The Impact of Ambulation Guidelines on Staff Compliance with the Execution of Activity Orders

Jorica L. Davis

A Directed Scholarly Project Submitted to the

Department of Nursing

in the Graduate School of

Bradley University in

partial fulfillment of

the requirements for the

Degree of Doctor of Nursing Practice

Peoria, Illinois

2019

Acknowledgements

The past three years have been very challenging to juggle work, school, and family. However, I have managed the chaos and successfully completed the journey. I would like to first thank Dr. Cindy Brubaker for her patience and guidance throughout the execution of this project. I appreciate the support that I received from those at UnityPointHealth while I completed practicum hours, such as Andrea Parker, Jeanette Murry, and Jeanine Spain. I also appreciate the emotional and physical support that I have received from Jennie VanAntwerp and Sara Caruso. I would especially like to thank my three daughters, Everley, Evrica, and Evonney for their continued support and patience throughout this journey. Without the support of my family I would not have been able to make it. Thank you all for having faith in me.

Abstract

This quality improvement project explored the impact of clearly defined ambulation guidelines for activity orders on staff compliance with the execution of patient activity orders. Currently, there are no clear guidelines for the activity orders that are being prescribed by the physicians, so the nurses and nursing assistants interpret the orders based on their own level of experience. For this project, this DNP graduate student collaborated with key members of the healthcare team to develop a clear set of ambulation guidelines to follow. The project design was a quality improvement project with the objective to increase ambulation of elderly patients in the acute care hospital with the implementation of a clear set of ambulation guidelines for each activity order. The project was implemented as a pilot study on one unit of the acute care hospital. Staff were educated regarding the newly developed ambulation guidelines. Pre and post-data was collected from patient EMRs looking at the prescribed activity order and the number of times ambulated. The findings showed an increase in staff compliance with the execution of patient ambulation with patients once expectations were clearly defined.

Table of Contents

The Impact of Ambulation Guidelines on Staff Compliance with the Execution of Activity Orders

Chapter 1

According to the Centers for Disease Control and Prevention (CDC) (2008) ambulation is an activity that all ages need to indulge in on a regular basis. The CDC recommends that everyone should take part in physical activity at least 150 hours during a seven-day time span. In the hospital environment physical activity is not always a priority and is sometimes omitted in the day-to-day routine for nurses when providing care. Activity is an order prescribed by physicians that is to be carried out by nurses, nursing assistants, and physical therapists when necessary.

It is an expectation that patients who are admitted to the hospital that are ambulatory should be discharged in the same capacity, unless they have received a test or procedure that will alter them in some fashion. Currently, there are no clear guidelines for the activity orders that are being prescribed by the physicians, so the nurses and nursing assistants interpret the orders based on their own level of experience. During this project, I hope to develop a clear set of guidelines for the activity orders that are implemented in the hospital. The intent of this project is to increase the activity compliance of elderly patients while in the hospital once the activity order has a clear definition of the activity to be carried out.

Background and Significance

Activity is a task that is prescribed upon admission for almost every patient while in the hospital. The expectation from the admitting physician would be to continue to ambulate patients that were ambulating prior to admission. The nurses and nursing assistants do not always consider ambulation to be a priority in comparison to giving baths, feeding, and administering

medications that are ordered. The problem that omission of ambulation may cause is a costly one if it results in another day or two of hospitalization. The costs that patients incur while in the hospital can be high, and if not covered by insurance, can create a problem. It has been reported that those individuals who are active and ambulating have a reduced risk for health issues, which in turn reduces the amount of money spent in healthcare costs (Doherty-King & Bowers, 2013). Activity in the hospital acute care environment needs to be a priority.

Problem Statement

It has been this DNP graduate student's personal observation that there have been times when a patient's discharge has been delayed due to inactivity while in the hospital. There have also been times when the patient may have an activity order that was not implemented by the nursing staff and/or physical therapy. Previous researchers have reported that nursing staff are often busy completing tasks such as administering medications, dressing changes, and sending patients for tests and procedures and consequently see activity as a low priority (Drolet et al., 2013; Rion & Kautz, 2016; Teodoro et al., 2016). Some nurses have reported that they had too many other responsibilities so activity such as ambulation should be for the physical therapists to complete (Hoyer, Brotman, Chan, & Needham, 2015; Rion & Kautz, 2016; Teodoro et al., 2016). It is this DNP graduate student's belief that nursing staff need to be aware and focused on the activity of ambulation that is prescribed for patients as intensely as they are with other tasks.

Researchers have concluded that early ambulation needs to be established in hospitalized patients in order to assist with a quicker recovery and timely discharge. The physician should not have to delay a discharge because a patient is too weak. Patients that were ambulating prior to admission should begin physical activity day one after hospitalization, even if they have had a surgical or cardiac procedure (Cordeiro et al., 2015; Drolet et al., 2013; Hashem, Nelliot, &

Needham, 2016; Henecke, Hessler, & LaLonde, 2015; Rion & Kautz, 2016; Teodoro et al., 2016; Wahab et al., 2016). The overriding problem is how we can ensure that ambulation and activity are begun as early as possible and continued throughout the patient's stay in order to obtain the best possible outcomes.

Project Aim or Purpose

Rion and Kautz (2016) implemented an evidence-based research practice to support the importance of ambulation in an inpatient cardiac rehab. Many researchers felt that patients should be ambulated as soon as it is determined to be safe (Cordeio et al., 2015; Hashem et al., 2016; Henecke et al., 2015; Hoyer, et al., 2015; Rion & Kautz, 2016; Teodoro et al., 2016; Wahab et al., 2016). They also identified the complications that could arise if ambulation was not initiated. Teodoro et al (2016) identified complications such as, hospital-acquired pneumonia, deep vein thrombosis, pressure ulcers, and loss of functional mobility. Many of these complications will incur further expenses and increase the length of stay for patients. It has been this DNP graduate student's personal observation that, hospital administrators, physicians, nurses, nursing assistants or techs, and physical therapists all will need to take an active role in assuring that activity is a priority for patients in the hospital.

The aim of this project was to develop a clear set of guidelines for activity orders to be implemented with elderly patients in the acute care hospital setting. Staff compliance in executing current ambulation activity orders was assessed prior to the implementation of these new guidelines for comparison to compliance in executing ambulation with these new guidelines.

Clinical Question/PICOT

The research question will guide the proposed project.

1. What is the impact of a clear set of guidelines for ambulation as compared to just an *activity as tolerated* order on the compliance of nursing and ancillary hospital staff in executing activity orders for elderly patients in an acute care hospital setting?

The dependent variables for this project are compliance of nursing and ancillary staff.

Congruence with Organizational Strategic Plan

The proposed project aligned with the strategic plan of the facility that it will be conducted in due to the facility's focus on the reduction of length of stay. The case managers, physicians, and nurses all work together to try and create the best plan of care for patients with the shortest length of stay. This is in alignment with the reimbursement and outcomes data that are reported monthly. Early ambulation and activity have been correlated with quick recovery and timely discharge (Doherty-King & Bowers, 2013; Drolet et al., 2013; Hashem et al., 2016; Henecke et al., 2015; Hoyer et al., 2015; Rion & Kautz, 2016; Teodoro et al., 2016).

Synthesis of Evidence

When searching for evidence-based research keywords such as: ambulation, ambulation benefits, ambulation protocols, early mobility, early ambulation, rehabilitation and ambulation were used. Ten research studies were utilized for this synthesis from the years 2013 - 2017. The researchers utilized information from hospitals from varying regions of the country, ranging from acute care to critical care settings. The search from the keywords resulted in more than 14,000 articles on early ambulation and/or mobilization of patients. This DNP graduate student reviewed more than 50 articles before narrowing down the selection of the chosen research articles to assist in the proposal of this scholarly project. This DNP graduate student limited the research articles to those that discussed ambulation in hospital settings and tried to narrow the search down even further to include elderly patients. There was even an attempt to find research

that would support the theory that low ambulation or mobility would result in functional decline of the elderly hospitalized patients. There was no research found that supported a clear set of guidelines for the activity orders that are prescribed for the hospitalized patients.

Researchers have identified the need to address the early ambulation of hospitalized patients. They also identified complications that were assessed when patients remained on bed rest and/or did not engage in physical activity while in the hospital. These complications consisted of loss of muscle strength and physical fitness, muscle atrophy, weakness, decline in function of daily activities, hospital-acquired pneumonia, deep vein thrombosis, and pressure ulcers (Cordeiro et al., 2015; Drolet et al., 2013; Hashem et al., 2016; Teodoro et al., 2016). Functional decline was also found to occur in patients with a decrease in the ability to perform activities of daily living (Doherty-King & Bowers, 2013).

Early ambulation has been a concept that has been shown to be effective when physicians, nurses, and physical therapists collaborate together to assist the hospitalized patient. Physicians may prescribe an activity or ambulation protocol, however, nurses and physical therapists are the ones that need to work together to carry the order out (Hashem et al., 2016; Hoyer et al., 2015; Torres, Ramos dos Santos, Lima Reis, Moraes Paisani, & Dias Chiavegato, 2017; Wahab et al., 2016). Researchers concluded that early ambulation resulted in a shorter length of stay, fewer personnel needed to assist with ambulation, ambulation could begin as early as eight hours after a cardiac procedure, nurses need to assume the responsibility of ambulation into their daily practice, and nurses and physical therapists will need to work together to achieve early ambulation practices (Drolet et al., 2013; Hashem et al., 2016; Henecke et al., 2015; Doherty-King & Bowers, 2013; Rion & Kautz, 2016; Torres et al., 2016; Wahab et al., 2016).

Researchers have clearly identified the positive effects of early ambulation on hospitalized patients in acute care and critical care units. One of the strengths of the research is that multiple researchers supported the need for early ambulation in a safe and feasible manner. Researchers also supported the collaboration of the nurses and the physical therapists (Hashem et al., 2016; Henecke et al., 2015; Wahab et al., 2016).

Some limitations to the research included the research being conducted in only one hospital and/or on only one unit of the hospital, a limited sample size, not all participants represented the nursing and physical therapist population, differing patient populations for some of the research, and the research was done in limited areas so it represented a small sample with a limited representation of patients (Drolet et al., 2013; Hashem et al., 2016; Hoyer et al., 2015; Rion & Kautz, 2016; Wahab et al., 2016).

There was no research found that supported a clear set of guidelines for the activity orders that are prescribed for the hospitalized patients. Callen, Mahoney, Grieves, Wells, and Enloe (2004) conducted a research study on patients 55 years of age and greater with ambulation while hospitalized. The researchers found that the patients on the unit in the hospital walked in the hallways if they were independent or with physical therapists most of the time and very minimally with the nursing staff. The researchers concluded that the hospitalized patients would need interventions implemented to improve ambulation while in the hospital from nursing staff. They also felt that an increase in ambulation should be a high priority to assist in decreasing functional decline in the elderly patients.

Rogers, et al., (2017) also conducted a longitudinal study of physical activity and frailty among older adults. The researchers began by assessing the mobility of patients from differing age ranges starting at 50 years old to 80+ years old. They looked at the benefits of physical

activity and the frailty of the patients who didn't partake in physical activity. They gathered data for more than a 10-year period in older adults and looked at the amount of activity the participants took part in from mild, moderate, to vigorous and the frequency for which one engaged in the activity. The benefits of engaging in physical activity proved to decrease the onset of frailty in older adults.

Villumsen, Jorgensen, Andreasen, Rathleff, and Molgaard (2015) conducted a study to investigate the correlation of physical activity in older patients who were referred to physical and occupational therapy with those who ambulated while in an acute geriatric unit without therapy. The participants gave informed consent and while on the unit the physical activity was measured by using an accelerometer. The time that the patients ambulated increased during the study. The researchers identified that immobilization of elderly patients could cause a decline in function and in turn increase frailty.

Although the previous studies identified the need for physical activity in the elderly none of the studies identified a guideline for a prescribed activity regimen. Further research will need to be conducted to gather information on the impact of clear guidelines being set for physician activity orders in the acute care hospital setting. There also was no research found that supported a clear set of guidelines for the activity orders that are prescribed for the hospitalized patients in general. The research studies that addressed activity and ambulation discussed who was to fulfill the activity and ambulation but did not reveal prescribed physician orders. Hospital administrators, physicians, nurses and physical therapists will need to create a multidisciplinary team to facilitate the research and choose the sample size to give adequate responses to implementing a clear set of guidelines for all to follow.

Conceptual or Theoretical Framework

The conceptual framework that guided the project was the Plan-Do-Study-Act (PDSA) concept (Hall, 2016).This framework has four steps to assist in a successful process improvement initiative (see Appendix A). The first step is referred to as the planning stage. During this step, the process to change or improve is chosen by the team that is going to suggest and implement the changes or improvement initiatives. This DNP graduate student identified members of the interdisciplinary team to assist with the planning and implementation of the project. The team, along with both internal and external stakeholders evaluated the need for the study. Once the need for the study was verified, this DNP graduate student, along with those on the research team, established an overall plan and developed clear definitions and steps to follow to initiate the project.

The second step is the implementation of the proposed plan by the team. It is referred to as the do. Once the study has been approved to execute, the team initiates the study and gathers data to be analyzed. The team leader may also lead by example and demonstrate transformational leadership. During transformational theory, the team leader and followers strive to create changes that will motivate positive attitudes and behaviors within a work group (Harris, Roussel, Dearman, & Thomas, 2016). This could then be translated into the multidisciplinary team creating changes within the team to promote early ambulation in patients in the hospital. This DNP graduate student held meetings with members of the multidisciplinary team to explain the importance of assisting patients with early ambulation and received their buy-in for implementing the project. Meetings were also held with the staff on the unit, where the project was conducted, to educate them on the expectations of the activity orders when prescribed. The staff was allowed to ask questions and seek clarification to the roll-out of the project at this time.

The third step consists of studying or checking the data that is collected to analyze changes from the pre to post data gathered. The DNP graduate student manually gathered the pre and post data and realized some differences with the data. The results of the data were then shared with the participants on the unit during the monthly staff meeting. The fourth and final step of the conceptual framework consisted of reporting the results to the stakeholders. This DNP graduate student will present to the stakeholders in a future multidisciplinary acute care meeting the results of the project along with a proposal to implement the newly defined ambulation activity orders to the whole acute care team across all three Peoria Region hospitals to continue to enhance and promote physical activity while in the hospitals across the region.

Chapter II: Methodology

Needs Assessment

It has been this DNP graduate student's personal observation that the current state of the impact on ambulation that has been prescribed by a physician is not consistently initiated and/or reinforced. A tool used to perform an assessment on the proposed project would be the strengths, weaknesses, opportunities, and threats (SWOT) analysis (Moran, Burson, & Conrad, 2016). This method of analysis will assist in assessing internal attributes and traits while also assessing the external factors and threats (Moran et al., 2016).

One internal attribute that was identified was that interdisciplinary team members, such as, nurses, nursing assistants, physicians, and physical therapists will all work well together to improve the outcome of the patients that they provide care for. The SWOT analysis was performed by this DNP graduate student. A formal meeting was held with members of the interdisciplinary team to determine the willingness of the nurses, nursing assistants, and physical therapists to work together to assure ambulation in the hospital acute care environment. The

nurses and nursing assistants agreed to take on the responsibility of ambulation once receiving an order from the physician. The physical therapists reported that many times the nurses and nursing assistants could implement an ambulation schedule upon admission that would not require their services to be consulted. The positive attitudes of the interdisciplinary team members who want to participate in the project was identified as a strength of the project. An identified weakness of the current ambulation process is that physicians are required to select an activity order with each patient admission but there are no defined criteria for the differing activity levels. Opportunities included creating buy-in for the project by offering further education about the importance of ambulation in the hospital. The potential threat to the project was not having enough members of the interdisciplinary team willing to take on the responsibility of ambulation.

Project Design

This was a quality improvement project with the objective to increase ambulation of elderly patients in the acute care hospital with the implementation of a clear set of guidelines for activity. The project was implemented as a pilot study on one unit of the acute care hospital.

Setting

The environment in which the project took place was a step-down cardiac unit with a daily census of up to 26 patients with varying degrees of medical issues ranging from chest pain or cardiovascular disease to any type of medical disease. The unit is routinely busy and has admissions daily from the emergency room, the outpatient cardiovascular unit, the cardiovascular intensive care unit, and direct admits from physician offices. This setting was chosen based on the belief that the staff who work on the unit are high performers on a daily basis and would be enthusiastic, cooperative, and willing to participate in the proposed project.

Also, there are markers already placed on the walls around the unit to designate how many feet a patient would be ambulating that would assist with the documentation of ambulation.

Population/Sample

All physicians, staff nurses, nursing assistants, and physical therapists who are involved in the care of patients on the step-down cardiac unit were invited to participate in this project. The patient population included any patient who was 65 years of age and older who was admitted to the step-down cardiac unit with any diagnosis with the exception of the post open- heart patients. The post-open heart patients already have a daily goal of ambulation that is clearly defined by the cardiovascular surgeon. The desired sample size was at least 50 patients in a 2- week time frame.

Tools and/or instruments

The tools used for the project were emailed in the form of a survey for the physicians, a survey for the staff nurses, nursing assistants, and physical therapists, and a data collection form for gathering data from the patient electronic medical record (EMR). The surveys and the data collection tool were developed for this project by this DNP graduate student with input from the interdisciplinary team.

The physicians were asked six questions about the patient activity order they prescribe most frequently, how many times a day they expect their patient to ambulate with an order of "up as tolerated", "up ad lib", and "up with assist" along with what they see as barriers to their patients being ambulated. Another question that was asked is who would be expected to be responsible for the activity of the patients ranking the nurses, nursing assistants, physical therapists, and providers in the order of highest to lowest (see Appendix B). The same six questions were asked of the staff nurses, nursing assistants, and physical therapists (see Appendix C). The data collection tool allowed this DNP graduate student to gather pre-data and post-data from selected patient EMRs

based on their prescribed activity order and times ambulated with the prescribed activity order (see Appendix D). There also was a memo posted on the unit, for staff and providers, as a reminder of the ambulation expectations for each of the prescribed activity orders (see Appendix E).

Project Plan

The pre-data collection process occurred over a 2- week time frame. Once the pre-data was collected, this DNP graduate student educated the physicians, nurses, nursing assistants and physical therapists on the clear set of ambulation guidelines for each of the activity orders. Education of the staff occurred over a 2-week period. Once the education was completed, the activity order guidelines were implemented on the unit. The pilot ran for four weeks. At the end of the four weeks, post-data was collected from selected patient EMRs. Another two weeks was utilized to gather the post-data and then two additional weeks were used to analyze the results. A timeline of the project is outlined in Appendix F.

Data Analysis

The data was tallied and analyzed manually. Data from the physician and staff surveys were compiled and compared. Pre and post implementation patient EMR data was analyzed by comparing the number of times patients were ambulated for each prescribed activity order. Data collected from patient EMRs included the prescribed activity order, and the number of times the patient was ambulated. Patients were selected from the even numbered rooms on the unit on Monday, Wednesday, and Friday and the patients from the odd numbered rooms on the unit on Tuesday, Thursday, and Saturday.

Institutional Review Board/Ethical Issues

Approval of this project was obtained from the University of Illinois at Chicago (UIC) Institutional Review Board (see Appendix G). Participant confidentiality was maintained and no

personal identifying information was collected from the physician and staff surveys and the patient EMRs. A cover letter explaining the project was included with the physician and staff surveys. Completion of the survey indicated informed consent. Bradley University Committee on the Use of Human Subjects in Research (CUHSR) accepted the UIC IRB decision

Chapter III: Organizational Assessment and Cost Effectiveness Analysis

Organizational Assessment

This DNP graduate student had formed the opinion that the organization would be open-minded to the proposed project to improve the current state of practice for increased ambulation of elderly patients. The future or desired state of practice would be increased compliance of elderly patients ambulating in the hospital at the level they were able to do prior to their hospitalization. Some anticipated barriers to the project would include nurses, nursing assistants, and physical therapists not being open to the implemented changes. The risks attached to the implementation of the changes would be minimal. Anticipated benefits would include a timely discharge, shorter length of stay in the hospital, decrease in falls of the patients, and reduced risk of skin breakdown. Another benefit would be better collaboration of the members of the interdisciplinary team.

Cost Factors

The cost to complete the project were minimal due to the data being manually collected on site by this DNP graduate student and a few members of the interdisciplinary team. Current documentation in the EMR was obtained by accessing the EPIC software (see Appendix H).The data collectors were already familiar with the documentation which allowed retrieval to be concise and accurate.

Chapter IV: Results

Analysis of the Implementation Process

The implementation of the project began with a multidisciplinary meeting to brainstorm and discuss the steps that would be executed in gathering participation of the team and gathering of the data. Also during the initial meeting, the DNP graduate student led the team in developing ambulation guidelines/benchmarks for the prescribed activity orders up with assist, activity as tolerated, and up ad lib. Surveys were sent via email to the staff on the participating step-down cardiac unit, the physical therapist manager and team, the Hospitalist Team of physicians, and the Family Medicine Service team of physicians requesting their participation. The results of the surveys were gathered and the team decided on the number of times per day a patient would ambulate for each of the three activity orders. The team agreed on one to two times a day ambulation for "up with assist", one to two times a day ambulation for "activity as tolerated", and three to four times a day for "up ad lib" (see Table 1).

Table 1

Defined Ambulation Benchmarks per Activity Order

Activity Order	Number of Ambulation Times per day
Up With Assist	1-2
Activity as Tolerated	1-2
Up Ad Lib	3-4

At the same time, this DNP graduate student began using the data collection tool to gather pre-data. Data were gathered from the even numbered rooms on Monday, Wednesday, and Friday and the odd numbered rooms on Tuesday, Thursday, and Saturday excluding subjects that were less than 65 years old, had an activity order of bedrest, and/or post-open heart patients.

The next step in the implementation process was to educate the staff on the defined ambulation for each of the different activity orders. This DNP graduate student held daily unit

huddles, staff meetings, and posted flipchart notifications to assist in educating the staff on the process changes for ambulating patients. Once this education was delivered, the ambulation pilot on the unit began. The pilot was conducted for 4 weeks and then this DNP graduate student gathered the EMR post-data in the same fashion that the pre-data were gathered.

Analysis of project outcome data

A total of 24 surveys were returned, with two surveys from the physical therapists and 11 surveys each from the staff on the step-down cardiac unit and the Hospitalist Team of physicians. Responses to the first question revealed that the most frequently prescribed activity was "up with assist" (see Table 2).

Table 2

Most Frequently Prescribed Activity Orders

Activity Order	Participant Responses (n)
Up with assist	13
Up ad lib	5
Up as tolerated	4
Ambulate TID	2

Note: N=24. Number of participants who chose each option.

The next three survey questions inquired about the expected number of times an individual is ambulated with the prescribed activity orders of "up as tolerated," "up ad lib," and "up with assist." With an activity order of "up as tolerated" most participants responded that a patient should be ambulated 3 times a day. In reference to the "up ad lib" activity order, participants responded most frequently with 3-4 times a day of ambulation. In reference to the activity order of "up with assist", participants responded most often with 3 times per day (see Table 3).

Table 3

Expected Ambulation per Activity Order

Activity order Number of Times Ambulated per Day

	1-2	2	2-3	3	3-4	3-5	3-6	4	6-8	none
up as tolerated	2	2	2	8	6	0	1	3	0	0
up ad lib	1	1	2	5	6	0	0	4	1	4
up with assist	2	1	4	6	4	1	1	4	0	1

Note: N=24. n=Number of participants who chose each option.

There were several identified barriers to patients being ambulated in the hospital. A few of the most common barriers mentioned were not enough staff, staff availability, not enough time, not a priority, patient motivation, patient illness or acuity, patient high risk for fall, and equipment, (such as IV poles, walkers, and oxygen tanks). The last question of the survey ranked the order of highest expectation to the lowest expectation of who should be responsible for assuring ambulation in the hospital occurs. The results showed the order as such: nursing assistants, nurses, physical therapy, and providers as the most frequent order.

Sixty-two patients met the criteria for inclusion during the pre-intervention data collection and 60 patients met the criteria for inclusion during the post-intervention data collection. The pre-data results showed 41 patients ambulating with or without a walker. The pre-data were gathered without the staff's awareness while they were receiving education on the defined ambulation expectations of the differing activity orders prescribed by the physicians (see Table 4).

Table 4

Pre-implementation Ambulation Data

Activity Order	**# of Patients**	**Average # of Ambulations/Day**	**# Patients Meeting Ambulation Benchmark**
Up With Assist	47	3 times/day	32 patients
Activity as Tolerated	8	2 times/day	5 patients
Up Ad Lib	7	2 times/day	4 patients

Note: N=62. Ambulation benchmarks: Up With Assist = 1-2 times/day; Activity as Tolerated = 1-2 times/day; Up Ad Lib = 3-4 times/day.

The post-data were gathered after staff were educated regarding the ambulation expectations for the activity orders. The post-data results showed 37 patients ambulating with or without a walker (see Table 5). The percent of compliance with ambulation benchmarks was also calculated (see Table 6).

Table 5

Post-implementation Ambulation Data

Activity Order	**# of Patients**	**Average # of Ambulations/Day**	**# Patients Meeting Ambulation Benchmark**
Up With Assist	49	2 times/day	28 patients
Activity as Tolerated	5	2 times/day	4 patients
Up Ad Lib	6	3 times/day	5 patients

Note: N=60. Ambulation benchmarks: Up With Assist = 1-2 times/day; Activity as Tolerated =1-2 times/day; Up Ad Lib = 3-4 times/day.

Table 6

Comparison of Compliance with Defined Ambulation Benchmarks

Activity Order	**# Patients Meeting Benchmark Pre-implementation**	**# Patients Meeting Benchmark Post-implementation**
Up With Assist	32 out of 47 patients = 68%	28 out of 49 patients = 57%
Activity as Tolerated	5 out of 8 patients = 63%	4 out of 5 patients = 80%
Up Ad Lib	4 out of 7 patients = 57%	5 out of 6 patients = 83%

Formatted Table

Chapter V: Discussion

Summary of major findings and outcomes

This DNP graduate student was surprised and slightly disappointed in the results of the pilot study. The results did not show an increase in the amount of times the patients ambulated as

a result of the definitions being added to the activity orders. Compliance for “activity as tolerated” increased from 63% pre-intervention to 80% post-intervention. Compliance also increased for “up ad lib” from 57% pre-intervention to 83% post-intervention. However, compliance for “up with assist” decreased from 68% pre-intervention to 57% post-intervention and overall compliance decreased from 66% pre-intervention to 62% post-intervention. The decrease in overall compliance was not anticipated since this DNP graduate student observed the staff trying to achieve the number of walks that correlated to the prescribed order and getting the patients up more, inside and outside of their hospital rooms.

This DNP graduate student correlated the decrease in overall compliance to the influx of staff that were floated to the unit from other units along with the high census and open positions that were on the unit at the time of the post-intervention data collection. The staff that were floated to the unit did not receive the education on the ambulation guidelines therefore they did not have buy-in for the project. The DNP graduate student has the opinion that the project will have more success at post-intervention when the education has been given to all the staff in the acute care setting.

One of the biggest challenges that this DNP graduate student encountered was in participation of the team during the education of the expectations that go along with the activity orders. The staff found it hard to remember the number of times for ambulation with the correlating activity order. The unit was also experiencing high census and open positions at the time of the pilot so there were many days that nurses and/or nursing assistants from other units were working and not aware of the pilot or may or may not have had the buy in to the project as the rest of the team. The activity orders assisted the staff in setting goals with the patients each day while assisting them to complete the prescribed activity order. There were less complaints

from the physicians about the patients being ready for discharge on discharge day reported at the Acute Care Interdisciplinary Team Meeting. The physicians noticed the change.

Another difficulty was in getting multidisciplinary responses to the survey. The researcher had the surveys available in hard copy and email version and still only had a small number of respondents. The managers for the physical therapy team and the Hospitalist Team also assisted in trying to have their staffs complete the survey. The physical therapy manager reported the staff were busy and didn't take the time to complete the survey. The Hospitalist Team had more success with the email version. The nurses and nursing assistants on the unit returned surveys via hard paper copy and none via email. The DNP graduate student was surprised by the variation in responses.

Limitations or Deviations

One possible limitation to the data gathered could have been the documentation of the data. While collecting the data, the DNP graduate student was able to assess the documentation compliance of the nurses on the unit as well. Some of the patients had several more entries than others. Some of the patients with an activity order of "up ad lib" or "up with assist" only had documented accounts of sitting in the chair or getting up to the bathroom. It is possible that some of the nurses and nursing assistants may not have been accurate with their documentation or failed to document at all. A second possible limitation could have been the small sample size.

One recommendation for repeating this project would be to implement on all the acute care units along with education to all disciplines. The rationale for this is that if the project is implemented hospital-wide and all staff receive the same education, compliance with fulfilling activity orders may increase and become a priority. The standardization of the process should hopefully correlate to positive outcomes for the patients. The implementation of all units also

allows for consistency with the execution of expectations and would result in the project being more sustainable. The Nurse Managers in the Peoria Region have already expressed an interest in the project and support the changes. This DNP graduate student would like to present the activity order changes to the Acute Care Interdisciplinary Team for implementation to the rest of the units in the Peoria Region.

Implications

Once approval and buy in is obtained, dissemination of the proposed changes would occur via education provided by the nursing education development team to the nurses of each facility. Random auditing of patient electronic medical records would assist in compiling data for evaluation of the process change and sustainability. Once success in the Peoria Region is achieved, this DNP graduate student would like to implement in all of the other affiliate hospitals within the facility's system. This DNP graduate student would also like to publish the project in hopes that others in differing parts of the country would replicate the project.

Chapter VI: Conclusion

Value of the Project

This DNP graduate student has the opinion that this project does have the value and, and with further implementation and education to all disciplines, could significantly increase ambulation compliance in the hospital setting if initiated across disciplines. Clear expectations of ambulation will allow for greater compliance and consistency while patients are hospitalized by the hospital personnel. Previous evidence-based projects that define and/or set expectations for ambulation could not be found in the literature, therefore, the results of this QI project can be used to set a standard that may be implemented in other facilities.

DNP Essentials

The DNP essentials that were met with this study, included essentials I through VI. Evidence-based practice from other studies was utilized to identify the positive and negative effects of ambulation on elderly patients in the hospital, along with the scientific underpinnings for nursing practice. This DNP graduate student collaborated with the multidisciplinary team and the unit process improvement team to determine their thoughts on the need for the project. Future plans would include asking the information technology team to assist in making the ambulation definitions available in the software that is utilized for documentation. The policy on ambulation would need to be enhanced to include the definitions for each activity order and the educators would then need to assure that the education to the staff was hardwired. Changes to the activity orders will need to be communicated to all members of the healthcare team. Ongoing multidisciplinary collaboration will be important to identify potential future changes as they occur.

Plans for Dissemination

This DNP graduate student plans to present the results to the Acute Care Interdisciplinary Team to seek approval and buy in for implementing the project across the three facilities in the Peoria Region. This project will also be submitted for a nursing journal publication and for poster presentation at a regional and national nursing conference.

Attainment of Personal and Professional Goals

While conducting this study, this DNP graduate student has been able to implement an initiative that may impact patient care significantly while building relationships with other disciplines. It is anticipated that the implementation process to the whole organization may be more taxing, but well worth the effort. After presenting to the Acute Care Interdisciplinary Team, this DNP graduate student will present to the nursing team of educators, staff nurses, and

nursing assistants. The execution of this study allowed this DNP graduate student to work out of her comfort zone and expand on leadership qualities for implementation of a new process.

References

Callen, B. L., Mahoney, J. E., Grieves, C. B., Wells, T. J., & Enloe, M. (2004). Frequency of hallway ambulation by hospitalized older adults on medical units of an academic hospital. *Geriatric Nursing*, 25(4), 212- 217. doi: 10.1016/gerinurse.2004.06.016

Centers for Diseases Control and Prevention (CDC): Community Health Status Indicators www.cdc.gov/physical activity/data/index.html

Cordeiro, A. L. L., de Melo, T. A., Avila, A., Souza Esquivel, M., Franca Guimaraes, A.R., & Lago Borges, D. (2015). Influence of early ambulation in postoperative hospitalization following cardiac surgery. *Internacional Journal of Cardiovascular Sciences*, 28(5), 385-391. doi: 10.5935/2359-4802.20150057

Doherty-King, B., & Bowers, B. J. (2013). Attributing the responsibility for ambulating patients: A qualitative study. *International Journal of Nursing Studies*, 50(9), 1240-1246. doi: 10.1016/j.ijnurstu.2013.02.007

Drolet, A., DeJulio, P., Harkless, S., Henricks, S., Kamin, E., Leddy, E. A., … Williams, S. (2013). Move to improve: The feasibility of using an early mobility protocol to increase ambulation in the intensive and intermediate care settings. *Physical Therapy*, 93(2), 197-207. doi: 10.2522/ptj.20110400

Harris, J. L., Roussel, L., Dearman, C., & Thomas, P. L. (2016). Project planning and management: A guide for nurses and interprofessional teams (2nd ed.). Burlington, MA: Jones and Bartlett Learning

Hashem, M. D., Nelliot, A., & Needham, D. M. (2016, July). Early mobilization and rehabilitation in the ICU: Moving back to the future. *Respiratory Care*, 61(7), 971-979. doi: 10.4187/respcare.04741

Henecke, L., Hessler, K. L., & LaLonde, T. (2015, June). Inpatient ambulation: Use of an ambulation platform apparatus. *The Journal of Nursing Administration*, 45(6), 339-344. doi: 10.1097/NNA.0000000000000209

Hoyer, E. H., Brotman, D. J., Chan, K., & Needham, D. M. (2015, April). Barriers to early mobility of hospitalized general medicine patients: Survey development and results. *American Journal of Physical Medicine and Rehabilitation*, 94(4), 304-312. doi: 10.1097/PHM.0000000000000185

Moran, K., Burson, R., & Conrad, D. (2016). The doctor of nursing practice scholarly project: A framework for success. (2nd ed.). Burlington, MA: Jones & Bartlett Learning.

Rion, J. H., & Kautz, D. D. (2016, May-June). The walk to save: Benefits of inpatient cardiac rehabilitation. *Medsurg Nursing*, 25(3), 159-162.

Rogers, N. T., Marshall, A., Roberts, C. H., Demakakos, P., Steptoe, A., & Scholes, S. (2017). Physical activity and trajectories of frailty among older adults: evidence from the English longitudinal study of ageing. *PLOS ONE*, 12(2), 1-12. doi: 10.1371/journal.pone.0170878

Teodoro, C. R., Breault, K., Garvey, C., Klick, C., O'Brien, J., Purdue, T., … Matney, L. (2016, March-April). STEP-UP: Study of the effectiveness of a patient ambulation protocol. *Medsurg Nursing*, 25(2), 111-115.

Torres, D., Ramos dos Santos, P. M., Lima Reis, H. J., Moraes Paisani, D., & Dias Chiavegato, L. (2017). Effectiveness of early mobilization program on functional capacity after coronary artery bypass surgery: A randomized controlled trial protocol. *SAGE Open Medicine*, 4, 1-8. doi: 10.1177/2050312116685526

Villumsen, M., Jorgensen, M. G., Andreasen, J., Rathleff, M. S., & Molgaard, C. M. (2015). Very low levels of physical activity in older patients during hospitalization at an acute

geriatric ward: a prospective cohort study. *Journal of Aging and Physical Activity, 23,* 542-549. http://dx.doi.org/10.1123/japa.2014-0115

Wahab, R., Yip, N. H., Chandra, S., Nguyen, M., Pavlovich, K. H., Benson, T., … Brodie, D. (2016). The implementation of an early rehabilitation program is associated with reduced length of stay: A multi-ICU study. *Journal of the Intensive Care Society*, 17(1), 2-11. doi: 10.1177/1751143715605118

Appendix A

Conceptual Framework

Plan- develop the initiative

Do- implement the plan

Act- check the results

Study- make further improvements

Appendix B

Physician Survey

1. Which patient activity order do you order most frequently?

2. How many times a day do you expect your patient to be ambulated with an order of “up as tolerated”?

3. How many times a day do you expect your patient to be ambulated with an order of “up ad lib”?

4. How many times a day do you expect your patient to be ambulated with an order of “up with assist”?

5. What do you see as the barriers for your patients to be ambulated?

6. Who do you expect to be responsible for the activity of your patients? (Please rank from 1- 4 with #1 being highest expectation and with #4 being the lowest expectation)

nurses

nursing assistants

physical therapy

providers

Appendix C

Staff Survey

1. Which patient activity order do you see ordered most frequently?

2. How many times a day do you expect your patient to be ambulated with an order of “up as tolerated”?

3. How many times a day do you expect your patient to be ambulated with an order of “up ad lib”?

4. How many times a day do you expect your patient to be ambulated with an order of “up with assist”?

5. What do you see as barriers for your patients to be ambulated?

6. Who do you expect to be responsible for the activity of your patients? (Please rank from 1-4 with #1 being the highest expectation and with #4 being the lowest expectation)

nurses

nursing assistants

physical therapy

providers

Appendix D

Data Collection Tool

Date	Room Number	Patient Name	Activity Order	Times Ambulated

Appendix E

When ordering activity on your patients this is what you can expect

on 5Cres:

Up ad lib order – it is an expectation that the patient will be ambulated at least 3-4 times a day. These patients are assumed to be independent.

Up with assist or Activity as tolerated – it is an expectation that the patient will be ambulated at least 1-2 times a day.

If no activity is ordered the patient will be ambulated at least 1-2 times a day and the RN will call for clarification orders.

If a bedrest order is placed with no clear discontinuation time/date then the RN will call the provider for clarification on an end date/time.

It is also an expectation that all patient will be up for breakfast by nightshift and if they are hard to transfer they will be back to bed by dayshift.

Our goal is to get all our patients up and moving!

Appendix F

Timeline of Project

Collection of Pre-data –2 weeks

Implementation of Guidelines for Activity Orders and Educated to Staff – 4 weeks

Collection of Post-data – 2weeks

Analysis of Data – 2 weeks

Appendix G

THE UNIVERSITY OF ILLINOIS

Peoria Institutional Review Board
One Illini Drive
Peoria, Illinois 61605

FWA 00005172

IRB #00000688
IRB #00000689

DATE:	November 20, 2018
TO:	Jorica Davis, DNP
FROM:	University of Illinois College of Medicine at Peoria IRB 1
STUDY TITLE:	[1315939-2] The Impact of Ambulation Guidelines on Staff Compliance with the Execution of Activity
IRB REFERENCE #:	
SUBMISSION TYPE:	Response/Follow-Up
ACTION:	APPROVED
APPROVAL DATE:	11/20/18
EXPIRATION DATE:	11/14/19
REVIEW TYPE:	Expedited

Approval has been granted for one year pursuant to 45CFR46.110(a)(F)(5) "Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis)."

This research meets the regulatory requirements for approval as specified in 45 CFR 46.111 and 21 CFR 56.111. Specifically, the risks to subjects are minimized and reasonable in relation to anticipated benefits to subjects and the importance of the knowledge that may reasonably be expected to result.

The IRB is waiving the requirement for the investigator to obtain a signed consent form for all subjects pursuant to 45CFR46.117(c) (1) "That the only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality."

Your request for a partial waiver of HIPAA Authorization for screening purposes has been granted by the Peoria Institutional Review Board #1 pursuant to 45CFR164.512(i)(2).

PIRB has made the following determinations: a. That the use or disclosure of protected health information involves no more than minimal risk to the privacy of individuals based on at least, the presence of the following elements: (I) An adequate plan to protect the identifiers from improper use and disclosure; (ii) An adequate plan to destroy the identifiers at the earliest opportunity consistent with the conduct of the research, unless there is a health or research justification for retaining the identifiers, or such retention is otherwise required by law; and (iii) Adequate written assurances that the protected health information will not be reused or disclosed to any other person or entity, except as required by law, for authorized oversight of the research project, or for other research for which the use or disclosure of protected health information would be permitted under the law. B. That the research cannot practicably be conducted without the waiver; c. That the research cannot practicably be conducted without access to and use of the protected health information.

The protected health information for which use or access has been determined to be necessary by the IRB is as follows: DOB/age (for inclusion criteria age 65 or older, admission to step-down cardiac unit, and diagnosis (to exclude diagnosis of post open-heart).

The partial waiver of HIPAA Authorization has been reviewed and approved under expedited review procedures of the Common Rule.

PLEASE NOTE: Research must be conducted according to the proposal that was approved by the IRB. Any revisions to the previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

When your study is complete, please submit a Final Report to IRBNet.

Please retain copies of all records pertaining to this study for a minimum of six (6) years from study closure.

A Continuing Review will be requested prior to the end of one year of study.

This study will expire: 11/14/19.

This study will be reviewed at the 11/14/19 meeting of the IRB.

A completed Continuing Review Form is expected by: 10/31/19.

The University of Illinois College of Medicine at Peoria's (UICOMP) Office of Human Research Oversight (OHRP) will no longer accept local or non-local adverse events or safety reports for IRB review that do not meet the definition of an unanticipated problem involving risks to subjects or others (UPIRSO).

UPIRSOs are any incident, experience, or outcome that meets all of the following criteria:

a. are not expected (in terms of nature, severity or frequency) given (a) the research procedures that are described in the protocol-related documents (such as the research protocol and informed consent document); and (b) the characteristics of the subject population being studied;

b. are related or possibly related to participation in the research; and

c. suggest that the research places subjects or others at greater risk of harm (including physical, psychological, economic, or social harm) than was previously known or recognized.

1. To qualify as an UPIRSO, an adverse event must either be : 1). serious, unexpected (in terms of either the nature, severity or frequency of its occurrence), and related or possibly related to participation in the research or 2). not serious, but unexpected, related or possibly related to the research and suggest that the research places subjects or others at a greater risk of physical or psychological harm than was previously known or recognized.

In accordance with the monitoring plan described in the IRB-approved protocol, adverse events occurring in a multicenter study (NON-LOCAL EVENTS) should be reviewed and analyzed by a monitoring entity that assesses whether the adverse event represents an unanticipated problem by applying the criteria for a UPIRSO as described above. The monitoring entity should report such a determination to the investigator for prompt reporting to the IRB.

PLEASE NOTE: The UICOMP IRB will ONLY accept for review multicenter (non-local events) that have been determined to meet the definition of an UPIRSO by the monitoring entity.

In the absence of a letter from the sponsor or monitoring entity identifying the event as a UPIRSO, or by identifying that the event has met the above referenced three criteria, it is the responsibility of the local PI to determine the meaningfulness of the reported event. If the investigator determines that the report is not useful or meaningful in the form presented, the IRB recommends contacting the sponsor and communicating this to them for further instruction. If the local PI does not contact the sponsor, it will be

his/her responsibility to judge the meaningfulness of the report by relying on the sponsor's assessment and his/her own judgment as to whether the event meets the definition of a UPIRSO.

Local adverse events meeting the definition of a UPIRSO, per the PI, should be reported to the UICOMP IRB using the Unanticipated Problems Involving Risks to Others Form at:

http://peoria.medicine.uic.edu/departments___programs/institutional_review_board/PIRB_Forms/

Local adverse events not meeting the definition of an UPIRSO will be returned without IRB review.

Non-local adverse events lacking a UPIRSO determination from the monitoring entity will be returned without IRB review.

For additional information please refer to UICOMP UPIRSO policy at: http://peoria.medicine.uic.edu/UserFiles/Servers/Server_442934/File/Peoria/Departments%20and%20Programs/IRB/pp09.pdf

If you have any questions, please contact Mindy Reeter at 309 680 8631 or mreeter@uic.edu. Please include your study title and reference number in all correspondence with this office.

cc:

Appendix H

Budget Table

Materials needed: paper size 8x11

ink for printer