	
	Master's Degree	1	4.00	
	Total	**23**		

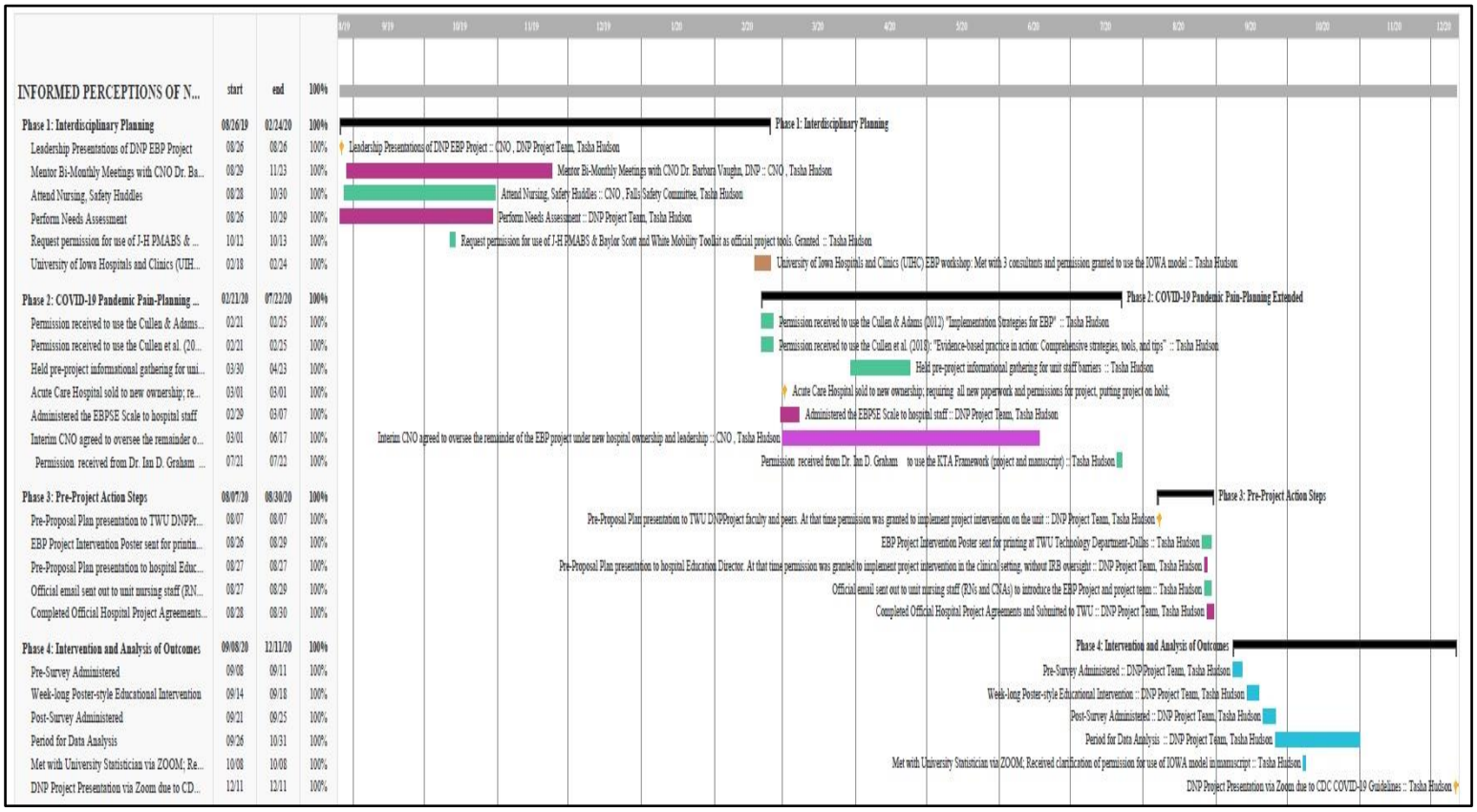
Appendix N

Table 7: Kruskal-Wallis Primary Work Experience (Years) in Relationship to Pre and Post Survey Outcomes

SUBSCALES	TOTAL EXPERIENCE (YEARS)	N	MEAN RANK	*P*-VALUE
Pre-Survey Knowledge	0-4	1	5.00	.282
	5 and greater	22	12.32	
	Total	**23**		
Post-Survey Knowledge	0-4	1	22.00	.120
	5 and greater	22	11.55	
	Total	**23**		
Pre-Survey Attitude	0-4	1	23.00	.095
	5 and greater	22	11.50	
	Total	**23**		
Post-Survey Attitude	0-4	1	6.50	.404
	5 and greater	22	12.25	
	Total	**23**		
Pre-Survey Behavior	0-4	1	9.50	.703
	5 and greater	22	12.11	
	Total	**23**		
Post-Survey Behavior	0-4	1	19.50	.256
	5 and greater	22	11.66	
	Total	**23**		

Appendix O

Project Timeline: Informed Perceptions of Nurse-Led Mobility



Appendix P

SWOT Analysis

SWOT ANALYSIS	
STRENGTHS	**WEAKNESSES**
• The hospital has an established Safety and Quality Plan (2019) • The selected unit in the hospital has a history of initiatives that promote patient mobilities, patient safety and the use of the Johns Hopkins Fall Risk Assessment. • System-wide mobility program (toolkit) available on the intranet • The hospital collects data on patient outcomes that include patient falls, length of stay, readmission rates, patients discharge dispositions • Administrative staff and key stakeholders are supportive of the project • Focus group feedback for the project was positive	• Risk of responders providing prescripting answers. • Lack of time or turnover of the staff may decrease interest in voluntary participation in the project • There is a risk of technological failures
OPPORTUNITIES	**THREATS**
• The Johns Hopkins Fall Risk Assessment use is limited to admission assessments • There have been observed shortages of mobility related devices • The COVID-19 pandemic may be responsible for reduced inpatient admissions and minimal opportunities for staff training • HCAHPS Survey data from the nursing staff demonstrated a perceived knowledge deficit regarding mobility strategies • Mobility regulations and national standards records indicate a need for improvement. • Incentives to increase the level of participation	• There is potential for low survey participation (any phase) (apathy, competing work tasks, tire, etc.) • The length of the 26-item survey may deter participation • anticipated need to advertise the project in advance • Paper and pencil survey vs. online survey • COVID-19