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Advanced Practice Nurse Intervention and Heart Failure Readmissions

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Walden University

College of Health Sciences

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Tanesha Reynolds

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Walden University
2018

Abstract

Advanced Practice Nurse Intervention and Heart Failure Readmissions

by

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MSN, University of Phoenix, 2010

BSN, University of Phoenix, 2008

Project Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Nursing Practice

Walden University

February 2018

Abstract

Heart failure (HF) is one of the main reasons for hospitalizations and readmissions. A local hospital collaborated with a skilled nursing facility (SNF) in 2012 with the goal of reducing systolic HF readmissions. This collaboration consisted of having an Advanced Practice Nurse (APN) who specializes in cardiac care follow up with all patients discharged from the hospital to the SNF with a diagnosis of systolic HF. The practice-focused question for this project addressed whether early follow-up and continuity of care by a cardiac APN would decrease hospital readmission within 30 days in patients with systolic HF who are discharged to a SNF. This project evaluated the effectiveness of this intervention using the Donabedian quality framework. The Donabedian quality framework consists of 3 concepts: structure, process, and outcome. Sources of evidence were obtained through the electronic medical record systems at both facilities. Total of 1,009 patients were seen by the cardiac APN from 2012 to 2016. Results showed a steady decline in readmissions from 47% to 6%. This supported the conclusion that collaboration between hospitals and SNFs post hospital discharge is essential to improve the management and readmissions of HF. Specialized APNs, such as the cardiac APN in this study, may be more effective in the management and coordination of care for a specific patient population. Implications of this successful collaboration include better working relationships between nonaffiliated health care facilities, improved patient care outcomes, decreased readmissions for HF patients, and an improved community health care system.

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Section 1: Nature of the Project

Introduction

Despite current evidence-based initiatives, as of 2015 heart failure (HF) still ranked as a main reason for hospitalization and readmission (Horwitz & Krumholz, 2015). One of the new strategies to reduce 30-day hospital readmission is the collaboration of local health care facilities (Bradley et al., 2013). HF is categorized as either systolic or diastolic. Systolic HF occurs when the heart muscle gets weak and enlarged and is no longer able to contract so oxygenated blood can pump out to the body. This lack of contractility is called *systolic dysfunction* and occurs more in men than in women (Healthline, 2017). On the other hand, diastolic HF occurs when the heart muscle becomes unusually still, often related to heart disease, and does not easily fill up with blood. This is known as *diastolic dysfunction* and results in decreased blood flow to the organs in the body. Diastolic dysfunction is often seen more in women than in men (Healthline, 2017). This project focused on systolic rather than diastolic HF.

This project used the Donabedian quality framework to examine the safety and quality of an Advanced Practice Nurse (APN) intervention through collaboration between a hospital and a skilled nursing facility (SNF), with the goal of reducing HF readmissions back to the hospital within 30 days. The Donabedian quality framework consists of three concepts: structure, process, and outcome. Understanding the requirements for the structure and process of this intervention will help to lay the foundation for safe, quality, patient-centered care (Gardner, Gardner, & O'Connell, 2014). The Donabedian quality framework also focused on the outcome of the health care provided for these patients.

The collaboration between the hospital and the SNF in this project commenced in 2012 and consisted of having a cardiac APN follow up with all patients discharged from the hospital to the SNF with a diagnosis of HF. The practice-focused question for this project was the following: In patients with systolic HF, who are discharged to a SNF, will early follow-up and continuity of care by a cardiac APN decrease hospital readmission within 30 days? Cardiac APNs have specialized training to take care of patients with heart-related diseases such as high blood pressure, high cholesterol, congestive heart failure, and arrhythmias. The cardiac APN in this project received specialized training through a fellowship at her place of employment, the heart center. She also has an advanced electrocardiogram (EKG) certification, which allows her to interpret, diagnose, and treat issues with heart rate, rhythm, and EKG readings. Finally, she has certification in advanced cardiac life support (ACLS) by the American Heart Association (Nurse Practitioner Schools, 2016). The gap in nursing practice that is the focus of this project is collaborating with SNFs to reduce HF readmissions. Transferring patients from one facility to the next is a routine practice in health care, so not much attention has been given to this process. However, health care providers in both in-patient and SNFs know how frustrating a poorly executed transfer can be and how it can result in mediocre or fragmented care. This APN intervention was a culture shift from the routine discharge and transfer process, as it helped to bridge the existing communication gap when patients were discharged from the hospital to a SNF. The health care culture in this community, in terms of patient care and coordination between external health care facilities, is traditionally noncollaborative. This collaborative agreement between the hospital and

SNF was the beginning of a social change for this community and may result in other quality agreements between health care facilities. Consequences of this social change are better working relationships with other health facilities, better patient care outcomes leading to decreased hospitalizations and readmissions (Lee, Westley, & Fletcher, 2016), and an improved community health care system (Lomi et al., 2014).

Problem Statement

The same evidence-based practices to improve HF care and reduce HF readmissions have been in use for almost 20 years. These current evidence-based recommendations, guidelines, and interventions have not been effective in reducing the cost of HF care. A vigorous evidence-based implementation plan to reduce HF readmission is yet to be developed (Kim & Han, 2013). For this project, the local nursing problem that contributes to HF readmissions is poor collaboration between hospitals and SNFs at discharge to improve transition of care. Care transition is the process of shifting patients from one health care setting to another, such as from the hospital to home or to a SNF. Poorly managed care transitions may lead to deterioration in patients' health and an increase in health care costs (Health Affairs, 2012).

Over the years, APN-led transitions have been highly effective in improving quality and health care costs. Two examples include care transitions coaching and the APN transitional care models. The care transitions coaching model, tested at the University of Colorado, utilized APNs as transition coaches to teach patients and caregivers the skills they needed to promote continuity of care from one health care setting to the next (Naylor & Keating, 2008). A randomized controlled trial found that

this intervention resulted in decreased rehospitalization for up to 90 days after the intervention and reduced health care costs savings up to \$500 at 6 months post intervention (Naylor & Keating, 2008). The APN transitional care model started in 1989 at the University of Pennsylvania. In this model, APNs delivered transitional care to high risks, cognitively intact, older adults with multiple medical and surgical conditions who were transitioning to home from the hospital setting. In addition to optimizing the patient's health during hospitalization, the APNs also design and implement a discharge follow-up plan, make home visits, and are available to these patients by phone every day. The University of Pennsylvania tested and refined this innovative care transition model. Randomized trials by the National Institute of Health found that this model increased patient satisfaction, decreased rehospitalizations, and reduced health care costs (Naylor & Keating, 2008).

Nurses have served in other capacities such as patient educator and clinical coordinator. Eight out of 15 studies of nurse-led posthospital intervention effectively reduced hospital readmissions by 33% (Institute for Healthcare Improvement, 2009). This APN intervention is unique because the literature has focused primarily on care transitions for patients going home. APNs performing posthospital follow-up visits to patients discharged to a SNF was not evident in the literature, so this project was one of the first to evaluate the safety and quality of the health care provided through this intervention.

Purpose

This project is an evaluation of an APN intervention that was set up through a collaborative agreement between a hospital and a SNF. It also helped to enhance continuity of care from the in-patient setting to SNFs, which is a gap in nursing practice that is associated with HF hospital readmissions. The guiding practice-focused question was as follows: In patients with systolic HF, who are discharged to a SNF, will early follow-up and continuity of care by a cardiac APN decrease hospital readmission within 30 days? The cardiac APN saw only the patients with cardiac-related issues and provided recommendations for management and treatment. The recommendations were sent to the chief medical officer (CMO) at the SNF who would review, approve, and initiate the orders if he agreed with the recommendations.

Nature of Doctoral Project

This current health care practice of APN intervention is a new strategy to decrease HF readmissions within 30 days. The setting of this project was at the SNF. As the DNP student and author of this scholarly project, I was also an employee at the acute care facility that was in partnership with the nonaffiliated SNF. Sources of evidence to address the practice-focused question included HF practice guidelines, the electronic medical record at the SNF, and data from the hospital regarding discharges and readmissions. Methods to obtain data needed to evaluate the APN intervention included patient medical record audit, use of HF pathway reports, and HF readmission report. I used the Donabedian quality framework to assess the effectiveness of the APN intervention. This quality framework focuses on three concepts: structure, process, and outcome. Structure

looks at the physical aspect of the care setting such as the building, equipment, staff, financial and operational processes supporting the collaboration. Process is the coordination and delivery of care, which is dependent on the structure. Outcome is the impact of the health care provided, which should lead to improvement in patient health and decreased readmissions within 30 days (McDonald et al, 2007). The Donabedian quality framework provided insight regarding the following:

- Design of the program
- Use of clinical practice guidelines
- Barriers encountered during any phase of the intervention, if any
- Additional interventions, such as Teach Back, to improve the effectiveness of the program
- Safety and quality of this intervention
- Whether this intervention decreased HF readmission within 30 days
- Recommendations to further improve the program or discontinuation of the program.

The purpose of this doctoral project was to evaluate the effectiveness of this cardiac APN intervention and HF readmissions. The appropriate structure and process of this intervention determined the outcome of this program. A decrease in readmission rates would establish that collaboration with external facilities to decrease rehospitalization is an effective evidence-based APN intervention for care transition to the SNF for HF.

Significance

Stakeholders of this APN intervention to decrease HF readmission included the patients, family members and caregivers, health care workers, and health care facilities. Anxiety often occurs in patients, family members, and caregivers when moving from one facility to the next. This is especially evident in patients who have changes in health and still need to adjust (Lee et al., 2016). Poorly communicated discharge information also increases patients' as well as the receiving staff's stress levels and may decrease the confidence that patients, family members, and caregivers have in the health care team to provide adequate care. Posthospital care discharge follow-up visits to the SNF by a cardiac APN who has specialized training to manage patients with HF, and who was directly involved in optimizing the health of these patients in the acute care setting, may help to decrease stress levels. This intervention also increased early follow-up and promoted continuity of care. Health care workers in the SNF experienced a smoother workflow as the cardiac APN from the hospital setting was present to bridge that common communication gap to promote effective continuity of care. Additionally, the anticipated, decreased hospital readmissions due to the intervention would result in reduced health care costs, and decreased readmission financial penalties for health care facilities (Lee et al., 2016). Lastly, understanding the structure and process requirements for the cardiac APN intervention would lay the foundation for safe, quality, effective patient-centered care (Gardner et al., 2014).

A potential contribution of this intervention to nursing practice is enforcing the role of specialized APNs such as the cardiac APN from the hospital setting, as competent,

independent practitioners in the postdischarge care of patients in the SNF setting. APNs have played an integral role in the postdischarge care of patients discharged from hospital to home (Dellasega & Zerbe, 2016). This intervention can also be applied to patients with other chronic diseases or medical conditions such as diabetes, chronic obstructive pulmonary disease (COPD), renal failure, and cerebrovascular accident. Potential implications for positive social change include improved communication, enhanced trust, and more collaborative relationships between health care organizations.

Two major health care systems have bought out many local practices in this community, which has created provider bias towards certain facilities. There are two nonaffiliated hospitals within 5 minutes of each other that are more competitive than collaborative. Patients with multiple health care providers in both health care systems are caught in the middle of this fierce competition and have expressed feeling forced to choose providers under one health care system to promote a better flow of communication. In this community, health care facilities are more competitive than collaborative, which has led to a breakdown in continuity of care. This APN intervention was the first intimate collaboration between this hospital and a nonaffiliated SNF, which is a major culture shift and deviation from the current norm. This culture shift has the potential of leading to a major social change in the community, that of interpersonal collaboration despite the competition. Consequences of this social change are better working relationships with all health care facilities, improved patient care satisfaction, better patient care outcomes leading to decreased hospitalizations and readmissions (Lee et al., 2016), and an improved community health care system (Lomi et al., 2014).

Summary

HF is the main reason for hospital readmissions despite current evidence-based interventions (Kim & Han, 2013). The local nursing problem that contributes to HF readmissions in this community is poor collaboration between health care facilities at discharge to improve transition of care. For this project, I used the Donabedian quality framework (Gardner et al., 2014) to evaluate the effectiveness of follow-up care by a cardiac APN from the hospital setting on patients discharged to a SNF to decrease systolic HF readmissions within 30 days. The setting of this project was in the SNF. Contribution of this intervention to nursing practice is enforcing the role of specialized APNs from the hospital setting as competent, independent practitioners in the post discharge care of patients in the SNF setting. Benefits of this collaboration are improved communication and establishment of trusting relationships between nonaffiliated health care facilities in the community.

This APN intervention was the first intimate collaboration between this hospital and a nonaffiliated SNF, which is a major culture shift and deviation from the current health care environment in the community. This culture shift has the potential of leading to a major social change in the community, that of interpersonal collaboration despite the competition. In Section 2, I present the background and context of this project. Concepts, models, and theories that informed the doctoral project are discussed, and relevance of this project to nursing practice and a history of the broader nursing practice problem in which this project is embedded are explained. Lastly, I describe local background and

context with evidence on the relevance of the problem and my role as the DNP student in the doctoral project including relationships, motivation, and potential biases.

Section 2: Background and Context

Introduction

For this project, the practice problem was HF readmissions from SNF within 30 days. The practice-focused question for this project was as follows: In patients with systolic HF, who are discharged to a SNF, will early follow-up and continuity of care by a cardiac APN decrease hospital readmission within 30 days? The purpose of this project was to evaluate the effectiveness of this cardiac APN intervention to establish whether the impact of this intervention resulted in reduced systolic HF readmissions within 30 days. This section addresses the background and context of this doctoral project. Concepts, models, and theories that inform the doctoral project are discussed. It also focuses on its relevance to nursing practice and includes a brief history of the broader nursing problem, the current state of nursing practice in relation to this intervention, and previous strategies to address this gap. Finally, it provides a summary of the local background and context and a description of my role as the DNP student.

Concepts, Models, and Theories

Scholars and practitioners frequently have used theories to help implement evidence-based results into clinical care (Sales, Smith, Curran, & Kochevar, 2006). Attempts to implement evidence-based practices into clinical practice have not been successful, and HF readmissions have remained high. New theories are being explored regarding transitional care for these patients (Bradley et al., 2013). Theories that are appropriate to change processes, such as the APN intervention in the clinical setting, can provide a framework for the design and planning of strategies needed to deliver safe and

quality care. The chronic care model (CCM) was used in the implementation of the APN intervention (Fiandt, 2016); however, the Donabedian quality framework was used to inform this doctoral project (Gardner et al., 2014).

The CCM is a framework that organizes and improves chronic illnesses such as HF. This model was utilized by the SNF as well as the cardiac APN to improve the delivery of health care services both individually and collectively. According to this model, patient, provider, and system interventions are all working together. There are six concepts in this model, which are modifiable when delivering health care. The first four—organizational support, clinical information systems, delivery system design, and decision support—are strategies to address practice issues, while the remaining two—self-management support and community resources—are patient-centered strategies. While the first four concepts in the CCM address practice strategies, the final two are specifically patient-centered. The CCM is well suited for APNs due to their abilities of dealing with the multiple issues associated with chronic illnesses (Fiandt, 2016). The CCM has been successful in managing patients with other medical problems such as diabetes and COPD. In a literature review using the Cochrane Database, 16 articles listed positive outcomes of the CCM with diabetic patients (Stellefson, Dipnarine, & Stopka, 2013).

The Donabedian quality framework was used to inform this doctoral project and assess the effectiveness of the cardiac APN intervention. This quality framework consists of three concepts: structure, process, and outcome. Structure looks at the physical aspect of the care setting such as the building, equipment, staff, financial, and operational

processes supporting the collaboration (Gardner et al., 2014). The SNF is a large for-profit organization that consists of 200 beds (U.S. News, 2016) in a recently renovated six-story building. The SNF is an affiliate of National HealthCare Associates, a leading health system in short-term rehabilitation and skilled nursing care throughout the northeast. National HealthCare system has a signature “Passport Rehabilitation” program specifically designed to meet the needs of patients requiring a short-term stay after a surgical procedure or an acute medical process, such as HF exacerbation. They have a comprehensive rehabilitation department that is committed to providing the highest level of functioning for all short-term and long-term residents. Rehabilitation services offered at the SNF include physical, occupational, and speech therapies 7 days per week, and as prescribed by a clinician. All therapy services are individualized based on the needs and capabilities of each patient and led by licensed, experienced therapists (National Health Care Associates, 2016). Most important, the SNF offers a HF program with the following goals: to jointly manage HF exacerbation overtime, improve value-based purchasing metrics across health care settings, decrease hospital readmissions, and provide education to patients, family members, and caregivers.

The HF program consists of specialized staff with advanced training in cardiac care and includes the cardiac APN who follows up with all the patients with cardiac-related concerns. The cardiac APN is employed by the heart center at the hospital that was in collaboration with the SNF. The cardiac APN followed the HF patients from the hospital to the SNF until discharge to home. One of the cardiologists at the heart center signed off on all the care provided by the cardiac APN at the SNF. All other staff

members for the HF program are employees of the SNF and include a HF program manager, a licensed physical therapist and occupational therapist, registered dietitian, and a social worker. Process is the coordination and delivery of care, which is dependent on the structure. The structure of the HF program at the SNF supported the cardiac APN intervention. Most patients were discharged from the hospital to the SNF on Fridays. The HF program manager retained a face sheet for all HF patients admitted from the hospital. All face sheets were kept in a binder labeled “HF Program” in the HF program manager’s office for the cardiac APN when she arrived.

The HF pathway and order set were initiated on Day 1 for all HF patients admitted from the hospital to the SNF. The cardiac APN was on-site at the SNF on Tuesdays to assess all the HF patients who were discharged to the SNF over the weekend. All other days, she was available by phone and would do in-person consults as requested by the CMO. Every Tuesday morning, the cardiac APN met with the HF program manager to review all new HF admissions from the hospital to the SNF. She also ensured that the HF pathway was initiated on every patient. They then proceeded to the short-term unit to evaluate the HF patients. All HF patients remained on the unit until seen by the cardiac APN. The cardiac APN made recommendations such as changes in medications, diagnostic tests, and so forth, after assessing each HF patient. These recommendations were forwarded to the CMO of the SNF, who reviewed, then approved or disapproved them for initiation. All recommendations were generally approved unless there was a conflict, and an alternative would be discussed and agreed upon immediately. Teach Back was implemented in September 2016 to help improve discharge for the HF patients.

Teach Back is an evidence-based strategy used by health care professionals to explore how well information about illness, such as HF, was taught to patients (Peter et al., 2015). This strategy teaches patients how to manage their chronic disease. Teach Back contains a series of questions for the patients after an educational session to assess their understanding (Clark, Bonner, & Hines, 2013). The HF program manager, a registered nurse, performed Teach Back for all HF patients at the SNF. Outcome is the impact of the health care provided, which should lead to improvement in patient health and decreased readmissions within 30 days (McDonald et al, 2007). Readmission data from the SNF and hospital were reviewed to determine if any HF patients seen by the cardiac APN were readmitted within 30 days after they were discharged from the hospital.

The concepts, models, and theories explained were all applicable to this APN intervention. The CCM provided the framework to manage HF patients with the knowledge that patient, provider and system interventions were working effectively to improve patient care outcomes. The Donabedian quality framework further captured the outcome, which is the last element of health care quality evaluation (Ghaffari Sardasht, Jahani Shourab, Jafarnejad, & Esmaily, 2014).

Relevance to Nursing Practice

The broader problem in nursing practice in which this project is embedded is lack of, or limited collaboration and/or poor communication between, hospital nurses and transition of care facilities. Evaluation of this intervention provided a better understanding of the requirements to support the structure and processes of this cardiac APN service and partnership and lay the foundation for safer, quality, patient-centered

care. Previous interventions for outpatient strategies include various forms of disease management programs, telemonitoring, and other outpatient approaches (Kim & Han, 2013). Transitional care programs from hospital to home or other facilities are primarily nurse-led. In the care transitions intervention model, APNs acted as patient coaches who encouraged patients and caregivers to take a more active role during transitions.

Transition coaches did home visits as well as weekly phone calls or visits to the SNF if applicable (Coleman, Parry, Chalmers, & Min, 2006).

The transitional care model was developed at the University of Pennsylvania Nursing School in 1981. This is a multidisciplinary model of care delivered by APNs and initially designed to promote early discharge for low birth-weight infants by substituting part of their hospital care with follow-up care by APNs. The model was later extended to other vulnerable populations such as patients who had an unplanned cesarean section, high-risk pregnant women, and chronically ill older adults (Naylor & Van Cleave, 2010). Project Re-Engineered Discharge (RED) is another transitional care program. Project RED was designed by a research group at Boston University to improve patient discharge process in a way that improves patient safety and reduces hospital readmissions (Boston Medical, 2014). Project RED uses a multidisciplinary approach to patient care coordinated by a nurse discharge advocate. The discharge advocate meets with the patient during hospitalization and creates an individualized and illustrated postdischarge plan (Rennke & Ranji, 2015).

These current evidence-based recommendations, guidelines, and interventions have not been effective of themselves in reducing the cost of HF care. This outlines the

larger issue of limited evidence-based guidelines to improve posthospital care. Bradley et al. (2013) confirmed that evidence-based guidelines to reduce HF readmission within 30 days are limited. A web-based survey of hospitals participating in quality improvement initiatives to reduce 30-day hospital readmission in 2010 and 2011 highlighted the following new strategies: collaborating with outpatient physicians or physician groups and collaborating with local hospitals (Bradley et al., 2013). The more strategies implemented, the lower the readmission rates. This project used a cardiac APN to bridge the gap of collaborating with a SNF after discharge.

One study involving nursing homes had a similar focus of establishing a partnership to improve care transitions (Lee et al., 2016). Both nursing home and hospital participants decided to develop a three-part transfer form to improve communication for patients transferred from nursing home to hospital, hospital to nursing home, and nursing home to emergency department. This proved to be effective (Lee et al., 2016); however, no current study involved the cardiac APN following up with the patients in the SNF setting postdischarge. The recognition that effective communication and coordination of care between health care settings is growing, but studies such as this cardiac APN intervention are needed to validate the process.

Local Background and Context

The heart center at the local hospital is one of only 11 cardiology practices in the nation. It is also the only facility in New York State to receive the 2011 Bridges to Excellence Recognition Award. This award is endorsed by the American College of Cardiology and is based on thresholds established jointly by the American College of

Cardiology and Bridges to Excellence (Health Quest, 2016). This hospital is one of two in the local community and the only hospital that specializes in cardiac care. This hospital implemented several strategies including a HF coordinator who provided discharge teaching using Teach Back approach, Project RED, both described above, and Project BOOSTS (Better Outcomes for Older Adults Through Safe Transitions). Project BOOSTS is a quality improvement, transitional care program that uses a multidisciplinary approach towards the discharge process by focusing on medication management and risk assessment (Rennke & Ranji, 2015). These approaches were still not sufficient to decrease HF readmissions, and the rates steadily increased despite these in-patient efforts.

With the rising health care costs and new financial penalties issued by the Center for Medicare and Medicaid Services, health care facilities including this local hospital, are forced to provide better management for HF patients, which include improving quality of care, patient care outcomes, and reducing readmissions (Kim & Han, 2013). Thus, many health care facilities are implementing interventions to improve care for HF patients in the hospital as well as after discharge to decrease readmissions (Institute for Healthcare Improvement, 2015). With the failed in-patient initiatives, the facility is now concentrating its efforts on external strategies, one of which is bridging the noncollaborative and limited communication gap through this cardiac APN intervention to promote continuity of care and early follow-up for HF patients discharged to the SNFs in the community. This collaboration was a new strategy, as outlined above, suggested by evidence, to decrease HF readmissions within 30 days. This project used the Donabedian

quality framework to evaluate the effectiveness of this APN intervention and collaboration. The setting of this project was in the SNF.

Role of DNP Student

As the DNP student, I was also the project leader. As the project leader, I was ultimately responsible for the successful completion of the project. Additional responsibilities included establishing a project schedule, ensuring that the project proceeded within the specified timeframe, assigning tasks to team members such as requesting reports to be used for the evaluation, and providing regular updates to administrative teams at both health care facilities. At the time of this project, I worked at the local hospital as the stroke program coordinator and as a clinician at the outpatient stroke clinic affiliated with the hospital. My only connection with the SNF was through this project. My affiliation with the hospital was an advantage as it ensured the cooperation of the SNF. My preceptor was the cardiac APN who followed up with the patients posthospital discharge at the SNF. She was also a key member of the HF program at the SNF and the one who proposed this project. My preceptor is knowledgeable, supportive, and was easily available when needed. My motivation for doing this project was driven by my interest in advocating for new evidence-based practice approaches. Evidence-based practice leads to improved patient outcomes and patient safety; however, less attention is focused on how to implement new evidence into practice.

Translation of evidence to practice is challenging and requires strategies to address a complex health care system, consisting of clinicians and senior leadership, to

align or change health care culture to an evidence-based safety environment. The process of implementing evidence into practice helps to develop the skills to become a leader (Titler, 2008). As a stroke program coordinator, one of my roles is to ensure that all stroke core measures are met, and our protocols are evidence-based. Therefore, this project also helped me to become a better leader in my specialty. Stroke and cardiac services are also connected due to embolic strokes. One concern regarding this project was the ability to obtain reliable data to evaluate the outcome of this cardiac APN intervention. The local hospital and SNF are two large facilities, and retrospective data for evaluation and comparison may not have been easily available or accessible. However, obtaining data and the return time for reports requested turned out to be a nonissue due to the approval of this project from administration at both facilities. There were no potential biases, as I was not a part of any aspect of the collaboration when it started. I am a competent clinical evaluator who specializes in stroke. This was a retrospective review; therefore, I could not influence data that already existed. I am grateful that I was provided with this opportunity to be the project leader of such a committed team, to evaluate the effectiveness of this new and unique intervention to decrease HF readmissions.

Role of the Project Team

The participants of this project were the project team members. The project team members were all individuals who contributed evidence to address the practice-focused question. The team members included:

- Head of the cardiology department at the hospital who approved the collaboration
- Cardiac APN from the hospital who followed up with patients at the SNF and the designated person who obtained HF readmission reports from the hospital
- Administration at the SNF who provided permission to proceed with the evaluation of the APN intervention
- HF program manager at the SNF who received HF admissions from the hospital, initiated the HF pathway, and obtained HF readmission reports from the SNF
- Information technology technician at the SNF who provided the list of HF readmissions to the hospital within 30 days, use of HF pathway report, and CMO's progress notes report of all the HF patients since the collaboration
- Clinical analyst at the hospital who provided HF readmission report from the hospital Midas system

Projected timeline for receipt of all requested records and reports was 2 weeks.

Reports obtained from all electronic medical record systems (SNF and hospital) were initially reviewed by the project leader, then crosschecked by the project team to ensure validity and reliability. Upon cross examination of all reports needed for the project, each team member had an opportunity to share their expertise and insight related to the project.

I chose and organized the project team. I selected each team member based on the scientific goal of the study. All team members were informed about the purpose of this

project and their roles in this evaluation. They verbalized understanding of the information, their role, and how it related to their practice and area of specialty.

Permission to proceed from administration at both facilities was granted way before the proposal was approved, which ensured the cooperation of all project team members.

Summary

Section Two focused on the background and context of the DNP project. The CCM was initially used in the implementation of the APN intervention, but the Donabedian quality framework was used to inform and evaluate this doctoral project. The broader problem in nursing practice in which this project is embedded is lack of, or limited collaboration and/or poor communication between hospital nurses and transition of care facilities. The hospital and SNF have collaborated to bridge this gap by using a cardiac APN to follow-up with HF patients in the SNF setting post discharge. The recognition that effective communication and coordination of care between health care settings is growing, but studies, such as this cardiac APN intervention, are needed to validate the process. Evaluation of this program determined if collaboration between in-patient and out-patient facilities is effective in decreasing readmissions within 30 days. Section Three looks at the collection and analysis of evidence for the project. Sources of evidences to address the evaluation of this APN intervention are identified and relationship of this evidence to the purpose of this evaluation is described. Archival and operational data of both facilities are described in terms of nature, relevance, how it was originally collected, limitations, procedure for gaining access, and reputability of the sources. All participants are described as well as procedures and techniques used to

collect evidence and their alignment with the constructs in the doctoral project. Finally, there is analysis and synthesis of the systems used for recording, tracking, and organizing the evidence.

Section 3: Collection and Analysis of Evidence

Introduction

The same evidence-based practices to improve HF care and reduce HF readmissions have been in use for almost 20 years. These current evidence-based recommendations, guidelines, and interventions, have not been effective in reducing the cost of HF care. A vigorous evidence-based implementation plan to reduce HF readmission is yet to be developed (Kim & Han, 2013). One of the new strategies to reduce 30-day hospital readmission is the collaboration of local health care facilities (Bradley et al., 2013). The local nursing problem that contributes to HF readmissions is poor collaboration between hospitals and SNFs at discharge to improve transition of care. The aim of this project was to evaluate the effectiveness of early follow-up and continuity of care by a cardiac APN of systolic HF patients discharged to a SNF and to reduce readmissions within 30 days. This project helped to enhance continuity of care from the hospital setting to SNFs, which is a gap in nursing practice associated with hospital readmissions. The CCM was used to define the delivery of health care to HF patients both individually and collectively. The hospital involved in this project is one of two in the local community and the only hospital that specializes in cardiac care. Having failed in-patient initiatives, this hospital is now concentrating its efforts on external strategies, one of which is bridging the collaborative and limited communication gap through this APN intervention to promote continuity of care and early follow-up for HF patients discharged to the SNFs in the community. This project used the Donabedian quality framework to evaluate an APN intervention used to bridge the collaboration gap between

a local hospital and a SNF to promote early follow-up and continuity of care to decrease HF readmission rates.

In Section 3, I discuss the collection and analysis of evidence for the project. Sources of evidence to address the evaluation of this cardiac APN intervention are discussed and the relationship of this evidence to the purpose of this evaluation is described. Archival and operational data of both facilities are outlined in terms of nature, relevance, how it was originally collected, limitations, procedure for gaining access, and reputability of the sources. All participants are described as well as procedures and techniques used to collect evidence and their alignment with the constructs in the doctoral project. Finally, analysis and synthesis of the systems used for recording, tracking, and organizing the evidence are outlined. There is also an outline of the procedures used to ensure integrity, including approaches to managing outliers and missing information.

Practice-Focused Question

The practice problem is systolic HF readmissions within 30 days. The gap in nursing practice is the lack of effective collaboration with local SNFs to reduce systolic HF readmissions. The practice-focused question for this project was this: In patients with systolic HF, who are discharged to a SNF, will early follow-up and continuity of care by a cardiac APN decrease hospital readmission within 30 days? The purpose of this project was to evaluate the effectiveness of this cardiac APN intervention in reducing HF readmissions within 30 days using the Donabedian quality framework. This approach aligned with the practice-focused question to determine patient outcomes and readmission rates since initiation of the 2012 collaboration between this local hospital

and SNF. The benefit of using a cardiac APN was that the cardiac APN is specialized in taking care of HF patients and could troubleshoot potential readmission issues more effectively.

Sources of Evidence

All data needed to evaluate the APN intervention were obtained through a retrospective chart review of the electronic medical records at the SNF and the local hospital. This data collection method was appropriate because the collaboration commenced in 2012. Sources of evidence and data needed to address the practice-focused question included the following:

- Report with all HF patients from 2012 to 2016 and use of HF clinical pathway. Clinical pathways are evidence-based management plans consisting of clinical interventions, timeframes, milestones, and expected outcomes for a specific patient population such as patients with HF. The HF pathway consists of every possible treatment option to provide the best care for all HF patients that should result in improved patient care outcomes. The HF pathway aligns with the American Heart Association clinical practice guidelines for HF, ensures standardized care, and improves the process of delivering care to HF patients (Queensland Health, 2016).
- American Heart Association clinical practice guidelines for HF to look for trends or any deviation from practice, and if so, the effects of this deviation. Clinical practice guidelines are the best recommendations for practice based on research (Agency for Healthcare Research and Quality, 2014). Deviation

from guidelines may increase length of stay at the SNF and hospital readmission rates. This assisted in evaluating the structure of the HF program.

- Process was evaluated based on how many patients received orders as recommended by the cardiac APN. A medical audit of all HF patients from 2012 to 2016 was performed to determine what percentage of patients seen by the cardiac APN received orders based on the recommendations. Rationale for using this method is that it determined if any orders were missed and the impact on readmissions. These data were used to evaluate the process of the HF program.
- HF readmissions data before and after the cardiac APN intervention were used to track and trend the outcome of this APN intervention. Data obtained from 2012 to 2016 were analyzed for trending purposes. Analysis of this retrospective data determined the impact of care, which is whether any of these patients were readmitted within 30 days post hospital discharge.

This evidence confirmed and validated the use of the cardiac APN intervention and the structure, process, and outcome of this collaboration in accordance with the Donabedian quality framework.

Archival and Operational Data

For this project, I used archival data or data that were routinely collected by the SNF and the hospital for internal quality improvement purposes, as well as regulatory requirements. These data were collected by the quality systems department and housed on the quality database at each facility. Archival and operational data were necessary to

evaluate the effectiveness of this cardiac APN intervention. The report used to evaluate the structure of the HF program is called *use of the HF pathway* report. This report contained a list of all the HF patients admitted from the hospital to the SNF from 2012 to 2016. Besides patient demographic information, admit date, and discharge date for each patient, the report also had a column item labeled “HF Pathway Initiated.” Each patient had a *yes* or *no* under this column, indicating whether the HF pathway was initiated or not initiated respectively. A request was submitted for this report (from 2012 through 2016) as soon as the proposal was approved by the Institutional Review Board (IRB) (See Appendix A).

A second report consisting of the CMO’s progress notes for all HF patients since the collaboration was requested. This report was reviewed to determine if recommendations made by the cardiac APN for treating and managing the care of the HF patients were approved. This report was used to evaluate the process. The third report was used to evaluate the outcome and consisted of all HF patients who were readmitted back to the hospital within 30 days. These data were routinely collected by both facilities, so a request was placed to obtain a copy from each health care facility. Both reports were manually compared for accuracy. From the hospital, a request was submitted to the Midas Clinical Systems Analysts to generate a report to capture all HF readmissions from 2011 to 2016 who were transferred to a SNF and readmitted as an inpatient within 30 days, regardless of whether their readmission diagnosis was HF. Midas is an electronic system through which regulatory, clinical, and quality data are reported to selected

agencies such as The Joint Commission and Department of Health (Monegain, 2014).

The report was two-fold:

- All patients admitted from 2011 through 2016 with a diagnosis of HF
- All patients with a diagnosis of HF who were discharged to a SNF and readmitted within 30 days to the hospital with either a primary or a secondary diagnosis of HF

The report captured the following information: medical record number, primary admission diagnosis (< 30 days), secondary admission diagnosis (< 30 days), length of stay, and disposition. These patients were filtered by international classification of diseases, ninth revision (ICD-9) and international classification of diseases, tenth revision (ICD-10) HF diagnosis codes. Using discharge diagnosis codes was more effective because it reduced the chances of selection error. A similar request was submitted to the information technology department at the SNF to capture all HF readmissions to the hospital within 30 days. Analysis of all reports was used to evaluate the structure, process, and outcome of this collaboration. These were the best sources of data to evaluate the effectiveness of this cardiac APN intervention, as they came directly from both facilities' electronic medical record and quality systems.

Evidence Generated for the Doctoral Project

Evidence and data were needed to evaluate the effectiveness of this cardiac APN intervention and HF readmissions. Evidence and data were collected from use of HF pathway report from 2012 to 2016, the CMO's progress notes report from 2012 to 2016, and the HF readmission reports from 2011 to 2016. These reports provided the evidence

and data to evaluate the structure, process, and outcome of the cardiac APN intervention. The rationale for the date range for the readmission report was that the intervention began in 2012. Readmission data from 2011 were necessary to use as a comparison to determine if the collaboration was effective. All reports from the hospital were requested by my preceptor and by the HF program manager from the SNF. The review and analysis of all reports were done by the project team. The project team was also the evaluation team that determined the effectiveness of the collaboration between the hospital and the SNF.

Procedures

The data collection technique to evaluate the structure, process, and outcome of the collaboration was documents and records (University of Minnesota, 2017). This technique consists of examining existing data in the form of databases, reports, records, minutes, attendance logs, and so forth. This is also an inexpensive way to gather information (University of Minnesota, 2017). For this project, all reports necessary to evaluate each concept outlined in the Donabedian quality framework were generated through the electronic medical record systems at the SNF and the hospital. These reports included use of HF pathway report to evaluate structure, CMO's progress notes report to evaluate process, and HF readmission reports to evaluate outcome. Reports obtained from all electronic medical record systems (SNF and hospital) were initially reviewed by the project leader and crosschecked by the project team to ensure validity and reliability. Data reviewed were entered on a structured traditional paper format, then converted to an Excel spreadsheet to create relevant visual aids to display these data. Validity was evident when all reports were the same in terms of number of patients seen and readmitted to the

hospital. The data were considered reliable once crosschecked by the project team members, and the results were the same. Validity and reliability ensure accuracy of the data (Mohamad, Sulaiman, Sern, & Salleh, 2015).

Protections

Ethical principles were applied to guide the conduct of the research. Principles I used to guide the conduct of this research were social and clinical value, scientific validity, fair selection of team members, favorable risk-ratio benefit, independent review, and respect for all team members (National Institutes of Health, 2016). Clinical value was established in the answer to the practiced focus question: In patients with systolic HF, who are discharged to a SNF, will early follow-up and continuity of care by a cardiac APN decrease hospital readmission within 30 days? Answer to this question helped to improve ways of decreasing readmissions and treating and caring for people with HF. This research was valid because it was designed with accepted principles, clear methods, and reliable practices to get an understandable answer to the practice-focused question. The project team members were selected based on the scientific goal of the study. There were no foreseeable risks to any team members in this project; therefore, the risk-benefit ratio was favorable. This research did not begin without approval of the proposal by the chair of my committee and its members at Walden University. IRB ethics approval was also necessary prior to completion of the research. All potential team members were informed about the purpose of this project and their roles in this evaluation. They verbalized understanding of the information, their role, and how it related to their practice and area of specialty and had agreed to participate in this project once approved. Finally,

all individuals were treated with respect from the time they were initially approached to participate in the research, whether they accepted or not. All team members in this research received respect during and after the research was completed (National Institutes of Health, 2016).

All information obtained from the retrospective chart review was recorded in a manner that could not identify any patients directly or through any patient identifiers. All patient information was handled per The Health Insurance Portability and Accountability Act of 1996 (HIPAA). This Act established standards regarding the confidentiality of personal medical information through the Privacy Rule. Protected health information was not disclosed. Privacy rules were applied to all forms of communication such as oral, written, or electronic (Vassar & Holzmann, 2013).

Analysis and Synthesis

The concepts of the Donabedian quality framework, structure, process, and outcome, were examined to determine the safety and quality of the cardiac APN intervention. Structure focused on the readiness of both facilities to incorporate this collaboration and cardiac APN intervention into the delivery of patient care services. The structure of the HF program at the SNF included initiation of the HF pathway for all HF patients admitted from the hospital. Use of the HF pathway was the basis for evaluating the structure of the HF program and cardiac APN intervention. Use of clinical pathway for HF was associated with increased use of HF medications such as an ACE inhibitor, and decreased length of stay (Ranjan, Tarigopula, Srivastava, Obasanjo, & Obah, 2003). Patients with HF who did not have the HF pathway initiated upon admission to the SNF

would not have received some of the necessary orders to manage and treat their HF disease as outlined in the American Heart Association clinical practice guidelines for HF.

Process looked at the approval and initiation of the recommendations made by the cardiac APN regarding the treatment and management of the HF patients. The process of this collaboration was that the cardiac APN evaluated each patient and wrote her recommendations for patient-specific treatment plans. These recommendations were sent to the CMO of the SNF, who reviewed them, and approved or disapproved. Process was evaluated based on how many treatment plans were approved by the CMO as recommended by the cardiac APN. A report of the CMO's progress notes were requested and examined to determine the percentage of patients who received orders based on the recommendations. Rationale for using this method was that it determined if any orders were missed and if missed orders impacted readmissions.

Outcome is the impact of clinical care. The impact of clinical care was determined by whether the patients seen in the SNF by the cardiac APN were readmitted within 30 days to the hospital. Decreased readmission to the hospital within 30 days confirmed the quality, safety, improved patient care outcomes, and better self-management of disease. Data were collected through the electronic medical record at both facilities. Six years' worth of readmission data from the SNF to the hospital was generated through the Midas System, quality-reporting system at the hospital. Data from the SNF was also obtained from their information technology and quality department. Analysis and synthesis of the data was done manually to ensure accuracy. Data integrity was ensured through the HF ICD-9/ICD-10, which are billing diagnostic codes provided to generate the reports from

both facilities with the list of HF patients readmitted within 30 days. The ICD codes also helped to manage outliers and missing information, meaning that the report only captured HF patients based on the codes provided to generate the report. Data was analyzed through a deductive approach, in that the pattern of a downward trend after the cardiac APN intervention was expected when compared with the findings on the readmission reports. This approach allowed conclusions to be drawn regarding the cardiac APN intervention (Research Methodology, 2016).

Summary

Section 3 focused on the collection and analysis of evidence related to the practice-focused question: In patients with systolic HF, who are discharged to a SNF, will early follow-up and continuity of care by a cardiac APN decrease hospital readmission within 30 days? The concepts of the Donabedian quality framework: structure, process, and outcome, was used to evaluate the quality and safety of the APN intervention. Evaluation of structure focused on compliance with the initiation of the HF pathway on all HF patients admitted to the SNF. Evaluation of process was based on how many treatment plans were approved by the CMO as recommended by the cardiac APN. Evaluation of outcome looked at the impact of clinical care, which was determined by the HF readmission rates from the SNF back to the hospital within 30 days. Sources of evidence were obtained through the electronic medical record systems and included patient medical record, use of congestive heart failure pathway report, CMO's progress reports, and readmission data reports. These were the best sources of data to examine the quality and safety of the APN intervention, and answered the practice focused question:

In patients with systolic HF, who are discharged to a SNF, will early follow-up and continuity of care by a cardiac APN decrease hospital readmission within 30 days?

In Section 4, I present the findings and recommendations of the project. Findings from the analysis and synthesis of the data are reported and unanticipated limitations or outcomes are discussed. Implications from the findings in terms of individuals, communities, institutions, and systems are described. Potential implications to positive social change are provided and proposals are made to potentially address the gap in practice based on the findings. The process of working with the doctoral project is summarized and plans to extend the project beyond the DNP project are discussed. Finally, strengths and limitations of the project are discussed with recommendations for future projects addressing related topics using similar methods.

Section 4: Findings and Recommendations

Introduction

The local problem highlighted in this project is HF readmissions within 30 days. The gap in nursing practice is the lack of collaboration between hospitals and transition of care facilities such as SNFs to improve patient transition and decrease HF readmissions. The practice-focused question was as follows: In patients with systolic HF, who are discharged to a SNF, will early follow-up and continuity of care by a cardiac APN decrease hospital readmission within 30 days? The purpose of the doctoral project was to evaluate the effectiveness of an APN intervention between a hospital and a SNF to decrease HF readmissions back to the hospital.

The sources of evidence used to answer the practice-focused question were preexisting archival and operational quality improvement data from the quality department data system and reports from the electronic medical record systems. The specific reports included a list of all HF patients from 2012 to 2016, list of all HF patients who had the HF pathway initiated upon admission, and report with all HF readmissions from 2012 to 2016. These reports were obtained through a formal electronic request to the information technology department and the quality systems department. All requests were approved by the quality systems director before they were processed. Analysis of all reports was done through the hospital's quality department data system, Midas. Midas is an electronic system through which regulatory, clinical, and quality data are reported to selected agencies such as The Joint Commission, Department of Health, and so forth (Monegain, 2014). Midas creates reports that can be displayed in different formats such

as bar graphs, pie charts, line graphs, and even medical records. Reports for this project were generated to show the comparison between each year's readmission.

Findings and Implications

The collaboration between the hospital and the SNF began in August 2012. From August 2012 to December 2016, total of 1,009 patients were seen and managed by the cardiac APN. Eighty-five HF patients were seen from August 2012 to December 2012. The HF pathway was initiated on all 85 patients, but no recommendations were accepted by the CMO at the SNF. In 2013, the cardiac APN saw 220 HF patients. The HF pathway was initiated on all 220 patients and all the recommendations by the cardiac APN were implemented. In 2014, 233 patients were seen. The HF pathway was initiated on all patients and all recommendations were implemented. In 2015, 300 patients were seen. The HF pathway was initiated on all patients, and all recommendations were implemented. In 2016, 171 patients were seen. The HF pathway was initiated on all patients and recommendations implemented (See Appendix B).

Forty-two HF patients were readmitted from the SNF to the hospital in 2011. In 2012, 40 out of 85, 47.1% patients seen by the cardiac APN, were readmitted back to the hospital. After further review of the data, the project team concluded that this was likely because the collaboration was newly implemented, and the process was not fully streamlined at the time. This was also supported by the fact that none of the recommendations made by the cardiac APN were accepted by the CMO at the SNF. In 2013, 26 out of 220 patients (11.8%) were readmitted to the hospital. In 2014, 11 out of 233 patients (4.7%) were readmitted to the hospital. In 2015, 19 out of 300 patients

(6.3%) were readmitted. Finally, in 2016, 26 out of 171 patients (15%) were readmitted (See Appendix C).

One unanticipated outcome was an increase in readmission and a decrease in the total number of patients seen in 2016. There was a steady increase in the number of patients seen from 2013 to 2015, as well as a steady decline in readmission rates for this 3-year period. Unfortunately, readmission rates started to increase again in 2016, and there was also a decrease in the total number of patients seen in 2016 when compared to 2013, 2014, and 2015. This unanticipated outcome was because of staffing issues at the hospital. The cardiac APN was being pulled from the SNF to cover other areas in the hospital.

While review of the literature has shown that outpatient APN intervention is effective in the management of HF and helps in reducing readmissions to the hospital, researchers have not studied a direct collaboration between a hospital and a nonaffiliated SNF using a cardiac APN to manage and coordinate the outpatient interventions. This research showed the following distinct findings:

- The APN is an effective care coordinator, which results in improved patient outcomes for HF patients.
- Specialized APNs, such as the cardiac APN in this study, may be more effective in the management and coordination of care for a specific patient population. The cardiac APN was more familiar with the pathophysiology of HF, which allowed her to recommend changes for HF medications and dosages as well as outpatient testing.

- This quality improvement project supports the conclusion that collaboration between hospitals and SNFs after hospital discharge is essential to improve the management of HF and reducing readmissions within 30 days.

HF patients who are discharged from the hospital to a SNF benefit from collaboration between the hospital and SNF regarding management and coordination of care by a cardiac APN to decrease rehospitalization. The cardiac APN specializes in HF and provides good clinical judgment, communicates, collaborates, and coordinates care with primary care physicians and other medical professionals. These findings suggested that the APN role could be effective in managing and coordinating the care for other chronic illnesses. I recommend future studies with a similar collaboration model to determine the effects of using a specialized APN in managing and coordinating the care for other chronic patients such as stroke and COPD. Collaboration between hospitals and SNFs can improve quality of care for HF patients, decrease the financial penalties for readmissions to hospitals within 30 days, and decrease the rising health care costs for HF patients in the United States.

Potential implications to this successful collaboration are as follows:

- More collaboration and better working relationships between health care facilities
- Improved patient care outcomes for HF patients
- Decreased hospitalizations and readmissions
- An improved community health care system

Recommendations

The gap in nursing practice is the lack of collaboration between hospitals and/or nurses and transition of care facilities as well as inconsistencies in staffing to improve patient transition and decrease HF readmissions. This existing collaboration was put on hold until this evaluation was completed to determine if it was effective and worth continuing. Based on the findings, it is recommended that this collaboration continues with the cardiac APN managing the care of all HF patients discharged to the SNF with minor adjustment to the structure and process. To improve the structure, this cardiac APN position should be a dedicated full-time position and not looked at as an opportunity to cover staffing shortages as needed. Regarding the process, the APN should have a data set of orders to enter every patient admitted with HF, which would result in improved continuity of care.

Contribution of Doctoral Project Team

The doctoral project team worked well together. The process of working with this team was seamless. Each team member had specific roles that contributed towards addressing the practice-focused question. The project team consisted of the following members:

- Head of the cardiology department at the hospital, who approved the collaboration and signed all the necessary documents such the site agreement and practicum agreement forms.
- Cardiac APN, who requested and obtained HF readmission reports from the hospital

- Administration at the SNF, who also signed the agreement for the collaboration and provided permission to proceed with the evaluation of the APN intervention
- HF program manager at the SNF, who initiated the HF pathway on all HF admissions from the hospital and requested and obtained HF readmission reports from the SNF
- Information technology technician at the SNF, who provided reports for HF readmissions to the hospital within 30 days, use of HF pathway report, and CMO's progress notes report of all the HF patients since the collaboration
- Clinical analyst at the hospital, who provided HF readmission report from the hospital Midas system

All team members communicated as needed via e-mail, text messages, phone call, or in person, and the response times were no more than 2 days. I, as the DNP student and project team leader, met weekly for 1 hour with the cardiac APN and HF program manager to discuss progress of the DNP project and discuss goals and objectives. All reports requested by the designated team members were received well in advance of the 2-week response timeframe. All project team members shared their expertise and insight related to the reports used to evaluate the structure, process, and outcome of the project. All requested records and reports were initially reviewed by the project leader, then crosschecked by the cardiac APN and HF program manager to ensure validity and reliability. These reports were subsequently sent to all additional team members for review and feedback. All team members contributed via suggestions to the final

recommendations regarding the outcome of the project and display of project information.

Due to the outcome of this collaboration, the hospital is actively seeking to collaborate with other SNFs using the same collaboration model. In addition, I, the DNP student and the stroke program coordinator at the hospital, have proposed implementation of this model to decrease readmissions for the stroke patient population in SNFs. The SNF has also requested an APN who specializes in pulmonary disease to manage the care for COPD patients, which represents the highest hospital readmission rates.

Strengths and Limitations of the Project

This collaboration model can be easily replicated and implemented across other disciplines. Support was given from both SNF and the hospital by the medical administration departments regarding the care of the HF patients. One of the limitations identified during the project was the ability to solely identify systolic HF patients due to nonspecific coding from a billing perspective. Other limitations included the fact that the data were also retrospective, so the team had to work with the preexisting data and reports provided. A prospective study can be done using this same model to track data in real time and compare with this retrospective project to see if there is a difference between the results.

Section 5: Dissemination Plan

Dissemination Plan

Results of this project will be disseminated through a PowerPoint presentation to the assistant vice president of cardiology services at the hospital who approved the project, the president of the hospital, the CMO, the chief operations officer, and the chief financial officer. The same presentation will be presented to the administrative staff at the SNF. Dissemination of results to nursing staff and other stakeholders at the hospital and the SNF will be done through a poster board. A poster board is a rapid way of educating staff. Posters are easy to set up and a helpful means to present evidence-based projects in a forum (Forsyth, Wright, Scherb, & Gaspar, 2010). One of the advantage of using a poster board to disseminate information to staff and other stakeholders is that it can be displayed on the different units and in other public places throughout the health care facility. Project results can be used to create practice changes, which would be due to the arduous work of this project team and findings of this project (Laureate Education Inc, 2012).

Analysis of Self

When I started this DNP program, I was a new nurse practitioner graduate, a nonscholar, but had experience with project management. The role as practitioner, scholar, and project manager altogether has been challenging, but the experience was priceless. I felt overwhelmed in the beginning about evaluating a collaboration that started 4 years ago. Reviewing and comparing all those reports seemed monotonous, mostly because HF was not my specialty. In addition, my computer skills of creating and

working with graphs are limited. I completed some basic Excel training and learned how to create graphs through Midas, the hospital's quality department data system. The project management aspect was more manageable due to previous experience and being in my current role.

Overall, I feel like I have grown tremendously in terms of my leadership skills and abilities, which has been acknowledged by my superiors and peers. My employment at the local hospital as a nurse practitioner at the stroke clinic and coordinator of the stroke program was advantageous to the project. I was able to connect with various department heads regarding questions or comments about some of the reports.

I have utilized several, if not all the DNP essentials throughout this project and have also applied them to my current role as the stroke program coordinator at the local hospital. The stroke team at the local hospital utilize DNP Essential I, Scientific Underpinnings for Practice (American Association of Colleges of Nurses, 2006), as the basis for how we practice. As a result, we have implemented a journal club that meets monthly to discuss research articles that outline our stroke practice guidelines and to see how the changes have evolved over the years. We reviewed several foundational articles and now spend more time on recent studies applicable to our current practices. I also consistently use Essential II: Organizational and Systems Leadership for Quality Improvement and Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice (American Association of Colleges of Nurses, 2006) in my current practice. I work effectively with the nursing leadership team daily to implement protocols to maintain clinical practical guidelines and ensure quality health care and

patient safety for the stroke population. In terms of moving forward, I see myself building on the existing skills, gaining new knowledge, and becoming the “go-to” person for implementation of evidence-based guidelines in my specialty.

Summary

Decreasing HF readmissions within 30 days is an ongoing process for most hospitals in the United States. Financial penalties for HF readmissions have forced health care facilities to look beyond in-patient initiatives, which have not been successful in decreasing 30-day readmission rates, to external strategies such as collaborating with other health care facilities. For patients being discharged to SNFs, having an APN who specializes in cardiac care from the hospital setting provide follow-up care in the SNF setting is another method of providing better patient care outcomes and decreasing hospital readmissions. Collaborating with SNFs using a cardiac APN post hospital discharge to coordinate and manage the care of all HF patients could result in decreased readmission financial penalties, decreased hospitalization for HF patients, and improvement in their quality of life.

References

- American Association of Colleges of Nurses. (2006). The essentials of doctoral education for advanced nursing practice. Retrieved from <http://www.aacnursing.org/Portals/42/Publications/DNPEssentials.pdf>
- Adib-Hajbaghery, M., Maghaminejad, F., & Abbasi, A. (2013). The role of continuous care in reducing readmission for patients with heart failure. *Journal of Caring Sciences*, 2(4), 255–267. <http://doi.org/10.5681/jcs.2013.031>
- Agency for Healthcare Research & Quality. (2014). Clinical guidelines and recommendations. Retrieved from <http://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/index.html>
- Boston Medical. (2014). Project RED (Re-Engineered Discharge). Retrieved from <https://www.bu.edu/fammed/projectred/>
- Bradley, E. H., Curry, L., Horwitz, L. I., Sipsma, H., Wang, Y., Walsh, M. N., & Krumholz, H. M. (2013). Hospital strategies associated with 30-day readmission rates for patients with heart failure. *Cardiovascular Quality and Outcomes*, 6, 444-450. doi:10.1161/CIRCOUTCOMES.111.000101
- Clark, R., Bonner, A., & Hines, S. (2013). The effectiveness of health education using the teach-back method on adherence and self-management in chronic disease: A systematic review protocol. *JBIC Database of Systematic Reviews & Implementation Reports*, 11(10) 30–41. Retrieved from <https://journals.lww.com/jbisrir/Pages/default.aspx>
- Coleman, E. A., Parry, C., Chalmers, S., & Min, S. J. (2006). The care transitions

- intervention: Results of a randomized controlled trial. *Archives of Internal Medicine*, 166(17), 1822-1828.
- Dellasega, C., & Zerbe, T. (2002). Caregivers of frail rural older adults: Effects of an advanced practice nursing intervention. *Journal of Gerontological Nursing*, 28(10), 40-49.
- Fiandt, K. (2016). The chronic care model: Description and application for practice. *Topics in Advanced Practice Nursing eJournal*, 6(4), 3. Retrieved from <https://www.medscape.com/nursingjournal>
- Forsyth, D. M., Wright, T. L., Scherb, C. A., & Gaspar, P. M. (2010). Disseminating evidence-based practice projects: Poster design and evaluation. *Clinical Scholars Review*, 3(1), 14–21. doi:10.1891/1939-2095.3.1.14
- Gardner, G., Gardner, A., & O'Connell, J. (2014). Using the Donabedian framework to examine the quality and safety of nursing service innovation. *Journal of Clinical Nursing*, 23, 145–155. doi:10.1111/jocn.12146
- Ghaffari Sardasht, F., Jahani Shourab, N., Jafarnejad, F., & Esmaily, H. (2014). Application of Donabedian quality-of-care framework to assess the outcomes of preconception care in urban health centers, Mashhad, Iran in 2012. *Journal of Midwifery and Reproductive Health*, 2(1), 50-59.
- Healthline. (2017). Heart failure. Retrieved from <http://www.healthline.com/health/heart-failure#overview1>
- Health Affairs. (2012). Health policy briefs: Improving care transitions. Retrieved from http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief_id=76

- Health Quest. (2016). The Heart Center. Retrieved from
<http://www.healthquest.org/heart-center/heart-disease.aspx>
- Horwitz, L., & Krumholz, H. (2015). Strategies to reduce hospitalizations in patients with heart failure. Retrieved from <http://www.uptodate.com/contents/strategies-to-reduce-hospitalizations-in-patients-with-heart-failure>
- Institute for Healthcare Improvement. (2015). Good heart failure care follows patients home. Retrieved from
<http://www.ihl.org/resources/Pages/ImprovementStories/GoodHeartFailureCareFollowsPatientsHome.aspx>
- Institute for Healthcare Improvement. (2009). Effective interventions to reduce rehospitalizations: A survey of the published evidence. Retrieved from
<http://www.academyhealth.org/files/SQII/STAARSurvey.pdf>
- Kim, S.M., & Han, H.R. (2013). Evidence-based strategies to reduce readmission in patients with Heart Failure. *Journal for Nurse Practitioners, 9(4)*, 224-232.
<https://doi.org/10.1016/j.nurpra.2013.01.006>
- Laureate Education, Inc. (Executive Producer). (2012). *Developing a scholarly product for dissemination*. Baltimore, MD: Author.
- Lee, V.K., Westley, C. J., & Fletcher, K. (2016). If at first you don't succeed: Efforts to improve collaboration between nursing homes and a health system. *Advanced Practice Nursing eJournal, 4(3)*. Retrieved from
<http://www.medscape.com/viewarticle/487323>
- Lomi, A., Mascia, D., Vu, D. Q., Pallotti, F., Conaldi, G., & Iwashyna, T. J. (2014).

Quality of care and interhospital collaboration: A study of patient transfers in Italy. *Medical Care*, 52(5), 407–414.

<http://doi.org/10.1097/MLR.0000000000000107>

McDonald, K.M., Sundaram V, & Bravata, D.M. (2007). *Closing the quality gap: A critical analysis of quality improvement strategies* (Vol. 7: Care Coordination). Rockville, MD: Agency for Healthcare Research and Quality. Retrieved from: <https://www.ncbi.nlm.nih.gov/books/NBK44008/>

McEwen, M., & Wills, E.M. (2014). *Theoretical basis for nursing* (4th ed.). Philadelphia, PA: Wolters Kluwer Health.

Miller, W. R. (2010). Qualitative research findings as evidence: Utility in nursing practice. *Clinical Nurse Specialist CNS*, 24(4), 191–193.
doi:10.1097/NUR.0b013e3181e36087

Mohamad, M.M., Sulaiman, N. L., Sern, L. C., & Salleh, K. M. (2015). Measuring the validity and reliability of research instruments. *Procedia - Social and Behavioral Sciences*, 204, 164–171. doi:10.1016/j.sbspro.2015.08.129

Monegain, B. (2014). Clinical quality reporting stymies EHRs. Retrieved from <http://www.healthcareitnews.com/news/clinical-quality-reporting-stymies-ehrs>

National Gerontological Nursing Association. (2014). Updates in Adult -Gerontological Advanced Practice Nursing. Retrieved from http://www.ngna.org/_resources/documentation/webinar/NGNA-GAPNA_SlideDeck.pdf

National Health Care Associates. (2016). The Pines at Poughkeepsie: Center for Nursing

and Rehabilitation. Retrieved from

<http://pinesatpoughkeepsie.com/pinespoughkeepsie/about-us>

National Institutes of Health. (2016). Guiding Principles for Ethical Research. Retrieved from <https://www.nih.gov/health-information/nih-clinical-research-trials-you/guiding-principles-ethical-research>

Naylor, M. D., & Van Cleave, J. A. N. E. T. (2010). Transitional care model. *Transitions Theory: Middle-range and Situation-specific Theories in Nursing Research and Practice*. New York: Springer Publishing, 459-65.

Naylor, M., & Keating, S. A. (2008). Transitional Care: Moving patients from one care setting to another. *The American Journal of Nursing*, 108(9), 58–63.
<http://doi.org/10.1097/01.NAJ.0000336420.34946.3a>

Nurse Practitioner Schools. (2016). Day in the life of a cardiac nurse practitioner. Retrieved from <http://www.nursepractitionerschools.com/blog/day-in-life-of-cardiac-np>

Peter, D., Robinson, P., Jordan, M., Lawrence, S, Casey, K., & Salas-Lopez, D. (2015). Reducing Readmissions Using Teach Back: Enhancing Patient and Family Education. *The Journal of Nursing Administration*, 45(1), 35–42. doi: 10.1097/NNA.0000000000000155

Queensland Health. (2016). Clinical Pathways. Retrieved from <https://www.health.qld.gov.au/improvement/pathways>

Ranjan, A, Tarigopula, L, Srivastava, R. K., Obasanjo, O.O., & Obah, E. (2003). Effectiveness of the clinical pathway in the management of congestive heart

- failure. *South Med J.* 2003 Jul;96(7):661-3. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/12940315>
- Rennke, S., & Ranji, S. R. (2015). Transitional Care Strategies from Hospital to Home: A Review for the Neurohospitalist. *The Neurohospitalist*, 5(1), 35–42. <http://doi.org/10.1177/1941874414540683>
- Research Methodology. (2016). Deductive Approach. Retrieved from <http://research-methodology.net/research-methodology/research-approach/deductive-approach-2/>
- Sales, A., Smith, J., Curran, G. and Kochevar, L. (2006), Models, Strategies, and Tools. *Journal of General Internal Medicine*, 21: S43–S49. doi:10.1111/j.1525-1497.2006.00362.x
- Stellefson, M., Dipnarine, K., & Stopka, C. (2013). The chronic care model and diabetes management in U.S. primary care settings: A systematic review. Retrieved from http://www.cdc.gov/pcd/issues/2013/12_0180.htm
- Titler, M.G. (2008). The Evidence for Evidence-Based Practice Implementation. Patient Safety and Quality: An Evidence-Based Handbook for Nurses. Rockville (MD): Agency for Healthcare Research and Quality (US); Chapter 7. Retrieved from: <http://www.ncbi.nlm.nih.gov/books/NBK2659/>
- U.S. News. (2016). The Pines at Poughkeepsie Center for Nursing & Rehabilitation. Retrieved from <http://health.usnews.com/best-nursing-homes/area/ny/the-pines-at-poughkeepsie-center-for-nursing-rehabilitation-335440>
- University of Minnesota. (2017). Data Collection Techniques. Retrieved from <https://cyfar.org/data-collection-techniques#Docs>

University of Toledo. (2016). Literature Review: Lit Review Sources. Retrieved from

<http://libguides.utoledo.edu/c.php?g=284354&p=1893982>

Vassar, M., & Holzmann, M. (2013). The retrospective chart review: Important

methodological considerations. *Journal of Educational Evaluation for Health*

Professions, 10, 12. doi:10.3352/jeehp.2013.10.12

Watts, S., Lawrence, R.H., & Kern, E. (2011). Diabetes nurse case management training

program: Enhancing care consistent with the chronic care and patient-centered

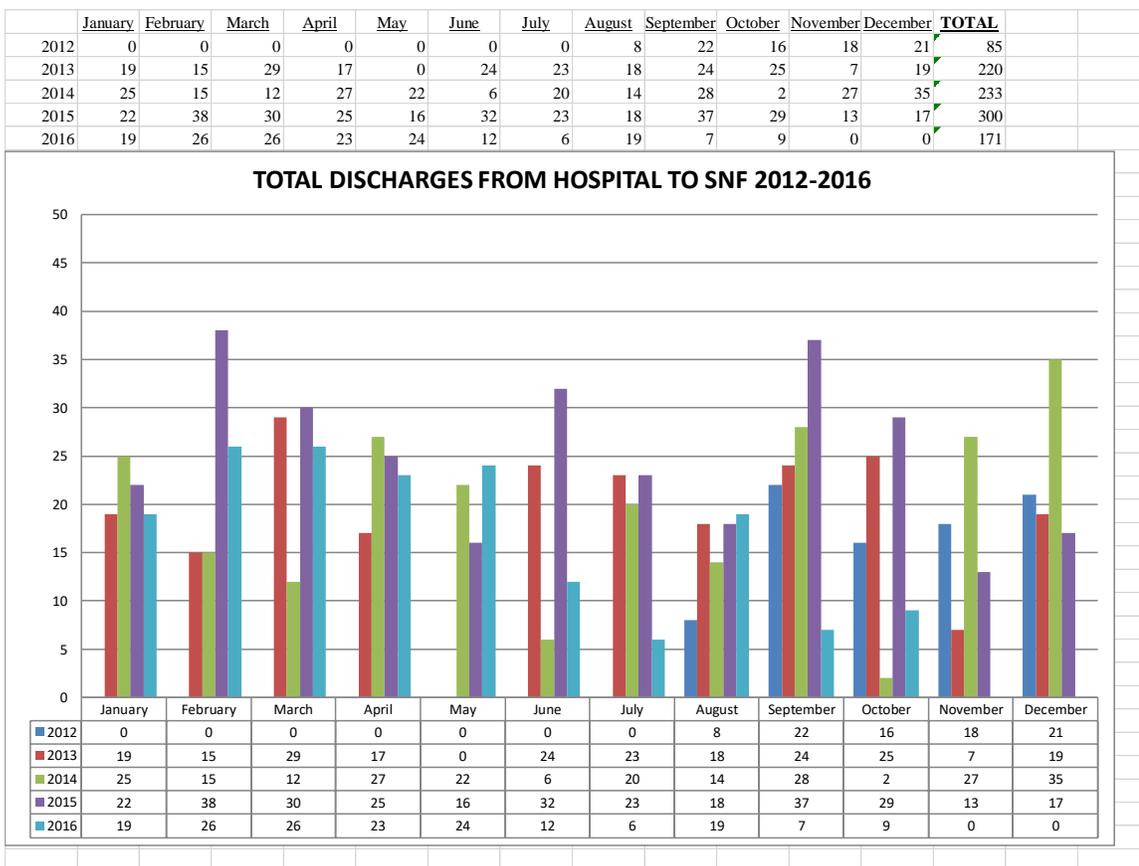
medical home models. *Clinical Diabetes*, 29(1): 25-33;

doi:10.2337/diaclin.29.1.25

Appendix A: IRB Approval Number

IRB approval number is **10-30-17-0575486**

Appendix B: Total Discharges from Hospital to SNF 2012-2016



Appendix C: HF Readmissions From 2012 to 2016

