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Transitional Care for the Cardiac Surgery Population: Development of a Clinical Practice Guideline

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Walden University

College of Health Sciences

This is to certify that the doctoral study by

Sheila Davies

has been found to be complete and satisfactory in all respects,
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the review committee have been made.

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2018

Abstract

Transitional Care for the Cardiac Surgery Population: Development of a Clinical Practice

Guideline

by

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MSN, Stony Brook University, 2000

BSN, Mount Saint Mary College, 1996

Project Submitted in Partial Fulfillment

Of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2018

Abstract

Recovering from a cardiac surgery procedure and the transition to home can be an overwhelming experience for patients and caregivers. A tertiary care hospital's cardiothoracic surgery department suspended a nurse-practitioner-coordinated transitional care program in the 1st quarter of 2016. Following this decision, the readmission rate increased from its previous rate of 15.6% in quarter 1 to 20% in quarter 3. The purpose of this scholarly project was to develop a clinical practice guideline (CPG) that can bridge the gap in the transitional care process. The transitional care model informed the design of the project. A draft guideline was distributed to 5 stakeholders from the inpatient cardiac surgery care team for initial review. After initial review and revisions an edited version was then distributed to 5 additional stakeholders. Those stakeholders provided an assessment utilizing the AGREE II tool to assess the 6 domains of scope and purpose, stakeholder involvement, rigor of development, clarity and presentation, application and editorial independence, and overall quality. Four domains indicated a high level of agreement (96%-100%) and 2 domains indicated a response of $\leq 76\%$ for domains related to rigor and organizational resources. The overall guideline assessment of the quality of the CPG received a score of 96%, with a recommendation to adopt the guideline. Advanced practice nurses will utilize this guideline to provide a systematic process in bridging gaps in care for the transition of the cardiac surgery patient population from hospital to home. Social change will be promoted through improved patient management by using evidence-based transitional care, decreased readmissions, and improved health outcomes for the cardiac surgical population.

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Dedication

This entire project is dedicated to my mother and father. Without their support and focus on the importance of education and self-improvement, I would not have reached the success in nursing. At age 18, my father knew me better than I and guided me to the decision to be a nurse. I had other thoughts and dreams, but he knew that this career would not only provide me a life full of appreciation but also gratitude. They have supported me both emotionally and financially and always believed in me even when times were tough. I also dedicate this project to all the patients that have changed my life. I have learned from them and their many life experiences which has shaped me into the provider I have become.

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I want to acknowledge my husband, Jon, and my children, Brooke and Jason, who have stood by me during my entire educational journey. You had patience during the countless hours of sitting in front of my computer and always supported me with your love. I have my parents to thank for steering me in the right direction where I have had an amazing career and look forward to seeing where my journey will go.

I would like to acknowledge and give honor to two special friends, Dr. Jennifer Laffey and Dr. Deborah McElligot, who took time out of their busy lives to answer my many questions and to guide me during my clinical experience. You are both true mentors. I want to thank all family members and friends, as well as faculty, who have encouraged me in this endeavor. I want to acknowledge Dr. Catherine Garner and Dr. Deborah Lewis who went above and beyond to keep me focused on reaching my overall goal.

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Section 1: Nature of the Project

Introduction

Technological advances in cardiac surgery have enabled many older adult patients to undergo cardiac procedures. Individuals with heart disease who were considered nonoperable years ago are now having the opportunity to undergo procedures to improve life threatening conditions such as aortic stenosis, and for many individuals, this has improved the quality of their lives (Bonow & Greenland, 2015). However, the transition process from acute care to home care has proven to be a challenge for nursing and hospitals due to this population's complex medical problems and social challenges.

Providing a robust transitional care program for high-risk populations is not an easy task. Substantial resources are needed to ensure that gaps are bridged during the process of transition from acute care to home. Transitional care programs have demonstrated positive effects in high-risk populations in reducing medical errors, enhancing patient safety, and improving patient satisfaction (Mansukhani, Bridgeman, & Eckert, 2015). With the changing healthcare system and a broader focus on transitional care, it is important to use evidence-based care to ensure consistency and provide a positive impact on patient care.

The goal of this project was to develop clinical practice guidelines (CPGs) to assist with the transitions of care for patients who have undergone a cardiac surgery procedure. The development of CPGs relies on evidence-based management recommendations, the application of critical judgment, a thorough assessment of the care options, and discussion with the care team members (Zaccagnini & White, 2011).

Providing transitional care is a significant financial commitment for an organization but can have a positive effect on hospital readmissions, quality of care, and ultimately, improving the overall care of the patient (Mansukhani et al., 2015). The cardiac surgery population is unique and often possess complex medical conditions and medical regimens that make them a high-risk population to care for in the community (Baranson et al., 2012). The positive social change implications of this project were to explore overall improvements in the transitional care process for the cardiac surgery patient population, thus improving their health outcomes and quality of life

Section 1 will begin with an overview of the problem studied and a description of the current transitional care program at this northeastern medical center cardiac surgery program. The significance that a poor transition has on overall patient outcome will be explored and how this problem can affect the nursing profession. I will conclude the section by providing an understanding of the problem at hand and how the development of CPGs will assist in improving the care that is provided to the cardiac surgery population and support a patient-centered approach to care within the organization.

Background

The discharge process and transitions of care remain a major challenge for health systems that want to improve outcomes and reduce readmissions (Budryk, 2016). A rushed discharge and a poor transitional process can lead to a gap in care that can often affect the overall recovery and health outcomes of a patient who has undergone a complex surgical procedure such as cardiac surgery. As reported by Budryk (2016), transitional care can represent the most complex of care models since cardiac surgery

patients often require care amongst multiple settings. This population has been identified by this northeastern healthcare organization study site as a group that would benefit from a systematic transitional care program that provides both medical and psycho-social support for 30 days post-cardiac surgery procedure.

The northeastern organization study site provides a robust cardiac surgery department that provided care for 1,470 patients in 2016. The patient population is spread through a large geographical territory that encompasses approximately 118 miles. Historically, this program provided a transitional care program where the nurse practitioner that cared for the patient on the inpatient side also provided one visit at home after hospitalization. In 2014 study, Hall (2014) found that patients receiving usual care were three times more likely to be readmitted or die following a cardiac surgery than patients that received Nurse Practitioner home visits. The study site's program provided no transitional care training and did not risk stratify the patients, which led to the random visits and multiple variations that occurred in this program. There was no clear consistency in delivery of transitional care noted. Due to the large territory, visits were often unable to be made based on timing and hard to reach territories.

Due to the increase in readmission rate in 2016, the cardiac surgery department budgeted three full time positions for advanced practice providers to provide transitional care for their patient population. This department asked for assistance from the care management department within the health organization that provided transitional care for their orthopedic patient population to develop a program to improve their outcomes. The cardiac surgery department needed help in improving their 30-day readmission rate of

this department and asked the care management department because of their track record of success and experience in providing evidence-based transitional care and analytics. Patient outcomes and satisfaction with the care that is delivered can be jeopardized when a clear process is not in place (Aspenson & Hazaray, 2012).

Problem Statement

The care navigation team has noted that over the last year there have been some adverse events that were related to a poor transitional care program. Multiple variations of care for this high-risk population contribute to poor patient satisfaction scores and a high 30-day readmission rate. The care navigation team has observed social challenges with this target population, which include the inability to make follow-up appointments, the lack of supportive care at home, and poor medication reconciliation. These barriers can hinder the recovery of the cardiac surgery patient population and lead to adverse events. Nursing can play a key role in improving the discharge process and assisting with the mitigation of these issues before the patient is transitioned from hospital to home.

Currently, cardiac surgery patients are discharged to home with a follow-up phone call upon discharge, but there are no clear transitional care guidelines in place resulting in multiple variations of care. Complex medical regimens along with the emotional impact that occurs when undergoing a cardiac surgical experience are two areas that have been identified as overwhelming for patients and caregivers (Baranson et al., 2012). Without a widespread systematic transitional care program that is supported by CPGs, this patient population is at risk for adverse events. A high readmission rate was noted in the cardiac surgery department, which is costly for the organization and often is correlated with

quality. Because of the high readmission rate and observed need for change, the cardiac surgery department has requested the development of CPGs for the transitional care of the cardiac surgery patient population. Therefore, the project question was as follows: Can the development of a CPG be evaluated and validated by peers in the cardiac surgery department and transitional care department at this northeastern organization?

Purpose Statement

The purpose of this project was to develop a CPG for the implementation of a transitional care process and to validate the CPG through peer review that consisted of key stakeholders within the cardiac surgery department. By adopting a transitional care program that provides a systematic process and CPGs, it was hoped that the patient experience would be enhanced as evidenced by an improvement in patient satisfaction scores as measured by the Hospital Consumer Assessment of Healthcare Providers and Systems. The goal was also to improve the readmission rate of the cardiac surgery population at this northeastern hospital.

The gap in nursing practice I focused on in this project was the lack of a standardized practice for transitioning the cardiac surgery patient through the postsurgical part of the care continuum. This project engaged the cardiac surgery staff to assist in the development of CPGs that will assist the inpatient and care navigation team in providing best practices in transitional care to the cardiac surgery patient population. I took a multidisciplinary approach in this project with input from many stakeholders including nursing, case management, administration leadership, and the care navigator team. Developing clinical guidelines can assist the cardiac surgery patient with the transitions

of care between the acute care setting and home, cardiac rehabilitation, and physician follow up. Recommendations and workflows were also developed to improve the transitional care process of the cardiac surgery patient and improve the overall communication throughout the cardiac continuum. The CPGs were developed using the essential elements of the transitional care model as the foundation (Naylor et al.,2004).

Nature of the Doctoral Project

Evidence-based practice (EBP) is the core of nursing care and works towards minimizing differences in practice patterns and providing the most effective and efficient care (Zaccagnini & White, 2011). Doctor of Nursing Practice (DNP) leaders play a key role in ensuring that care is met with these goals in mind. The DNP competencies include the incorporation of EBP, population health, and leadership (Zaccagnini & White, 2011). With this DNP project, I have the ability to influence the health outcomes of the cardiac surgery population, thus contributing to nursing practice.

My aim with this project was to develop a CPG that supports the cardiac surgery patient's experiences during the transition process from acute care to home at this northeastern organization. I designed the CPG based on the framework of the transitional care model, created by Naylor et al. (2011), with the hope of improving the patient experience and readmission rate. There has been significant research in the field that has identified factors such as the degree of connectedness patients feel to their care facility and healthcare team to quality of care (Nash et al., 2011). Supporting patient goals and connecting them with individuals in their community can be a powerful way of supporting the cardiac surgery patient population through the multiple transitions of care

that occur (Rosbourough, 2006). The patient often has other factors within their lives that need to be addressed, and by incorporating these factors along with the diagnosis, care can be delivered in a comprehensive, holistic manner throughout the care continuum (Rosbourough, 2006).

I created the CPG based on a thorough review and analysis of the literature on transitional care. The CPG was reviewed by peers in the cardiac surgery department that consisted of stakeholders from the department and organization, including care navigators, an inpatient cardiothoracic nurse practitioner, bedside nurses, a nurse manager, and a member of case management team. These individuals had the opportunity to provide input on the development of the guidelines for transitional care. Since the transitional care program will continue 30 days after the index discharge of the patient, the guideline included workflows for communication to ensure that there are no gaps in communication on the overall care and recovery of the patient. Providing immediate information and pattern identification back to the inpatient team will be part of the guideline so that problems or areas that need to be improved can be addressed immediately.

I also completed a comprehensive literature review that included articles related to transitional care, the care of the cardiac surgery patients in the home setting, and other episodes of care (see Section 2). Once I developed the CPG, they were reviewed by peers and enhanced and shared with the cardiac surgery department and nursing administration for adoption and implementation. Integrating a transitional care model into the current department will take a team approach that includes leaders from the

cardiac surgery department to ensure adoption and sustainability of the guidelines (see Naylor et al., 2004). Once approved, I included specific recommendations and disseminated the CPG to the acute care team during team morning huddles to assist in knowledge transformation and improve the transitions of care for the cardiac surgery population.

A plan to evaluate the effectiveness of the guidelines will be developed in the future to focus in on a conventional comparative analysis to evaluate the 30-day readmission rate and patient satisfaction scores once the guidelines have been adopted. As an advanced practice care navigator, I am well suited for leading this project. As a doctorate of nurse practice student my role will foster patient autonomy, provide direct medical intervention when needed, and provide patients with guidance to improve their overall recovery (see Zaccagnini & White, 2011).

Significance

Bridging the gaps of care by utilizing care navigation along with evidence-based guidelines has proven to assist with the care transitions of high-risk populations in other departments throughout the organization as evidenced by quality reporting. This project has the potential to add to knowledge in the field of nursing by providing key elements that are needed when cardiac surgery patients are transitioned to the community. Silos of care and fragmentation can be often detrimental to a patient who has undergone a cardiac surgery procedure (Rosborough, 2006). This project aligned with the goal of the organization to redesign the way that health care is provided. Identifying barriers and understanding the overall expectations, goals, and needs for the cardiac surgery

population can assist the nurses and the healthcare team to better understand how to individualize care and provide instructions that will ensure a safe recovery and transition.

Currently, there is no communication mechanism in place for the inpatient staff to have an understanding of barriers to care on the outpatient side. Establishing a clear guideline can assist in improving communication between the activities that are occurring in the community and the cardiac surgery department. The care navigation team will work towards identifying areas that need improvement by monitoring and evaluating care outcomes and reporting back to the team in real time (see White & Dudley-Brown, 2012).

Transitions of care have been an area of great focus due to the shift in health care to provide greater collaboration in both inpatient and outpatient care. As defined by Nash et al. (2011), transitional care consists of a broad range of services designed to ensure healthcare continuity to avoid preventable poor outcomes amongst high-risk populations. During any transition after cardiac surgery, patients are susceptible to many preventable adverse events due to the complex manner of this surgical procedure and medical comorbidities that this population possess (Nash et al., 2011). Despite increased attention to providing a seamless transition after hospitalization, many patients and caregivers remain feeling anxious, unprepared, and unaware of what to expect after a cardiac surgery procedure (Rosborough, 2006). Clinicians must consider how they can participate in the patients' lives instead of expecting them to just follow orders (Nash et al., 2011). NP/care navigators are well suited for partnering with the patient to understand their needs and recovery goals and this relationship is consistent with nursing models of care

and theory. Successful discharge planning and the management of care transitions is critical to better managing patients clinically and providing improved patient outcomes.

Part of the CPG includes a recommendation for risk stratification of cardiac surgery patients. Providing a robust transitional care program can be expensive to sustain within an organization (Nash et al., 2011). Providing intensive navigation to the patients who are most likely to face complications at home due to age, health literacy, social issues may be more cost effective to this department. Matching the right interventions based on risk can demonstrate both improved outcomes and cost benefits to the organization and was included in the CPG.

Summary

The DNP-prepared nurse practitioner can play a vital role in providing transitional care management for cardiac surgery patients who possess complex medical conditions (Zaccagnini & White, 2011). Navigating the healthcare system can be stressful and supporting patients, both socially and medically, who have undergone a major surgical procedure is necessary to providing a successful recovery and improved outcomes (CITE). Quality care should not stop once a patient leaves the concrete walls of an acute care setting. Especially during transition, supportive care can often bridge multiple gaps and identify problems that can be improved upon with effectiveness and efficiency. Providing clear guidelines that are established by a group of key stakeholders to assist in a standardized transitional care program was the overall goal of this project.

In Section 2, I will present a review of the literature that assisted in building and developing a foundation for guideline development. In the review, I focused on patient-

centered care along with recommendations related to the discharge process and transitions of care. Additionally, in this section, I will review the ACE star model and its application to the development of the CPG for transitions of care for the cardiac surgery patient.

Section 2: Background and Context

Introduction

The purpose of this project was to develop a CPG that utilizes the framework of the transitional care model for the cardiac surgery patient population at this organization. The goal was to review evidenced-based programs and develop a CPG that supports the department to enhance the transitional care program for the cardiac surgery patient population. Using a practice guideline can minimize variations in practice and decrease the risk of gaps of care during the transitional process after a cardiac surgery procedure (Goolsby et al., 2004).

My review of the literature will provide a background to improve the understanding of the importance of the discharge process and transition from acute care to home care after a cardiac surgery procedure. Currently, the common practice at the study site is to provide the same discharge instructions to all patients who undergo a cardiac surgery procedure and provide a post discharge phone call. There is no further transitional care noted for this population who possess multiple comorbidities. Another observation from the care navigators was the lack of follow up in the community along with variations for follow up with the surgeon.

The population who undergoes a cardiac surgery procedure has been identified as unique by the care navigators at this organization due to chronic conditions, polypharmacy, and age-related physical and social barriers that make them a higher risk for readmission and poor outcomes. It had also been observed by the care navigation team that there are multiple variations in the way patients are transitioned from acute care

to home. One of my goals with this project after reviewing the literature and with the assistance of the workgroup was providing suggestions and guidelines to the department in hopes of knowledge transformation, adoption, and implementation. In the review of literature, I focused on patient-centered care and engagement along with the discharge process to improve the overall transition of the elderly patients who undergo a cardiac surgery procedure.

Patient-Centered Care

A change in health care requires practitioners to evaluate the current practices of the environment in which they practice. As described by Epstein and Street (2011), there is a paradigm shift from the traditional and intuition driven practice of healthcare providers to a new paradigm of EBP. Patient-centered care must not be forgotten during standardizing care and a good outcome must be defined in terms of what is meaningful and valuable to the individual patient (Epstein & Street, 2011). Epstein and Street (2011) reported that patient-centered care has been studied for decades, and many of the studies found a positive significant relationship between patient-centered care and improvements in patient satisfaction and self-management which lead to improved outcomes. One model, developed by Morgan and Yoder (2012), found four key attributes of patient-centered care: holistic care, individualized care, respectful care, and empowering care.

An episode of care encompasses multiple healthcare interactions and is not all based on the clinical care that is provided. Reynolds and Cohen (2009) found that most of the criteria that patients use to judge their care include non-technical aspects such as comfort and healthcare communication. Many hospitals have taken the non-technical

aspects to a new level by providing a “boutique” like atmosphere with amenities that may enhance the experience of a patient (Epstein & Street, 2011). Aesthetics may be comforting, but it may not help the overall communication and development of goals that are needed to improve the overall recovery and outcomes of a patient (Epstein & Street, 2011). Overall investments are shifting towards the promotion of patient and family involvement in the care and recovery of a patient (Epstein & Street, 2011). Tailoring information that meets the needs of a patient permits meaningful deliberation and improved patient engagement (Epstein & Street, 2011). Encounters between older adults and healthcare providers needs to focus on what the older adults and their families value and need to improve care and recovery.

Uniting the healthcare team and communicating the values, goals, and expectations of the older adult is important to enhancing the patient experience (Young, 2016). Young (2016) stated that the changing landscape of health care expands the care and practice beyond the concrete walls of the hospital and out to the community where recovery and optimization continues. The American Holistic Nurses Association Scope and Standards of Holistic Nursing Practice (2007) define person-centered care as “The human caring process in which the nurse gives full attention and intention to the whole self of the person, not just the current presenting symptoms, illness, crisis, or task to be accomplished.” (para. 2). Burkhardt and Nagai-Jacobson (2015) have suggested that nurses should listen for and elicit the person’s story about what gives them hope, strength, and motivation.

Discharge Process/Transitions of Care

The trend towards shorter inpatient stays limits the time for education, planning, and understanding of the overall social and physical components of the elderly population (Nash et al., 2016). Many patients who undergo a cardiac surgery procedure are discharged to home within 2 to 4 days (Rosborough, 2006). After the procedure, there is a constant shift among different hospital units throughout the cardiac continuum, which results in difficulty in establishing a relationship between the nurses and the patient. A quick transition can lead to an increase in discrepancies in instructions, medications, and understanding of the individual (Nash et al., 2011). Understanding the needs of this population is the first step in identifying interventions that could improve the satisfaction and recovery process of the patient who has undergone a cardiac surgery procedure.

Many quality projects have been undertaken to improve the overall discharge process throughout this organization which have identified areas that should be improved during the transitional process from acute care to home care. Nash et al. (2016) reported that continuity of care should become less about ensuring that a patient's records are sent to a primary care provider and more about focusing on the interactions between a patient's daily life and the healthcare system and community around them. Transitioning a patient safely and bridging the gap from acute care to home care is important for any patient including patients who undergo a cardiac surgery procedure. Hitch et al. (2016) suggested that contacting a patient within 24–48 hours after discharge and prompting a follow-up with the primary provider within 1–2 weeks both contributed to a reduction in the hospital 30-day readmission rate. The authors recommended that further cost analysis

be done to understand the financial impact providing these extra services could have on an organization (Hitch et al., 2016).

Currently, at the study site organization, the same discharge instructions are being given to all patients who undergo a cardiothoracic surgical procedure regardless of procedure, age, or any other factors. Without the proper discharge education and instructions, patients are at risk for being readmitted within 30 days. High hospital readmission rates are an area that the nation continues to fall short on when improving quality of care, improving the health of the overall population, and reducing costs, which are the overall goals of the healthcare industry (Hitch et al., 2016). Though not all readmissions are preventable, high readmission rates are considered an indicator of inadequate quality of care and occur too often (Hitch et al., 2016).

Readmissions lead to financial burdens for organizations and affect the quality scores of hospitals (Taylor, 2010). Published data related to hospital readmissions and readmission penalties set forth by Medicare are factors that contribute to the importance of this indicator (Nash et al., 2016). The cost of avoidable readmissions to the Centers for Medicare and Medicaid services has been estimated as \$17.4 billion per year (Taylor, 2010). With better discharge planning and a clearly-executed process, this financial burden for organizations can be avoided. The support of a transitional care team has been proven to enhance the patient experience and research has shown a reduction in readmissions when patients have received intensive postdischarge care, education, and coordination, which reflects that improvement in quality can lead to better outcomes (Aspenson & Hazaray, 2012).

High-risk patients who undergo a cardiac surgery procedure often deal with chronic conditions, polypharmacy, and social problems that can be barriers to their overall recovery once they are transitioned to their home environment (CITE). Rosborough (2006) found that elderly cardiac patients require more complex care and clinical assessment and monitoring of all body systems during a cardiac procedure. Bonow and Greenland (2015) reported that the number of patients who had aortic valve stenosis and underwent an aortic valve surgery increased from 24,568 in 1989 to 31,380 in 2011. What has not been documented is the recovery path of these individuals and how they adapt at home post procedure. Wallace et al. (2011) stated that frailty is an important indicator of a person's health and needs, and the ability to recognize this state will prevent any further deterioration and help develop support in the home care setting before discharge.

The research literature on hospital discharge consistently identifies a breakdown in the discharge process, especially in the older patient (Rosborough, 2006). Walston et al. (2006) reported that any additional physical, behavioral, social, and environmental risk factors or stressors of the elderly may make this population more susceptible to infection, disability, increased dependency, and hospital admissions. Frailty accompanied by complex medical and social issues can often times be related to readmissions (Rosborough, 2006).

Medication adherence is another area that is important during the transition from acute care to home care. Pasina et al. (2014) identified that 55.1% of patients greater than 65 years of age adhered to the medication regimen they were sent home with.

Medication adherence is a real complex issue for many older adult patients receiving polypharmacy and being able to simplify a regimen can improve adherence (Pasina et al., 2014). Bader, Beltran, and Dojidko (2011) identified that a comprehensive education program for their transplant patients using a structured teaching approach improved patients' understanding of medication and increased patient satisfaction. There was a need to develop clinical guidelines for the transition process of a patient who undergoes a cardiac surgery procedure to decrease the variations of care that are occurring at the study site organization.

Conceptual Model

The EBP model that I utilized in transforming knowledge of evidence into practice for transitions of care for the cardiac surgery patient was the ACE star model. This framework assisted me in explaining the very nature of the knowledge necessary to transform practice in transitions of care for the cardiac surgery patient (see Grove & Burns, 2013). The underlying principles of the model-- clinical expertise, patient preferences, and knowledge--are equally important when beginning to implement evidence into practice (Abbott et al, 2006). As the knowledge is translated it will be expected that the knowledge and concepts will be useful to improve the care and process of transition. The foundation of the knowledge transformation begins with understanding the concepts and moving the knowledge to decision making (Grove & Burns, 2013). As described by Grove and Burns (2013), each point of the star represents a stage of knowledge transformation which consists of five points that include:

1. Star Point 1-Discovery: This is the beginning of the knowledge generation stage. Research studies on transitional care were gathered and reviewed with the peers that consisted of clinical nurses, a care navigator, a nurse manager, and case management. Areas that were focused on included follow up with surgeon, medication reconciliation, 24-hour call, and follow-up visits by advanced practice providers in the home within 72 hours.
2. Star Point 2- Evidence Summary: Peer review of the CPG will play a key role in knowledge discovery with the goal in mind to improve the outcomes of the cardiac surgery patient population. The group will review and validate the CPG for transitions of care for the cardiac surgery patient and provide recommendations for improvement. This stage also can be a knowledge-generating stage which has often been noted to occur simultaneously with the summarization (Abbott et al., 2006).
3. Star Point 3- Translation: The aim of translation is to bring all the knowledge into a summarized report of recommendations for CPG to improve the transitions of care process for the cardiac surgery population. This report will be generated and presented to the chairman of the department. CPG can be used to support clinical decision for the clinicians, department, organization, and care for the patient (Abbott et al., 2006).
4. Star Point 4-Integration: This step involves changing the current practice that contains multiple variations to a formal process guided by evidence. This step involves changing both individual practice and organizational practice and

understanding what will motivate the change. Bringing forth the readmission rate of the department monthly may be one motivator to support the CPG of transitional care for the cardiac surgery patient population. Factors such as attitudes, beliefs, and perceptions to motivate people to change is important to consider during this step (Abbott et al., 2006).

5. Star Point 5-Evaluation: During this stage, the evaluation process will include a recommendation to review the HCAP scores and comparison of readmission rates from previous quarters compared to the integration of formal CPG.

The Role for Nursing and Advanced Practice Nursing

The evidence base practice movement is what has moved the nursing profession to develop a new terminal degree which is the Doctor of Nursing Practice (Zaccagnini & White, 2012). The DNP is a clinical doctorate and brings the research right to the bedside. EBP is what has moved the nursing profession to a profession that is well respected and has placed many nurses into leadership positions. Zaccagnini and White (2012) described advanced practice nurses as the merging leaders in evidenced based decision making who provide expert clinical care. This is the reason why nursing will continue to hold a strong presence in this ever-changing healthcare system. By translating research into practice, the DNP will be able to improve the overall care and outcomes in all clinical areas.

The DNP is in a prime position to affect the way healthcare is delivered throughout the community. Development and dissemination of an evidence-based CPG are part of the key roles. Contributing to nursing practice by developing a CPG that can

assist in providing a systematic evidenced based transitional care program for high risk populations is a way to make transitions safer. The complexity and unexpected realities of managing a cardiac surgery patient's care after hospitalization can often be underestimated (Barnason et al., 2012). A hospital readmission can result from poor care of the underlying problem, reflect poor coordination of care, inadequate access to care, or incomplete discharge planning (Halfon et al., 2006). It is understood that not all readmissions are preventable but understanding and implementing improved strategies for this population is a way to improve this number. Promoting a culture of improved communication and safety through teamwork is a way to improve the quality of care of the cardiac surgery patient population. This high-risk population often requires consistency in care to overcome barriers and require expert clinical care both inpatient and after hospitalization. The DNP has an influence on the health of this population and has the potential for contribution to nursing practice by providing an evidenced based decision-making process for safe transitions for the cardiac surgery patient population (Zaccagnini & White, 2012).

The development of a clinical practice guideline can be used to reduce variations in practice to ensure and promote the delivery of high quality care during the transitional process for the cardiac surgery patient population (Zaccagnini & White, 2012).

Additionally, the evidence based transitional care elements for the cardiac surgery patient can promote awareness of the common barriers that this patient population faces and pattern identification of commonly occurring symptoms. Providing a team approach by engaging patients within the hospital and following them in the community can also

promote education to the inpatient staff on ways to improve their discharge process by providing information in real time and be able to pivot immediately and work on interventions to improve.

Relevance to Nursing Practice

Silos of care can often occur when a patient undergoes a surgical procedure. As described by Kietzman et al. (2011) the growing attention to transitional care largely reflects a response to a flawed system which have been marked by silos and fragmented care. Quality of care consists of care teams being united to ensure that communication and the patient are the center of the plan of care. Nursing plays an important role in providing a cohesive and seamless transition to the home after a surgical procedure. By a clear evidenced based system of care nursing can become the ambassadors to transition and support patients when they need it the most.

Based on the possible results of the EBP project, the new practice guideline would be implemented for all patients who undergo a cardiac surgery at this northeastern organization. The new standards of care relevant to the new practice guideline will be reviewed by peers in the field of cardiac surgery who are considered key stakeholders amongst this team. The guideline will include recommended changes for the transitions of care process for the cardiac surgery department. Recommendations may include risk stratification of patients to focus more intensive resources to those most likely to face complications at home and to be readmitted to the hospital. Matching the right interventions based on risk can demonstrate both improved outcomes and cost benefit to the organization.

Section 3 includes the method of collection and analysis of evidence for recommendations to support a standardized transitional care process for the cardiac surgery patient population. The process of formal consensus will be reviewed and utilized when developing the CPG for the transition process. Bringing forward recommendations to the nursing administration and cardiac surgery administration that are supported by evidence and developed through a formal consensus will hope to improve transitions and outcomes of the cardiac surgery patient population at this organization.

Section 3: Project Method

Introduction

The care navigation team at the study site organization has noted that over the last year there had been some adverse events that were related to a poor transitional care program within the cardiac surgery department. Multiple variations of care for this high-risk population can contribute to a high 30-day readmission rate. The incidence of variation could be decreased or even eliminated by implementing an evidence-based transitional care program. In this section, I will address the project design and methods, population and sampling, data collection methods, data analysis, and project evaluation plan related to the implementation of a CPG for transitional care for the cardiac surgery department at this northeastern healthcare organization.

Project Design and Methods

The purpose of this practice improvement project was the development of a CPG based on a review of best practices in care transitions. In the CPG, I will recommend changes to ensure a safe and thorough transition process for the cardiac surgery patient population. Key stakeholders within the cardiothoracic department and transitional care management department were included to review, evaluate, and provide further recommendations to the CPG. The CPG underwent a two-phased evaluation that provided accuracy and ensured that the key components that need to be included for the transition of care process will be present so that adoption and implementation can be performed. The recommendations will be shared with the leadership of the department in

hopes of adoption and implementation to improve the transitional care process of the cardiac surgery patient.

The guideline underwent a two-phased evaluation that included both a formative evaluation and summative evaluation. Having a clear understanding of the guideline along with its contents is imperative for adoption and implementation. During the formative evaluation phase, I distributed a formative questionnaire to a group of five stakeholders in the cardiac surgery department, including a registered nurse, an inpatient case manager, and three nurse practitioner cardiac surgery department (see Appendix C). The information collected was used as valuable feedback and assisted me in refining the CPG before it underwent a professional review. The second phase of evaluation, the summative evaluation was completed by a group also consisting of five members employed by the organization that work in transitions of care throughout the organization who used the AGREE II tool to assess the CPG for its accuracy based on current evidence in transitions of care. Including members that are key stakeholders to review the CPG is important during the evaluation process so that recommendations can be generated, and the common goal of improvement can be reached (Abott et al., 2006). Involving all who are affected in the decision-making process of the guidelines is also important so that the decisions are supported throughout the care continuum (Abott et al., 2006).

Population and Sampling

I conducted this project at a large northeastern healthcare organization where the development of a heart hospital within the organization has made the transitions of care a requirement for the organization. To participate in both phases of evaluation of the CPG, the requirements included an understanding of the cardiac surgery patient, status as an employee of the organization, and the ability to read and understand English. The evaluator had the ability to provide feedback at any time throughout the evaluation process and was required to do this in writing, so a clear understanding of the feedback was noted and recorded.

I distributed the five drafted CPGs (see Appendix A) with the formative questionnaire attached to the five individuals who consented to review and evaluate the CPGs. The individuals were members of the cardiac surgery team in the organization on the inpatient side. For the second phase of the project, I distributed the CPG (see Appendix A) and AGREE II tool (see Appendix E) to five medical professionals. Three of these professionals had at least 2 years of care navigation experience in the transitional care management department. Having members that have experience in care navigation was important to provide recommendations to ensure best practices were being developed throughout the guideline.

Analysis and Synthesis

Protection of Human Subjects

To protect the participant's human rights, I provided participants with a disclosure related to the survey that outlined the expectations of their involvement in this project (see Appendix B). This disclosure included the risks and benefits of participation, an overview of confidentiality related to the project, along with my contact information for questions or concerns related to ethics of the project. For this project, there were no known risks involved, but it was possible that a minimal risk of emotional stress may have occurred due to the time required to review the CPG and complete the questionnaire and AGREE tool. This project was approved by the Walden University Institutional Review Board (Approval No. #11-14-17-0527131).

Data Analysis

I evaluated the data obtained from the questionnaire during the formative evaluation phase and used it to assist my refinement of the CPG for patients who are transitioned after a cardiac surgery procedure. Having the opportunity to review recommendations from individuals throughout the cardiac continuum assisted me in improving the guidelines and working towards a streamlined adoption of the guideline in the future. Since the cardiac surgery population often possesses unique medical and social needs, having the first evaluation by the cardiac surgery team was a key element that allowed their recommendations to assist in refining the CPG specifically for this population.

During the summative phase of the evaluation, the AGREE II instrument was for appraisal of the guideline. The AGREE II instrument is a quality tool that assesses the methodological rigor and transparency in which the guideline is developed and allows for the peer reviewers to assess the quality of the guideline (Brouwers, 2009). The AGREE II tool can be utilized by any practitioner that is evaluating guidelines or decision-making policies for an organization (National Collaborating Centre for Methods and Tools, 2011). This reliable tool allowed the stakeholders to rate the CPG on five of the six identified domains. I distributed the CPG and AGREE II instrument to five members of the organization to evaluate the specific criteria including the domains of scope of purpose, stakeholder involvement, rigor of development, clarity of presentation, applicability, and editorial independence (see Brouwers, 2009).

Project Evaluation Plan

I reviewed the recommendations that were collected through the evaluation process. I analyzed the responses and made appropriate changes in the CPG. Having input from medical professionals validated the CPG and assisted me in minimizing variations of care through the transitions of care process for the patient who undergoes a cardiac surgery procedure at this northeastern health organization. By adopting a transitional care program that provides a systematic process and CPG, I hoped to enhance the patient experience and outcomes, as evidenced by an improvement in patient satisfaction scores as measured by the Hospital Consumer Assessment of Healthcare Providers and Systems, as well as reduce adverse events. Validation of the CPG by medical professionals in both the cardiac surgery and transitional care management

departments demonstrated the effectiveness of the guideline throughout the cardiac surgery continuum.

Summary

CPG development requires a systematic method with inclusion and exclusion criteria to search the literature and grade the strength of evidence (Moran, Burson, & Conrad, 2017). White and Dudley-Brown (2012) reported that various factors in a department and organization can affect the adoption of CPGs. The inpatient cardiac surgery environment at the study site can often be stressful and include work pressures that may prevent an overall acceptance of CPGs. This department provides cardiac surgery care to a large volume of patients and have seen an increase in volume over the past year due to the merging of two cardiac surgery programs into one in the organization. Factors such as characteristics of the healthcare professionals can also influence the use and adoption of CPGs (White & Dudley-Brown, 2012). Utilizing a peer review group that involves key stakeholders that included bedside nurses and inpatient team members can enhance the involvement of the cardiac surgery team in adopting CPGs (White & Dudley-Brown, 2012).

I collected and analyzed data linked to the intended outcome so the impact of providing a systematic process for transitions of care can be recognized (see White & Dudley-Brown, 2012). With this DNP project, I hoped to generate evidence to support the need for a clear process during the transition from acute care to home for the cardiac surgery patient population. Navigating the health care system can be stressful and supporting patients both socially and medically who have undergone a major surgical

procedure is needed to provide a successful recovery and improve outcomes (Baranson et al., 2012). Quality care should not stop once a patient leaves the concrete walls of the hospital but continued in the community utilizing CPG in transitions of care for the cardiac surgery patient population (Baranson et al., 2012).

In Section 4, I will provide the findings of the staged evaluation process for implementing a CPG in transitional care for the cardiac surgery patient population at this northeastern organization. Especially during transition, supportive care can often bridge multiple gaps and identify problems that can be improved upon with effectiveness and efficiency using clinical guidelines (Mansukhani et al., 2015). With this project, I hope to bring awareness of the need for improved transitions of care for the cardiac surgery patient population.

Section 4: Findings and Recommendations

Introduction

Variations of care with the current transitions of care program may be contributing to the high readmission rate at a cardiac surgery department in a northeastern healthcare organization. Hitch et al. (2016) reported that high hospital readmission rates patients are most vulnerable to medication-related problems when transitioning between care settings. The practice-focused question that guided this project was whether a CPG can be developed and evaluated to address the issue of variations in care by peers in the cardiac surgery department and transitional care department at this northeastern health organization. The purpose of developing the CPG for transition of care for the cardiac surgery population was to provide a systematic process for this population to assist in bridging gaps during the transitional process.

I obtained evidence to answer the practice-focused question with the data collected through a two-phase evaluation process using a questionnaire along with the AGREE II tool. The AGREE II instrument has been used by various clinicians and organizations to evaluate the overall quality of CPGs to facilitate the integration of evidence into practice (White & Dudley-Brown, 2012). In this section, I will present the findings of the evaluation process for implementing a CPG related to transition of care for the cardiac surgery population. The goal of this project was to validate the CPG developed by way of evaluation by the transitions of care department along with key stakeholders in the cardiac surgery department.

Finding and Implications

The first evaluation was completed to assess whether front line staff were (a) able to clearly understand the CPG, (b) evaluate whether the CPG addressed all of the steps that the transitional care team takes to care for a cardiac surgery patient, and (c) allow feedback from this group. I distributed the formative evaluation to five employees of the cardiac surgery department which included two registered nurses, a case manager, and two inpatient nurse practitioners. All five questionnaires were returned within 1 week of distribution with their comments. All participants agreed that they were able to clearly understand the CPG and felt the CPG was relevant to the cardiac surgery population. In the comment section, one participant included the suggestion of adding more information about documentation and communication (see Appendix D for a complete summary of responses). Based on this feedback, I added an additional section in the CPG about documentation and communication during transitions of care.

I then distributed the updated CPG and the AGREE II questionnaire to five medical professionals including three care navigators, a cardiac surgeon, and a nurse practitioner who was a supervisor in the transitions of care department. Each of the evaluators had a minimum of 2 years of experience in the care of cardiac surgery patients. All five of the AGREE II questionnaires were returned for my analysis. Domain scores within the AGREE tool are useful for determining if the guideline is recommended for use; however, there are no set minimum domain scores or patterns of score across the domains that can be used to differentiate between high quality or poor-quality guidelines at this time (Bouwers, 2009).

The first domain addressed the scope and purpose, the overall objective of the guideline, the clinical question, and intended population. The domain score of 96% indicated a high level of agreement amongst the participants. This high level of agreement supported this domain.

The second domain addressed the stakeholder involvement in the cardiac surgery department and across the organization. A look at patients' views and preferences was included within this domain. A domain score of 100% was achieved, noting a clear indication that participants felt that all the criteria and considerations were articulated well in the CPG.

The third domain addressed the rigor of development for this CPG. This included seven items that focused on the systematic methods I used to search for the evidence; criteria and method for selecting; the benefits, side effects, and risks in formulating the recommendation; a link between recommendation and supportive evidence; confirmation that the CPG has been externally reviewed; a procedure for updating the guideline. A domain score of 60% was achieved for this domain. This was a reasonable score considering that the CPG was a draft guideline that addressed the transitional care process and did not contain information on potential side effects, this omission led to a low item score from all evaluators. In order to obtain a more accurate score, a clear definition may be needed with the actual item questions.

The fourth domain of the AGREE II tool addressed clarity and presentation and received a score of 96%. This score supports and demonstrates that clear recommendations were developed. Each evaluator replied with a 7 (*strongly agree*)

when asked if the guideline was supported with tools for the application of the guideline. Having a CPG that is clear will assist in the understanding and overall dissemination and execution of the guideline.

The fifth domain addressed application and included questions related to organizational barriers, cost implications, and monitoring and auditing recommendations. This domain obtained a score of 73%. This was also expected because no pilot clinical testing had been done prior to review of the evaluators. Further research on the intended outcomes of improved patient care, lowered readmission rates, and cost savings should be considered once the CPG is initiated.

The final domain of the Agree II tool addressed the editorial independence of the CPG. A score of 100% was attained in this domain. This score indicates that the CPG is independent from a funding body and also clear of conflict of interest.

There were three responses noted in the general comment section of the AGREE II tool. One of the comments noted a knowledge deficit in Item 23. The question was answered with a 7 (*strongly agree*) response by that reviewer, so the actual score of the editorial independence domain was likely skewed. The other two comments were “the guideline was clear and easy to understand” and “I liked how the guideline was broken down into sections which made it easy to understand what will be expected at each point of patient transition.” The overall guideline assessment of the quality received a score of 96%, and each evaluator responded “yes” to the question of if they would recommend the CPG for use.

Discussion of the Findings in the Context of Literature

Transitions of care have been discussed throughout the literature for many years. Since 2012, many health care organizations have adopted a transitions of care program for the high-risk populations, since facilities with high readmission rates are penalized by the Centers for Medicare and Medicaid (Bowles et al., 2014). Bowles et al. (2014) found that one of the most common adverse events that occurs with a poor transitional care program are injuries related to medication errors. The findings of this project indicated that the evaluators understand the importance of this since the CPG addresses a process for medication reconciliation within 24 hours of discharge from a cardiac surgery procedure. It is important to consider ease of use for the care transitions team and address any barriers that may inhibit them from using the CPG. The interprofessional nature of the review teams allowed any concerns to be addressed during the CPG development process. From the responses and the overall scores noted, 100% of the evaluators recommended the adoption of the CPG for use with the cardiac surgery patient population.

Project Strengths and Limitations

Project Strengths

Before this project, there was no established CPG for the transition of care of a patient who had undergone a cardiac surgery procedure at this northeastern organization. The CPG that I developed in this project is the first step to implementing a transitions of care program that is systematic for this patient population. As the population ages, more high-risk patients will likely need cardiac surgery services. Elderly cardiac patients

require more complex care and clinical assessment and monitoring of all body systems during and after a cardiac surgery procedure (Rosborough, 2006). The CPG was specifically designed for ease of use and understanding that a systematic process needs to take place when transitioning a patient from acute care to community care with a special focus on medication reconciliation, communication to providers, wellness referrals, and patient and family support during transition.

The CPG acts as a guideline to assist the care navigation team in understanding how to start the transition of a patient after a life changing surgery. Rosborough (2006) reported that the shock and disbelief of patients and families after undergoing cardiac surgery often lead to the feeling of being overwhelmed. The CPG details the process whereby each patient receives a visit from the care navigator in the hospital before discharge. Providing support to both the patient and family is an opportunity to assist in both improved outcomes of the individual but also improving the overall patient experience through the art of nursing.

Another strength of the CPG is the inclusion of referrals to wellness programs to assist in controlling modifiable risks such as smoking, obesity, lack of physical activity, and diabetes. Care navigators are well positioned to assist in providing and referring patients to the right programs at the right time. Promoting a robust transitional care program is a dynamic approach to health care that will ultimately improve healthcare quality and spending along with intervening early to reduce complications and adverse events (Nash et al., 2016).

Communication is the key when it comes to any transition of care program. Developing proper workflows that ensure proper communication with the inpatient team, primary providers, and emergency departments is important to decrease silos of care. Patient engagement involves trust and proper communication so the patient and family trust in the healthcare professional and allow them into their overall recovery journey. Clear communication is fundamental so that care teams can contribute optimally in ongoing care (Nash et al., 2016). The implementation of the CPG will assist in the development of future workflows for proper communication throughout the cardiac surgery continuum.

Polypharmacy occurs often to assist in the overall recovery of a patient who has undergone a cardiac surgery procedure (Pasina et al., 2014). The inpatient care team reported that dafter a cardiac surgery procedure, patients are discharged home with a minimum of six new medications. The number of drugs prescribed at discharge is related to medication nonadherence (Pasina et al., 2014). The CPG includes medication reconciliation at 24 hours after discharge to assist in identifying whether medications are in the home and provide an opportunity for education on the medications along with the teach-back process for the patients and family.

Project Limitations

There are a few limitations I noted throughout this project that included the overall reviewer participation and the overall understanding of the items noted in the AGREE II tool. Even though the AGREE II tool is a common tool used to evaluate CPGs (Brouwers, 2009), the front-line users stated that this was their first time using this

tool and they were unfamiliar with many of the questions. The level of evidence rating, which is often based on randomized-controlled trials, appeared to be low. I conducted this process at only one site, so the guideline itself will need to be implemented and evaluated throughout the organization before it can be thoroughly evaluated.

Summary

The development of a CPG for the transitions of care for the cardiac surgery patient population is important to ensure that a systematic process is in place for accurate follow up and to improve the care of this high-risk population post discharge. The CPG provides a clear understanding of a transitions of care program, the responsibilities of the care navigator, and how to achieve integration in the existing care to provide consistency and standardization. This CPG was supported by members of the inpatient care team and care transitions team in this organization and was critically analyzed by front line providers including nurses to ensure that it is evidence based. In Section 5, I will discuss the way that the CPG will be disseminated throughout the cardiac continuum at this health care organization.

Section 5: Scholarly Product

Dissemination is part of the research process when a research finding is communicated to the target audience to facilitate change (Zaccagnini & White, 2011). I will disseminate the CPG throughout the cardiothoracic department at this northeastern health system with the overall goal of improved patient outcomes and patient experience, decreased readmissions, and effective use of resources. Dissemination will occur in a multiphased manner and revisions to CPG will be completed, if needed, by any further recommendations during dissemination.

The first phase will occur internally in the cardiothoracic department through a presentation to the executive staff, which includes the chairman of the department along with nursing management. This meeting occurs once a month and will be the most appropriate venue to share the recommended CPG for transitions of care for the cardiothoracic patient population in. I will present a PowerPoint presentation that highlights the recommended CPGs along with key information about them. Once approval is obtained by the executive council, my plan will be to continue to disseminate the CPG in the healthcare organization through larger group presentations, such as nursing staff meetings, nursing grand rounds, and organizational town hall meetings.

Analysis of Self as a Project Developer

Improving the transitions of care for patients who have undergone a cardiac surgery procedure has been a professional goal of mine since the beginning of my nurse practitioner career back in 2000. I have seen firsthand the significant impact that a poor transitional process can have on the outcome and recovery of a patient who has

undergone a life-changing event. Developing a program that supports the patient for 30 days after their cardiac surgery procedure provides an opportunity to connect patients to wellness programs, identify medical issues early, intervene and optimize medications when needed, and support patients socially and emotionally. Keeping patients well connected to their surgical team through information technology support and communication will help to improve the outcomes and the overall patient experience.

Innovation takes passion that connects both the head and heart. Having a passion to improve the care and support this patient population receives has allowed me to grow as a clinician. All this effort has led me to recognize that every moment matters and every opportunity that we have to interact with the patients post discharge allows us to improve the overall care of the patient as clinicians. Because of this project, I have accomplished the goal of developing a sound CPG that can be disseminated to the cardiac surgery department at this large northeastern health care organization.

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Appendix A: Clinical Practice Guideline

Practical Management

Clinical Practice Guideline: Transitions of Care for the Cardiac Surgery Patient

1. PURPOSE

Provide a systematic process for the transitions of care process for the patient who undergoes a cardiac surgery procedure at this northeastern health care organization. Goal is to minimize or eliminate variations of care during the transition from acute care to home or rehab.

2. SCOPE

- a. This guideline applies to all employees of the organization that provide care for the cardiac surgery patient population.
- b. This guideline describes the cardiac surgery department objectives regarding providing transition of care for patients who have undergone a cardiac surgery procedure.
- c. This guideline looks to ensure that the cardiac surgery population is educated on new medications using teach back method, referred to wellness programs to improve identified cardiac risks, and established proper communication with inpatient team.

3. FUNCTIONS OF THE CARE NAVIGATION TEAM:

- *Inpatient Visit*
 - Each patient is visited immediately following their operation. This visit occurs in the hospital during their inpatient stay. The purpose of this visit is to introduce the program, describe the free service the patient will be receiving, perform a risk-assessment (using the BOOST 8P risk assessment tool and clinical judgement), and to offer the patient their Yellow Card (the Yellow Card is a large, gaudy, foldable yellow sheet of construction paper that includes the care navigator's name, title, phone number and instructions to call at all times with any questions). The patients now have access to their care navigation team 24/7 (Each navigator's phone number rolls over to the Clinical Call Center during off hours and weekends. This Call Center is staffed by Health Solutions RNs and is able to triage any medical issues appropriately).
- *24hr Post Discharge Follow Up*

- Every patient receives a phone call within one day of discharge. The purpose of this call is to discuss the discharge process, ensure that the patient understands and can teach back any discharge instructions they received from the inpatient team, all necessary medications are received and understood, and homecare, if applicable, has visited. If the navigator has identified this patient has high-risk, they will schedule a visit with the patient during this call (i.e. What time works this week for me to visit you at home?). Medication reconciliations are also performed during this call.
- *At-Home Visit*
 - During the first week following discharge, our care navigation teams visit each high-risk patient at home. The purpose of the home visit is to ensure that the patient has a safe home environment, is progressing clinically, and has all necessary medications and instructions for care. The home visit decision is based on a two-step risk assessment- the patient's discharged LACE score (auto generated internally) and their BOOST 8P risk assessment performed during the inpatient visit. Patients will be referred to any wellness programs that will improve the overall recovery of the patient.
- *Ongoing Follow-Up*
 - All patients receive a baseline level of access to their Care Navigation team 24/7. Ongoing follow-up for each patient varies- some patients require weekly home visits, while some may decline further services and only request access if needed ("I'll call you if I need anything else"). For most patients, this is a weekly check-in call to ensure that no new issues have arisen.
- *Other:*
 - Care Navigators will also assist with other tasks throughout their engagement. This may include:
 - Physician office coordination, or finding the patient a PCP if needed.
 - Coordination with the surgeon's office
 - Medical care at-home (including wound care)
 - Medication changes
 - Social support assistance and referrals to wellness programs
- *Communication:*
 - Care Navigators will utilize established workflows to ensure seamless communication with inpatient teams.
 - Symptom identification workflow
 - Pattern identification workflow which includes discussing at weekly nursing huddle
 - ER presentation
 - Readmission to another facility

- Home Care
- Post-Acute Partners
- 30 day check in

4. IT Platform

Each patient is followed for 30 days after their hospital discharge. All information is documented in the IT platform. The IT platform is a system that was developed within the organization to track all care management activity in the outpatient setting. It provides the following critical functions:

- *Patient Identification*
 - Currently, there is a “Ground-Up” form that the care navigation team uses to enter new patients into the platform. By entering the site and patient MRN, the platform pulls in other critical patient information through Northwell’s internal Health Information Exchange (HIE) so that not all fields need to be manually entered. Care Navigators currently identify patients using the surgical schedule for each site.
 - In the near future, the IT platform will be able to leverage the inpatient surgical scheduling systems to identify patients that fall into the Follow Your Heart cohort. **This is currently in testing and will roll-out this year.** The system will use a combination of Surgeon NPI and procedure performed to identify cases in this program.
- *Documentation*
 - Care Navigators are able to document all critical functions that they perform in the platform by entering different notes and assessments. There are entry methods for:
 - Patient Assessments
 - All Engagements (Phone calls, in-person visits, hospital visits, post-acute visit)
 - Medication Lists
 - Care Plans
 - Patient Contacts
 - Patient details and demographic information
- *Notifications*
 - Through working with the IT platform technical teams, are able to generate email notifications for all patients actively enrolled in the platform. These notifications generate for:
 - Inpatient Admission
 - Inpatient Discharge
 - Emergency Registration
 - Transfer from Emergency to Inpatient (Readmission)
 - Emergency Discharge

- *Communication*
 - When a care navigator receives any notification related to ER registration or hospital admission or readmission the cardiac surgery team will be notified (key inpatient member will be identified to champion this).
 - If a cardiac surgery patient has registered in an ER, the care navigator will communicate with ER physician about the patient and advise of any medical or social interventions that have occurred in the community along with any other pertinent information.

5. DEFINITIONS

Term: Care Navigator

Definition: An advanced practice provider who provides care to the cardiac surgery patient in the community and is supervised by the cardiac surgeon.

RESPONSIBILITIES

- d. Inpatient Care Manger Team
 - 1) Establish needs of the patient and family and communicate with Care navigator
 - 2) Communicate any social needs
 - 3) Communicate home care organization that patient is referred to
 - 4) Designate Privacy Official
- e. Inpatient Cardiac Surgery Nurse Practitioners
 - 1) Communicate any medical or social needs that need to be addressed immediately
 - 2) Coordinate visit with care navigator if patient is identified as a high risk patient for readmission
 - 3) Assist in training any care navigators that feel they need further education on caring for this population

Appendix B

Disclosure to Expert Panelist Form for Anonymous Questionnaires

To be given to expert panelist prior to collecting questionnaire responses—note that obtaining a “consent signature” is not appropriate for this type of questionnaire and providing respondents with anonymity is required.

Disclosure to Expert Panelist: You are invited to take part in an expert panelist questionnaire for the doctoral project that I am conducting.

Questionnaire Procedures: If you agree to take part, I will be asking you to provide your responses anonymously, to help reduce bias and any sort of pressure to respond a certain way. Panelists’ questionnaire responses will be analyzed as part of my doctoral project, along with any archival data, reports, and documents that the organization’s leadership deems fit to share. If the revisions from the panelists’ feedback are extensive, I might repeat the anonymous questionnaire process with the panel of experts again.

Voluntary Nature of the Project: This project is voluntary. If you decide to join the project now, you can still change your mind later.

Risks and Benefits of Being in the Project: Being in this project would not pose any risks beyond those of typical daily professional activities. This project’s aim is to provide data and insights to support the organization’s success.

Privacy: I might know that you completed a questionnaire but I will not know who provided which responses. Any reports, presentations, or publications related to this study will share general patterns from the data, without sharing the identities of individual

respondents or partner organization(s). The questionnaire data will be kept for a period of at least 5 years, as required by my university.

Contacts and Questions: If you want to talk privately about your rights in relation to this project, you can call my university's advocate via the phone numberXXXXXXXX.

Walden University's ethics approval number for this study is 11-14-17-0527131.

Before you start the questionnaire, please share any questions or concerns you might have.

Appendix C: Formative Evaluation

| | | |
|--|------------|-------------|
| Name of Reviewer: | Job Title: | Department: |
| | | |
| <p>1. WERE YOU ABLE TO CLEARLY UNDERSTAND THE GUIDELINE? IF NO, PLEASE INCLUDE AREAS THAT WERE DIFFICULT TO UNDERSTAND IN THE SPACE BELOW.</p> <p>YES <input type="checkbox"/></p> <p>NO <input type="checkbox"/></p> | | |
| <p>2. ARE YOU ABLE TO UNDERSTAND THE ROLE OF THE CARE NAVIGATOR ALONG WITH THEIR FUNCTION? IF NO, PLEASE EXPLAIN IN SPACE BELOW.</p> <p>YES <input type="checkbox"/></p> <p>NO <input type="checkbox"/></p> | | |
| <p>3. IN YOUR OPINION, DOES THE GUIDELINE ADDRESS THE MOST COMMON ACTIVITY THAT NEEDS TO BE DONE FOR A PATIENT WHO HAS HAD A CARDIAC SURGERY PROCEDURE? IF NO, PLEASE EXPLAIN IN SPACE BELOW.</p> <p>YES <input type="checkbox"/></p> <p>NO <input type="checkbox"/></p> | | |
| <p>4. WOULD YOU RECOMMEND THIS CLINICAL PRACTICE GUIDELINE FOR TRANSITIONS OF CARE FOR THE CARDIAC SURGERY PATIENT?</p> <p>YES <input type="checkbox"/></p> <p>NO <input type="checkbox"/></p> | | |

5. PLEASE PROVIDE ANY COMMENTS OR RECOMMENDATIONS THAT WOULD ENHANCE THE GUIDELINE.

Appendix D: Survey Data

| |
|--|
| <p>Response Statistics: Number of Evaluations Distributed: 5 Number of Evaluations Returned: 5</p> |
| <p>6. ARE YOU ABLE TO UNDERSTAND THE ROLE OF THE CARE NAVIGATOR ALONG WITH THEIR FUNCTION? IF NO, PLEASE EXPLAIN IN SPACE BELOW.</p> <p>RESPONSE:</p> <p>Yes- 5 100% No- 0 0% NO COMMENTS ENTERED</p> |
| <p>7. IN YOUR OPINION, DOES THE GUIDELINE ADDRESS THE MOST COMMON ACTIVITY THAT NEEDS TO BE DONE FOR A PATIENT WHO HAS HAD A CARDIAC SURGERY PROCEDURE? IF NO, PLEASE EXPLAIN IN SPACE BELOW.</p> <p>RESPONSE:</p> <p>Yes- 5 100% No- 0 0% NO COMMENTS ENTERED</p> |
| <p>8. WOULD YOU RECOMMEND THIS CLINICAL PRACTICE GUIDELINE FOR TRANSITIONS OF CARE FOR THE CARDIAC SURGERY PATIENT?</p> <p>RESPONSE:</p> <p>Yes- 5 100% No- 0%</p> |
| <p>9. PLEASE PROVIDE ANY COMMENTS OR RECOMMENDATIONS THAT WOULD ENHANCE THE GUIDELINE.</p> <p>COMMENTS:</p> <ul style="list-style-type: none">• I WOULD INCLUDE INFORMATION ON HOW AND WHERE YOU ARE DOCUMENTING THE ACTIVITY |

Appendix E: Agree Tool

| SCOPE AND PURPOSE | | | | | | | |
|---|-------------------|---|---|----------------|---|---|---|
| <i>Item 1</i> The overall objective(s) of the guideline is (are) specifically described. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 2</i> The clinical question(s) covered by the guideline is (are) specifically described. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 3</i> The Patients to whom the guideline(s) are meant to apply are specifically described. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| STAKEHOLDER INVOLVEMENT | | | | | | | |
| <i>Item 4</i> The guideline development group includes individuals from all relevant professional groups. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 5</i> The patients' views and preferences have been sought. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 6</i> The target users of the guideline are clearly defined. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 7</i> The guideline has been piloted among target users. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| RIGOR OF DEVELOPMENT | | | | | | | |
| <i>Item 8</i> Systematic methods were used to search for evidence. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 9</i> The criteria for selecting evidence are clearly described. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 10</i> The methods used for formulating the recommendations are clearly described. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 11</i> The health benefits, side effects, and risks have been considered in formulating the recommendations. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 12</i> There is an explicit link between the recommendations and the supporting evidence. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 13</i> The guideline has been externally reviewed by experts prior to its publication. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 14</i> A procedure for updating the guideline is provided. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| CLARITY AND PRESENTATION | | | | | | | |
| <i>Item 15</i> The recommendations are specific and unambiguous. | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 16</i> | Strongly Disagree | | | Strongly Agree | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | | | | | | |
|---|-------------------|---|---|--------------------------|----------------|---|---|
| The different options for management of the condition are clearly presented. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 17</i> The key recommendations are easily identifiable. | Strongly Disagree | | | | Strongly Agree | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 18</i> The guideline is supported with tools for application. | Strongly Disagree | | | | Strongly Agree | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| APPLICATION | | | | | | | |
| <i>Item 19</i> The potential organizational barriers in applying the recommendation have been discussed. | Strongly Disagree | | | | Strongly Agree | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 20</i> The possible cost implications of applying the recommendations have been considered. | Strongly Disagree | | | | Strongly Agree | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 21</i> The guideline presents key review criteria for monitoring and/or audit purposes. | Strongly Disagree | | | | Strongly Agree | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| EDITORIAL INDEPENDENCE | | | | | | | |
| <i>Item 22</i> The guideline is editorially independent from the funding body. | Strongly Disagree | | | | Strongly Agree | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Item 23</i> Conflicts of interest of guideline development members have been recorded. | Strongly Disagree | | | | Strongly Agree | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| GENERAL COMMENTS | | | | | | | |
| | | | | | | | |
| OVERALL GUIDELINE ASSESSMENT | | | | | | | |
| 1. Rate the overall quality of this guideline. | | | | | | | |
| Lowest Possible Quality | | | | Highest Possible Quality | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 2. I would recommend this guideline for use. | | | | | | | |
| Yes | | | | | | | |
| Yes, with modifications | | | | | | | |
| NO | | | | | | | |

Reference: Brouwers, M.C. (2009). *Appraisal of guidelines for research and evaluation II instrument*. Hamilton, ON: The AGREE Research Trust. Retrieved from: http://www.agreetrust.org/wp-content/uploads/2013/06/AGREE_II_Users_Manual_and_23-item_Instrument_ENGLISH.pdf