2020

Nurse Practitioner-Led Education Program for Heart Failure Patients

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Walden University
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Abstract

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MS, State University of New York, 2008

BS, Molloy College, 2004

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

February 2020

Abstract

Heart failure (HF) affects 5.7 million Americans and continues to be a leading cause of hospitalizations and deaths in the United States, posing an enormous burden on patients, families, and the health care system. Readmission rates for HF within 30 days post hospital discharge at small rural acute care facility in the southeast are consistently higher than the national average. The gap in nursing practice was the lack of up to date patient education postdischarge guidelines on HF for the socioeconomically disadvantaged, culturally diverse patient population located in this small rural town. The purpose of this project was to use an expert team to revise the HF education program and to develop a clinical practice guideline for comprehensive nurse practitioner management of these patients. The guiding practice-focused question addressed whether an expert interprofessional team could revise the HF clinical guidelines to conform with best practice, that is tailored to the low income Hispanic population to, ultimately, promote patient self-management, improve patient outcomes, and decrease readmissions for this vulnerable population. An interdisciplinary team met to review the most recent professional guidelines and the best practice literature and to develop this facility's clinical practice guidelines. The key elements include (a) utilizing the "teach-back" technique, (b) daily repetition, (c) provision of a patient packet of bilingual information at discharge, (d) case managers ensuring a 7-day follow-up appointment, and (e) follow up phone calls post discharge. Nurse practitioner use of the updated guidelines has the potential to impact positive social change by supporting patient self-care management and preventing repeat hospitalization for patients with HF.

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Acknowledgments

I would like to give special thanks and much appreciation to Catherine Garner, DrPH, RN, my program chair, who meticulously guided me throughout the DNP process to ensure completion for this project; to Patricia Wagner, MSN, RN, ED Care-manager, Nurse Educator for assisting me with access to retrieve data for this project; and lastly, to my mother and son for their continued prayers and support on this educational journey.

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Section 1: Nature of the Project

Introduction

Heart failure (HF) is the top discharge diagnosis for Medicare patients and the leading cause of rehospitalization within 30 days of an index hospitalization. HF continues to be a leading cause of hospitalizations and deaths in the United States, posing enormous burden on patients, families, and the health care system (Eapen et al., 2013). Chronic disease, most specifically HF, is the costliest health care problem, with direct cost for diagnosis and treatment approximately $39.2 billion (Kutzleb, 2015). With the impending penalties by the Centers for Medicare and Medicaid Services (CMS) for patients readmitted for any cause within 30 days, it became imperative for organizations to develop planned discharge services that are well coordinated especially for the management of chronic disease. Health care organizations are focusing on improving performance and patient outcomes, paying attention to chronic disease management to prevent readmissions, decrease costs, and improve quality of life (Kutzleb, 2015).

Readmission rates for HF within 30 days post hospital discharge at an acute care facility in the southeast are significantly above the national average, causing the facility to lose millions of dollars from CMS fee-for-service (FFS) reimbursement initiatives. The hospital is not fully implementing the American Heart Association/American Cardiology Association (2017) best practice guidelines for the management of HF, including nurse practitioner (NP) management of education and out-patient support for self-care management of HF. The purpose of this project was to utilize an expert team to revise the current HF program to develop clinical practice guidelines for NP management both at

discharge and during the 30-day follow-up period. The potential positive social change is the improvement in the quality of care for HF patients, thus improving their quality of life.

Problem Statement

HF affects 5.7 million Americans and continues to be a leading cause of hospitalizations and deaths in the United States, posing an enormous burden on patients, families, and the health care system (Eapen et al., 2013). Patients suffering from HF frequently experience symptoms that have an impact on their functional capabilities and quality of life, leading to hospitalization. HF is the top discharge diagnosis for Medicare patients and the leading cause of rehospitalization within 30 days of an index hospitalization (Eapen et al., 2013). With one in four patients discharged with a diagnosis of HF readmitted within 30 days, HF accounts for an estimated 25% of all-cause readmissions in Medicare recipients (CMS, 2016). Direct costs from HF are estimated at more than $33 billion, and the burden of HF will likely increase as patient longevity improves (Almkist, 2017). The estimated annual costs of treating HF were $31 billion in 2012 and are estimated to jump to $70 billion in 2030 (Eapen et al., 2013).

Recognizing the need to curb rehospitalization rates, the CMS initiated public reporting of risk-adjusted rehospitalization rates for hospitals to encourage improvements in local care. Because these costs are primarily associated with repeated hospitalizations, the CMS began penalizing hospitals with higher-than-expected readmission rates (CMS, 2016). As a result, short- and long-term outcomes for HF are a central focus for patients, providers and payers.

Readmission rates for HF within 30 days post hospital discharge at this small rural acute care facility in the southeast are consistently higher than the national average (Holland, n.d.). Thirty percent to 56.6% of patients with HF at this hospital are rehospitalized within the first three months, based on the case management team quarterly report that addresses the 30-day risk standardized measures on HF that are included in the Hospital Readmission Reduction Program (HRRP; Director of Case Management, personal communication, July 26, 2018). The HF population has a disproportionate share of economically and socially disadvantaged patients identified as self-pay or Medicaid recipients. The extent of the problem has cost the facility to lose millions of dollars from CMS FFS reimbursement initiatives, which has resulted in continued low hospital ratings for the past 5-10 years.

Hispanic patients constitute the largest U.S. ethnic group and have been shown to have more frequent HF hospitalizations than non-Hispanic whites. Disease management programs can reduce HF hospitalizations and mortality by increasing patient self-care (Howie-Esquivel, Bibbins-Domingo, Clark, Evangelisa & Dracup, 2014). In patients from non-English speaking backgrounds, consideration of health literacy is fundamental to improving health outcomes. A successful method for HF patient teaching, termed "teach-back," takes all literacy levels into consideration. Teach-back was found to be a successful teaching method in a large group of hospitalized multi-ethnic HF patients (Howie-Esquivel et al., 2014). Thus, implementing evidence-based practice strategies from American Heart Association (AHA) guidelines to address patient education in low

health literacy Hispanic groups has the potential to result in an improvement of care and a reduction in readmissions.

The potential significance of the doctoral project for an outpatient NP-led HF patient education program to reduce or prevent readmission rates of uninsured patients admitted with decompensated HF within 30 days post hospital discharge is valuable to the field of nursing practice. Addressing the burden of HF readmission rates impacts stakeholders such as the facility financial team, case managers, nurse managers, nurse educators, and the patient's family members.

Purpose

This hospital determined that 30%–56.6% of patients with HF are re-hospitalized within the first three months. It is therefore important to provide quality patient education and to encourage the development of self-care behavior in individuals suffering from HF to ensure positive health outcomes and prevent rehospitalization. The purpose of this project was to utilize an expert team to revise the current HF education program to include evidence-based guidelines for NP management of patient teaching both at discharge and during the 30-day follow-up period. This is best practice according to the (Yancy et al., 2017). These guidelines were last updated in 2017.

Socioeconomically disadvantaged patients are at an increased risk for adverse HF outcomes based upon nonadherence to medications and diet (Manning, 2011). Interventions are needed that tailor teaching materials and self-care supports for this vulnerable population. Physicians are also identified as being suboptimal in prescribing evidence-based therapy for HF (Mangla et al., 2018). Despite recent attempts to

standardize HF discharge materials across hospital-based nursing practice, rates of readmission have not decreased. One contributing factor is how discharge material is delivered, including method and timing. In addition, many HF patients are lost from follow-up during transition to home (Manning, 2011).

The gap in nursing practice is the lack of up to date patient education post discharge guidelines on HF for teaching socioeconomically disadvantaged, culturally diverse population located in this small rural town where a majority of the population is Hispanic—most, of whom have recently migrated from Puerto Rico due to the devastation of Hurricane Maria in 2017. The DNP project will focus on updating the HF education program at this hospital to include development of Spanish language health literacy teaching materials that are culturally sensitive and geared towards improving patient education on medication, diet, and exercise adherence during initial hospital admission and upon discharge. The guiding practice-focused question is, "Can an expert interprofessional team revise the HF clinical guidelines to conform with best practice, that is tailored to the low income Hispanic population, ultimately resulting in improved patient self-management, improved patient outcomes, and decreased readmissions in HF vulnerable populations?"

This doctoral project fills this gap in nursing practice by revising numerous HF educational guidelines to concisely form an effective standardized protocol for effective patient education with the use the transition of care (TOC) coordinators. These patients will be followed throughout the hospital stay and post discharge until their initial visit

with an NP, who will provide education on self-care management, medication use, dietary restrictions, and exercise program to prevent HF readmission.

Nature of Doctoral Project

Sources of Evidence

A literature and resource review was conducted using the Walden University's library, Google Scholar, the Centers Disease Control and Prevention, the National Institutes of Health, the American Heart Association, and Agency for Healthcare Research and Quality (AHRQ)-Indicator. Search terms included *patient education programs, self-management approaches, 30-day readmission rates, patient navigation,* and *transitional care programs.*

Specific Literature

The initial research literature review supported the evidence that effective outpatient self-care patient education programs prevent hospital readmission rates. According to Smith et al. (2015), many hospital discharge and nurse-led follow-up programs are designed to improve HF knowledge. Low-cost NP-facilitated multidisciplinary group clinics provide self-care skills of medication schedule adherence, maintaining sodium/fluid restrictions, and monitoring and reporting symptoms as illustrated in HF video instructions. Programs geared towards using a multidisciplinary team approach and interpersonal communication led to fewer HF hospital readmissions (Smith et al., 2015). The combination of early intensive nursing services and at least one outpatient physician visit in the week after hospital discharge reduces the risk of 30-day hospital readmission for a substantial share of Medicare HF patients (Murtaugh et al.,

2017). Together, medical and home health providers can achieve the goal of improving HF patient care by avoiding costly hospital readmissions.

Implementing a simple, evidence-based bedside screening tool allows HF patients at high risk of readmission to be quickly identified, and referral made for an HF nurse educator with an advanced degree and specialized HF training. The nurse educator is responsible for providing in-depth discharge teaching and bridging the gap from hospital to home. The desired result is improved patient self-management, increased quality of life, and a reduction in preventable hospital admissions and associated costs among HF patients (Manning, 2011). Patient self-management is an essential component of effective management of heart failure. HF nurses are at the forefront to provide adequate teaching to empower patients in self-care measures that may reduce the risk of avoidable early hospital readmission (Baas et al., 2014). NP-led programs for HF patients are designed to improve patient self-management and reduce or prevent readmission rates of this vulnerable population (Baas et al., 2014).

Integrating a follow-up visit within 7–14 days after hospitalization and involving family members and caregivers in post discharge planning for HF management discussions has also shown improvement in disease state awareness. Overall, a patient- and patient-family-centered approach proved critical to prevent readmissions (Di Palo, Patel, Assafin, &Pina, 2017).

According to Schell (2012), nurse navigation and transitional care have been shown to be one avenue to decrease hospital readmission rates for HF. In an ever-changing health care environment where reimbursements are being reduced for hospitals

that have excessive readmissions, hospitals must employ all possible means to provide quality patient care while preventing readmissions. NP-led discharge navigation is one piece of a large puzzle that can aid in the process of a safe transition from hospital to home (Schell, 2014).

Approach

Utilizing the Walden Clinical Guideline Development Manual with the use of Appraisal of Guidelines Research and Evaluation (AGREE II) requires a systematic method with inclusion and exclusion criteria to search the literature and grade the strength of evidence. The AGREE II provided the framework for the DNP project. The expert panel included TOC coordinator, case management, financial analyst, and quality improvement teams. They reviewed the current literature, compared best practice guidelines to the current program, and suggested new program format and clinical practice guidelines. The final review was done using the Agree II tool, with revisions made as an appropriate. The expert committee also suggested an evaluation plan to include both formative and summative outcome measures. The chief financial officer and the TOC committee were involved in developing the budget and cost-effectiveness analysis for the hospital committees that gave final approval to the plan.

According to Shelby et al. (2015) the TEAM-HF Cost-Effectiveness Model provides a flexible tool for the research and clinical communities to evaluate the long-term cost-effectiveness of disease management programs in HF. The model can be used for budget planning, projecting hospitalization rates, and quantifying life expectancy for a cohort of patients over a period specified by the user. For example, the model could be

used by health systems to predict cost offsets with a given program or to demonstrate expected longer-term cost-savings for a payer for a program that increases costs in the short term The model's flexibility also offers users the opportunity to represent different perspectives by specifying direct medical costs to represent the health care system perspective or payments to represent the payer perspective (Shelby et al., 2015).

Significance

The desired outcome of an outpatient NP-led HF patient education and management program is to reduce or prevent readmission rates of uninsured patients admitted with decompensated HF. According to Rice, Say, and Betihavas (2018), multiple factors contribute to a decline in patients with HF resulting in hospitalization and decreased quality of life (QoL). These pertain to the patient, healthcare providers, and health and economic systems. Lack of social support, absence of a partner, and living alone constitute a risk for rehospitalization. Improving self-management skills through disease management programs have shown favorable outcomes in adults with HF, particularly on symptoms, wellbeing, functioning, morbidity, and prognosis (Rice, Say & Betihavas 2018).

Addressing the burden of HF readmission rates impacts stakeholders such as the hospitals financial team, which helps with controlling costs of HF readmissions. Other stakeholders are case managers, unit nurse managers, nurse educators, and the patient's family, who all contribute to implementing patient education. In maneuvering the cost for reducing HF readmission rates, the key stakeholder discovered and greatly impacted is the hospital's financial team. As Rice et al., (2018) pointed out, identifying risk models

relating to psychosocial factors have been developed to pinpoint and target individuals in risk of adverse events such as rehospitalization. Several disease management programs have been trialed to reduce costs, hospitalization, and improve QoL of adults with HF. However, these often include a multidisciplinary approach and result in large expenditures. Thus, nurse-led interventions in disease management may prove more cost effective in HF management. Additionally, self-care has become an important component in HF management with the primary objective of teaching patient's self-care, increase compliance and self-efficacy, improve QoL, and reduced healthcare costs (Rice et al., 2018). Overall, in preventing early HF readmission, a patient-and patient-family-centered approach proved critical in managing this outcome (Di Palo, Patel, Assafin, & Pina, 2017).

According to Schell (2012) nurse navigation and transitional care has been shown to be one avenue to decrease hospital readmission rates for HF. In an ever-changing health care environment, where reimbursements are being reduced for hospitals that have excessive readmissions, hospitals must employ all possible means to provide quality patient care while preventing readmissions. NP-led discharge navigation is one piece of a large puzzle that can aid in the process of a safe transition from hospital to home (Schell, 2014).

The transitional care model that is utilized in the doctoral project can also be effective in the chronic obstructive pulmonary disease (COPD) population. According to Aboumatar et al., (2017), transitional care studies have sought to improve the hospital-to-home transition via multiple interventions including having transition coaches, nurse or

respiratory therapist educators, and case managers who would take the time to educate and support the patients within the hospital and post discharge. The Better Respiratory Education and Treatment Help Empower (BREATHE) study was designed to evaluate a multifaceted and customized patient and family-centered transitional care program for COPD patients that focuses on addressing both their immediate post-hospital as well as long term needs for managing COPD at home. The intervention involves the patient- and family-caregiver, is individually tailored, and employs motivational interviewing approaches where the COPD nurse is a 'helper' and aims to empower the patient- and family-caregiver to manage the patient's health condition beyond the 3-month intervention period. The COPD nurse helps the patient access available services (e.g., health services, transportation services, services, nutrition services, medication coverage plans, social work assessment) based on their needs (Aboumatar et al., 2017).

Positive Social Change

The potential implication for positive social change with this educational project includes improved lifestyle changes and empowering self-care skills for HF patients. The change is observed after initiating patient education during hospitalization by the transitional care team prior to discharge, followed by post discharge follow-up phone calls to ensure that patients verbalizes understanding of HF self-care interventions, which includes (a) weighing themselves on the same scale each week and reporting a 2-3 pound weight gain, (b) monitoring extremity swelling, fluid intake and output, (c) following a low sodium diet of 300-600 mg/daily, (d) exercising, and (e) adhering to HF medication regime to improve ejection fraction thereby decreasing episodes of HF exacerbation.

Establishing this social change is in alignment with Walden University's mission for social change which asserts, "to be a connective hub that promotes, facilitates, and supports collaborative partnerships, action research, and projects that lead to purposeful action for sustainable positive social change" (Walden University., n.d., para.1).

Summary

This hospital determined that 30%–56.6% of patients with HF are rehospitalized within the first three months. It is therefore important to encourage the development of self-care behavior in individuals suffering from HF to ensure positive health outcomes and prevent rehospitalization. Self-care involves a process of maintaining physiological stability by monitoring symptoms and adhering to the treatment regimen, as well as promptly identifying and responding to symptoms. However, patients with HF experience great difficulty with self-care. Self-care management could be enhanced if patients with HF were able to monitor their symptoms on a regular basis; their rehospitalization rates could be reduced as the management of their self-care improves (Sezgin, Met, Ozpelit & Akdeniz, 2017).The purpose of this project was to utilize an expert team to revise the hospital's HF education program and to develop guidelines for NP management both at discharge and during the 30-day follow-up period. The social change could be the improvement of patient quality of life and the prevention of costly and stressful hospital admissions. This project might also support NPs working to the top of their profession. The challenges of developing a NP-led HF self-care patient education program can be a daunting endeavor in achieving the desired outcomes of improved patient self-care and decreased hospital readmission rates. This includes a myriad of steps

which incorporate concepts, frameworks, and proven nursing theories that inform the doctoral project.

In Section 2, I discuss the theories, concepts, and models, relevance to nursing practice, and the roles of the DNP student and project team.

Section 2: Background and Context

Introduction

HF continues to be a leading cause of hospitalizations and deaths in the United States, posing enormous burden on patients, families, and the health care system. This hospital determined that 30%–56.6% of patients with HF are rehospitalized within the first three months. The gap in nursing practice is the lack of an up to date evidence-based patient education guideline that may be used by NPs regarding HF medication, exercise and diet adherence during hospital discharge, and the lack of a formal supportive program post discharge which has resulted in a 50-70% increase in rehospitalization rates for HF within 30 days after discharge from the hospital. The HF readmission percentage rate is determined by utilizing the length of hospitalization stay ("L"), acuity of the admission ("A"), comorbidities of patients ("C"), and emergency department use of patients ("E"). (LACE) index scoring tool system which calculates early readmission rates based on the scoring criteria and can predict early readmission. The practice focused question was, "Can an expert interprofessional team revise the HF clinical guidelines to conform with best practice, that is tailored to the low income Hispanic population, ultimately resulting in improved patient self-management, improved patient outcomes, and decreased readmissions in HF vulnerable populations?"

The purpose of this project was to utilize an expert team to the hospital's HF education program and to develop guidelines for NP management both at discharge and during revise the 30-day follow-up period. This is best practice according to the AHA (2017). In this section, I review the LACE index scoring tool system, Transitional Care

Model, Health Information Exchange (HIE) utilizing interoperability, Bandura's theory of self-efficacy, the DNP project's relevance to nursing practice, and the local background and context for the project.

Concepts, Models, and Theories

Transitional Care Model

As Masoudi (2019) explained, high rates of unplanned readmissions after hospitalization for HF pose enormous financial constraints on hospitals nationwide and in most countries. Most countries' policies to strengthen financial accountability for these events have prompted a focus on the care delivered in the transition from hospital to home. Several observational studies suggest that early follow up after HF hospitalization can lower rates of readmission. HF programs aimed at preventing HF readmission rates are guided frequently by the TOC model. The HF TOC model consists of management strategies to reduce HF readmission rates (e.g., a formal needs assessment, self-care education, patient-centered discharge summary, and follow-up in primary care and HF clinics within a week of discharge) for patients at highest readmission risk (Masoudi, 2019).

TOC is an evidenced based model that supports self-management as they move across care settings. In this caring model, the focus of nursing services is on improvement of care quality, increase of outcomes for patient and family, decrease of hospitalization costs for patients with chronic diseases, and increase of the role and effect of care provided at home. As Rezapour-Nasrabad (2018) explained transitional care is provided by expert nurses as complementary and supportive care in the patient's home and after

discharge from the hospital. In this model, providing patient care is done through coordination between professional and skilled nurse with the patient and the patient's family, doctors and other health care team members. This type of managed intervention by nursing aims to meet the needs of care for patients with chronic diseases in the transfer process of care from admission to discharge and then continuing to home actively involving patient and family in the care. These patients may include patients with chronic diseases with a history of frequent hospitalization or visit to emergency department in the past 30 days (e.g., patients with HF or pneumonia; Rezapour-Nasrabad, 2018). Risk factors that are monitored and supported by the TOC model include chronic health conditions such as (a) reduction of basic daily activities, (b) dementia or poor cognitive performance, (c) mental or emotional health problems such as depression or anxiety, (d) hospitalization in the past 30 days or two or more hospitalizations within the past six months, (e) age of older than 80, (f) lack of health literacy, (g) speech and language difficulties, and (h) lack of a support system (Rezapour-Nasrabad, 2018).

The goals of transitional care are to reduce hospital readmissions, test sustainable funding streams for care transition services, maintain or improve quality care, and document savings to the Medicare program (Stamp, Machado, & Allen, 2014). Ideally, transitional care should begin during admission and continue at home and contain an element of communication between providers to ensure continuity. Most transitional care programs go beyond education alone to include the nurses' role in coordinating multidisciplinary referrals based on the patient's needs, communication among the inpatient team members as well as home care personnel and developing/implementing

tailored care plans that include patient and family education, medication management/titration, and increasing the patient's activity levels/functional capacity (Stamp et al., 2014).

As Smith, Flemings, and Gros (2018) explained, the driving force for the creation of many TOC for post discharge HF patients in the United States was aimed to reduce HF readmission rates by targeting known precipitants of readmission. These include poor transitions of care, lack of access to post discharge care, inadequate access to medications, medication non-compliance, and improper diet with excess salt intake. They employ a variety of techniques, including telemonitoring, structured telephone support, home healthcare services, patient education, and interdisciplinary outpatient clinics to improve patient wellbeing. Interdisciplinary care clinics are the most comprehensive and intensive outpatient programs provided to post discharge HF patients. Most of these programs provide primary care, specialist follow-up, and comprehensive patient education with coaching to promote self-management including medication and dietary compliance (Smith et al., 2018). Transitional care clinics utilize providers from multiple disciplines including medicine, nursing, pharmacy, social work, and nutrition. Ideally, these programs should prevent the duplication of services, medication confusion, and patient anxiety (Smith et al., 2018).

TOC models in HF are designed for individual interventions of care with multiple activities to improve transitions from hospital to home. There are eight common components to HF disease management programs after hospital discharge, including (a) telephone follow-up, (b) education, (c) self-management, (d) weight monitoring, (e)

sodium restriction or dietary advice, (f) exercise recommendations, (g) medication review, and (h) social and psychological support. Optimal transitions can decrease rates of rehospitalization and risk for adverse clinical events, as well as promote patient satisfaction (Hasan, 2015). Most TOC programs had a first telephone call follow-up post discharge within 48 to 72 hours and most follow-up appointments were within 7-10 days post discharge. In one report reviewed, 46% of patients had problems in understanding and complying with diet and self-care needs (Hasan, 2015).

Self-Efficacy and Self-Management of Chronic Disease

The theory of self-efficacy applies Bandura's work in nursing care to assist patients in caring and managing their own health as independently as they possibly can (McEwen & Wills, 2014, p. 242). The theory builds on the client's own belief that they have control over specific behaviors and thinking patterns to change how they manage their illness (Burckhardt, 2005). As Riegel, Jaarsma, and Stromberg (2012) posited, the theory of self-care of chronic illness is considered essential in the management of chronic illness. Self-efficacy has been used in nursing research to focus on clinical aspects of care, education, nursing competency, and professionalism (Smith & Liehr, 2013). Self-efficacy expectations are used to predict behavior in longitudinal research to guide interventions and change behavior in intervention studies. These studies cover behaviors associated with diet, exercise, physical activity, function, parenting, nursing skills, health promotion behaviors, and management of chronic illness (Smith & Liehr, 2013).

Organizational Factors

Key leadership and activities undertaken to fulfill learning objectives includes involvement with the director of the case management team to assess LACE scores and hospital readmissions post 30-day hospital discharge for HF patients. Analyzing hospital readmissions can be tedious for the case management team (Wang et al ,2014). Unplanned hospital readmissions are considered a marker of the quality of hospital care based on the underlying reason that return visits were related to premature discharge and inadequate treatment. This occurs commonly in the CHF population. The LACE index is an easy to use scoring tool that was reported by several studies to be accurate for predicting the risk of early death or unplanned readmission after discharge from hospital. A high LACE index predicts a high risk of post discharge ED visits when patients are followed up to 90 days post index discharge. Additionally, patients with a low LACE index experienced no ED revisits within 30 days post index discharge (Wang et al., 2014). The administrators involved in CMS reimbursement through value-based purchasing continued to see improving percentage of quality care delivery. Health insurance coverage for chronic disease should be made affordable for low income and uninsured patients. According to Westover et al. (2014), value-based insurance suggests lowering or eliminating copayments for high-value services to manage chronic conditions such as HF while not abandoning cost sharing for inappropriate care such as nonurgent ER visits. This suggests that eliminating a cost-sharing component for preventive care and introducing cost sharing for inappropriate services among a low-income population

does not result in decreased quality of care and may be a viable design component to incorporate into expanded Medicaid programs (Westover et al., 2014).

The use of health information exchange was another finding that influenced the outcome of preventing HF readmission rates. Through shared access of Allscripts retrieving electronic health records are easily accessible which reduces duplicative imaging and other diagnostic tests and speeds medication reconciliation so that patient's throughput from ED to floor to home is performed in a timely manner (Kash et al., 2017). Interoperability between organizations proved valuable in health information exchange (HIE) access to patient information is critical in reducing readmissions, thus incorporating HIE to improve care coordination between hospital and outpatient clinical setting as proven to reduce readmission rates and is reported by providers as having financial and clinical benefits (Kash et al., 2017) .

Relevance to Nursing Practice

Evidence suggests that poor HF self-care behaviors negatively influence patients' health outcomes (Al-Sutari & Ahmad, 2017). Lack of patients' adherence to self-care behaviors was found to be associated with higher hospital readmissions, increased mortality rates, and frequent emergency department visits Therefore, finding interventions to enhance the involvement of patients with HF in their self-care is highly needed to improve their health outcomes (Al-Sutari & Ahmad, 2017).

Staff nurses are constantly bombarded with extra work and documentation requirements which leaves them with finding it extremely difficult to provide in hospital teachable allotted time for patient education for this specified cohort of patients with HF.

This led to the exploration of the nurse navigation and transitional care models. These models have shown to decrease hospital readmission rates for HF. In an ever-changing health care environment, where reimbursements are being reduced for hospitals that have excessive readmissions, hospitals must employ all possible means to provide quality patient care while preventing readmissions. Nurse-led discharge navigation aids in the process of a safe transition from hospital to home. The common benefits of significantly impacting the hospital readmission rate are related to providing patient education utilizing the "teach-back" technique, daily repetition, provision of a patient packet of information provided on discharge to the vulnerable population who are socioeconomically disadvantaged, low literacy and are predominantly Hispanics in a small rural community (Schell, 2014).

The CMS continues to penalize hospitals who are unable to prevent 30-day readmission rates for HF. As Albert et al. (2015) explains self-care management to prevent post discharge 30-day rehospitalization rates is grounded in the increased pressure by CMS to provide value-based care which compels healthcare providers to improve efficiency and to use an integrated care approach (Albert et al., 2015).

Various strategies and standardized practices such as medication management and dietary programs have been previously implemented by many hospitals to address the gap in nursing practice in relation to effective HF patient education post hospital discharge to reduce readmission rates. According to Bradley et al. (2012), many hospitals reported having written objectives to reduce readmissions, quality improvement teams focused on readmissions, and ongoing monitoring of 30-day readmission rates. Practices were

particularly variable within the area of medication management, and the findings suggested that medication reconciliation processes were non-standardized at most hospitals. Several of the discharge and follow-up practices, which were shown to be associated with reduced readmissions, were practiced by less than one-half of hospitals (Bradley et al., 2012).

Central to effective continuity of care is the linking of inpatient and post discharge (e.g., outpatient, home care or skilled nursing facility) providers and information. Developing a process to alert outpatient physicians within 48 hours of the patient's discharge and a process to follow-up on test results that were returned after a patient's discharge were present in 37% and 36% of hospitals, respectively. Research findings suggest opportunities for continued improvement in communication and care coordination which may assist in hospital efforts to reduce readmission rates (Bradley et al., 2012).

This doctoral project fills this gap in nursing practice by revising numerous HF education guidelines to concisely form an effective standardized protocol with the use of the TOC coordinators. These patients will be followed throughout the hospital stay and post discharge until their initial visit with an NP who will provide education on self-care management, medication use, dietary restrictions and exercise program to prevent HF readmission.

Local Background and Context

The site for this project is a small 250-bed acute care facility located in the underserved rural communities in the southeast. The intended setting for the new clinical

practice guidelines would be on an ICU step down unit where HF exacerbation patients are admitted to the hospital from the emergency room. The hospital is supportive of this initiative as part of their new TOC program. This transitional care project has identified that HF patients with multiple readmission rates within 30 days need to be placed in the TOC program. This transitional care team will be the expert panel to develop the program clinical practice guidelines.

The vulnerable population involved the underserved communities of-which are primarily Hispanics, this area has seen a recent influx of patients who are from Puerto Rico into this county especially after Hurricane Maria in September 2017. Several barriers to health care especially language play a significant role in patient education. As Vidic, Chibnall and Hauptman (2015) point out, rehospitalization of patients in Medicare fee-for-service affects 19.6% of patients at 30 days. The Hospital Readmissions Reduction Program was instituted to provide incentives to hospitals to reduce early readmissions for 3 highly prevalent conditions: HF, acute myocardial infarction (AMI), and pneumonia (PNA). If a patient has an index admission to a hospital for 1 of the 3 conditions, any readmission to any acute care hospital within 30 days of discharge from the index admission is counted against the same hospital for the first indexed condition, regardless of whether the patient is readmitted to the same or a different hospital. This approach can have significant implications for hospital finances and care delivery (Vidic, Chibnall, & Hauptman, 2015).

Definition of Terms

Centers for Medicare/Medicaid (CMS). The CMS previously known as the Health Care Financing Administration (HCFA), is a federal agency within the United States Department of Health and Human Services (HHS) that administers the Medicare program.

Healthcare Effectiveness Data and Information Set (HEDIS score). This is a widely used set of performance measures in the managed care industry, developed and maintained by the National Committee for Quality Assurance (NCQA). HEDIS was designed to allow consumers to compare health plan performance to other plans and to national or regional benchmarks and track year-to-year performance.

Health Information Exchange (HIE). The mobilization of health care information electronically across organizations within a region, community or hospital system.

Hospital Readmissions Reduction Program (HRRP). This program provides incentives to hospitals to reduce early readmissions for HF, acute myocardial infarction (AMI), and pneumonia (PNA).

L.A.C. E index score. Length of hospitalization stay ("L"), acuity of the admission ("A"), comorbidities of patients ("C"), and emergency department use of patients ("E").

Transition of Care Coordinators (TCC). The healthcare team involved in Transition of Care model.

Transition of Care (TOC). An evidence-based program that provides support for the feasibility of a 4-week multidisciplinary, transition-to-care program for HF patients in enhancing quality of life and decreasing 30-day readmissions.

Role of the DNP Student

As a nurse leader, the DNP doctoral project has empowered me to work with financial analyst in preparing business plans, as a nurse educator in disseminating my project with the financial administrators, cardiologist, nurse managers and RNs.

My role in the doctoral project was as a facilitator of change through educating key stakeholders on the importance of transition of care to prevent HF readmissions. As Squires et al. (2017) explained, incorporating facilitators into evidence-based practice will help individuals and teams understand what they need to change and how to change it to successfully implement research into practice. Facilitation does not occur on its own; rather, specific characteristics, knowledge, and skills on part of the facilitator are required to make it happen. As the purpose of facilitation is more holistic and aimed at changing practice through empowerment, my role as facilitator enabled individuals and the team to change their attitudes and behaviors to more effectively address the health literacy needs of a Hispanic population with HF (Squires et al., 2017).

Patient education remains the forefront for excellent patient care delivery; arming patients with valuable information about their health and giving them the power of autonomy over their own health has been the dominant motivational force behind my doctoral project.

Role of the Project Team

Identifying high risk HF patients for readmission utilizing the TOC model helps to begin early education on self-care management and has shown to decrease readmission rates within 30 days post discharge (Holland, n.d.). Stakeholders in this process were

members of the TOC HF team at the project site. The project team was drawn from staff on the team who are in roles as (a) transitional care coaches (TCC), (b) emergency department (ED) health care providers, (c) registered nurses (RN), (d) licensed clinical case managers, social workers and registered dieticians.

The project team members were presented with background information obtained from evidence generated from two criteria used to screen HF readmission rates. These were LACE scores and First-net, which is a software used to track 30-day HF readmission. The team shared their expertise on patient education by utilizing their Hispanic background and clinical expertise to enhance the patient education experience in self-management for these culturally sensitive vulnerable Hispanic patients. The background information was retrieved and reviewed within two weeks by the project team and feedback provided on the project results of improved patient outcomes and upgraded teaching materials.

A potential bias included the mindset that this expert panel of clinical TOC Hispanic team members were culturally competent in addressing all the needs of this vulnerable patient population cultural norms and practices. These biases were addressed with the team through educational workshops that provided awareness of these practices and teaching tools to help broaden the team's views when approaching these patients. Steps taken to address these biases included utilizing tools such as the video interpreter system known as "Stratus," which houses twenty-five different languages that have a high level of fluency, as well as a thorough grasp of medical terminology in both the source and target languages. The system delivers accurate messages between caregivers

and patients with limited English proficiency (LEP) to provide a better quality of patient care (Hu, 2018). Language barriers between health care providers and patients with LEP can have serious consequences including medical errors, delays in treatment, issues with informed consent, and physical harm to patients. Family members and non-professional health care workers who have bilingual skills often are not ideal interpreters for LEP patients because they are not medically trained professionals and are likely to translate erroneous information (Hu, 2018).

Deploying an expert clinical Hispanic team that has been educated on the Hispanic culture, norms, and practices will help bridge the gap in patient education by incorporating new AHA guidelines and formulating revised updated teaching handouts geared towards a successful patient education program which will, in turn, show a decline in HF readmissions.

Summary

Evidence-based practice guidelines are essentially developed to provide healthcare providers with practice evidence to guide safe effective care to specific populations and is utilized to address the problem of increased rehospitalization rates of HF patients within 30 days. The gap identified in nursing practice is the lack of effective patient education regarding HF medication, exercise and diet adherence during hospital discharge and the lack of a formal supportive program post discharge which has resulted in a 50-70% increase in rehospitalization rates for HF within 30 days after discharge from the hospital. In Section 3, I describe the process in more detail.

Section 3: Collection and Analysis of Evidence

Introduction

HF continues to be a leading cause of hospitalizations and deaths in the United States, posing an enormous burden on patients, families, and the health care system. This hospital determined that 30%–56.6% of patients with HF are rehospitalized within the first three months. The gap in nursing practice was the lack of effective patient education regarding HF medication, exercise, and diet adherence during hospital discharge and the lack of a formal supportive program post discharge, which has resulted in a 50-70% increase in rehospitalization rates for HF within 30 days after discharge from the hospital. This percentage is determined by utilizing the LACE index scoring tool which calculates readmission rates that can predict early readmission rates. In this section, I provide a review of the practice-focused question, sources of evidence, and analysis and synthesis.

Practice-Focused Question

The practice focused question was, "Can an expert interprofessional team revise the HF clinical guidelines to conform with best practice, that is tailored to the low income Hispanic population, ultimately resulting in improved patient self-management, improved patient outcomes, and decreased readmissions in HF vulnerable populations?"

The purpose of this project was to utilize an expert team to evaluate the HF education program at a small rural acute care facility in the southeast and to develop guidelines for NP management both during hospitalization and during revise the 30-day follow-up period. This is best practice according to the AHA (Yancy et al., 2017). This doctoral project helps to fill this gap in nursing practice by revising numerous HF

education guidelines to concisely form an effective clinical practice guideline for NPs and the transitional care team.

Sources of Evidence

The Walden Clinical Practice Guideline Development with the use of AGREE II requires a systematic method with inclusion and exclusion criteria to search the literature and grade the strength of evidence. The AGREE II provided the framework for the DNP project. A literature and resource review was conducted using databases from the Walden University's library, Google Scholar, the Centers Disease Control and Prevention, New England Journal of Medicine (NEJM) Journal Watch, the National Institutes of Health, the AHA, and Prevention Quality Indicator-AHRQ. Search terms included the following: *patient education programs, self-management approaches, 30-day readmission rates, patient navigation,* and *transitional care programs*. Recommendations for developing an education and support program for HF patients that will prevent readmission rates were provided to the interdisciplinary team to use in drafting the guidelines. The literature was reviewed using the GRADE criteria to evaluate the quality of evidence.

The common elements in the literature that impact hospital readmission rates are related to (a) providing patient education utilizing the "teach-back" technique, (b) daily repetition, (c) provision of a patient packet of information provided on discharge, (d) case managers ensuring the 7-day follow-up appointment, and (e) follow-up phone calls post discharge (see Schell, 2014).

Analysis and Synthesis

The guideline development group was formed as an expert panel and included TOC coordinators, case management, a financial analyst, members from quality improvement teams, and community representatives. The community representatives were Spanish speaking team members who were medically trained and assigned as resources to assist with outpatient follow up. They addressed language barriers and cultural norms that might pose as a barrier to education. The literature was reviewed and best practice guidelines were compared to the hospital's program, and new program format and clinical practice guidelines were suggested (see Schell, 2014).

The final review was completed using the AGREE II tool and revisions were made as appropriate. The expert committee also suggested an evaluation plan that includes both formative and summative outcome measures. The clinical practice development guideline (CPDG) suggests that a single domain can be used, which is defined as prioritizing one domain—through consensus or based on decisions by leadership, one quality domain may be prioritized over the others. Thus, thresholds can be created based on scores for the prioritized domain (e.g., high quality guidelines are those with a domain 3 score >70%; AGREE II, 2017).

Domain 1, which involves scope and purpose, was utilized to grade the strength of this study. The chief financial officer and the TOC committee were involved in developing the budget and cost-effectiveness analysis for the hospital committees that gave final approval to the plan.

Summary

The goal of this project was to provide effective patient education and management to an underserved low-literacy community with a TOC team utilizing best practices and revised clinical guidelines. In Section 4, I describe the process, findings, and recommendations.

Section 4: Findings and Recommendations

Introduction

HF is the top discharge diagnosis for Medicare patients and the leading cause of rehospitalization within 30-days of an index hospitalization (Eapen et al, 2013). With one in four patients discharged with a diagnosis of HF readmitted within 30 days, HF accounts for an estimated 25% of all-cause readmissions in Medicare recipients (CMS, 2016). Readmission rates for HF within 30 days post hospital discharge at this small rural acute care facility in the southeast are consistently higher than the national average (Holland, n.d.). This hospital determined that 30%–56.6% of patients with HF are rehospitalized within the first three months. The case management team's quarterly report addresses the 30-day risk standardized measures on HF that are included in the HRRP; Director of Case Management, personal communication, July 26, 2018). The HF population has a disproportionate share of economically and socially disadvantaged patients identified as self-pay or Medicaid recipients. The extent of the problem has cost the facility to lose millions of dollars from CMS FFS reimbursement initiatives which have resulted in continued low hospital ratings for the past 5-10 years. The gap in nursing practice was the lack of up to date patient education post discharge guidelines on HF for the socio-economically disadvantaged, culturally diverse population located in this small rural town.

The guiding practice-focused question was, "Can an expert interprofessional team revise the HF clinical guidelines to conform with best practice, that is tailored to the low income Hispanic population, ultimately resulting in improved

patient self-management, improved patient outcomes, and decreased readmissions in HF vulnerable populations?" The purpose of this project was to utilize an expert team to revise the HF education program to include evidence-based guidelines for NP management of patient teaching both at discharge and during the 30-day follow-up period. This is best practice according to the AHA (Yancy et al., 2017) The process, as described in the clinical practice guideline development (CPGD) using AGREE II tool, was adapted for use in this project (see Appendix A for a copy of the guideline).

Findings

The guideline development team consisted of the TOC team, project coordinator, nurses, nurse leaders, and case managers who met to review and draft recommended guidelines including those from the American College of Cardiology/American Heart Association (ACC/AHA, 2017). Team members were presented with a synopsis of the literature to further guide discussion. As Smith et al. (2018) explained, the driving force for the creation of many TOC programs for post discharge HF patients in the United States was aimed to reduce HF readmission rates by targeting known precipitants of readmission. These include (a) poor transitions of care, (b) lack of access to post discharge care, (c) inadequate access to medications, (d) medication non-compliance, and (e) improper diet with excess salt intake. They employ a variety of techniques, including telemonitoring, structured telephone support, home healthcare services, patient education, and interdisciplinary outpatient clinics to improve patient well-being. Interdisciplinary care clinics are the most comprehensive and intensive outpatient programs provided to post discharge HF patients. Most of these programs provide primary care, specialist

follow-up, and comprehensive patient education with coaching to promote self-management including medication and dietary compliance. Transitional care clinics utilize providers from multiple disciplines, including medicine, nursing, pharmacy, social work, and nutrition. Ideally, these programs should prevent the duplication of services, medication confusion, and patient anxiety (Smith et al., 2018).

The recommended changes to the TOC program will orchestrate a team-based approach for patients at high risk for HF rehospitalization and require effective staff education to enhance patient education and support to promote HF self-management. This multidisciplinary approach will begin during hospitalization with optimal patient education, discharge planning, and frequent outpatient assessments. This is different from the current process where the nursing staff usually prints educational handouts with outdated guidelines at the time of discharge.

The guideline recommends the healthcare provider and patient determine the specific intervention based on individual values, preferences, and associated conditions and comorbidities (Yancy et al., 2017). The guideline itself proposes interventions for recommended HF follow-up and preventive care. The program will coordinate screening of readmitted HF patients utilizing the TOC team with each HF consultation from the emergency room. The program will initiate HF patient education from admission until discharge. The recommended preventative care will include assessing the patient's knowledge on current HF self-care and medication regime, and this information will be used to determine the individuality for focused education. Patients will be taught how to assess daily fluid and weight status, recognizing early signs and symptoms of fluid

overload and patient specific medication management. The patient's knowledge will be evaluated utilizing the teach-back technique prior to discharge to evaluate educational outcomes. The nurse practitioner or nurse assigned will ensure that the patient has a follow appointment and ongoing compliance with education by eliciting follow phone calls for 30 days post discharge to ensure conformity with discharge instruction.

As Stamp et al. (2014) explained, TOC should begin during admission and continue at home and contain an element of communication between providers to ensure continuity. Most transitional care programs go beyond education alone to include the nurses' role in coordinating multidisciplinary referrals based on the patient's needs, communication among the inpatient team members, as well as home care personnel, and developing/implementing tailored care plans that include patient and family education, medication management/titration, and increasing the patient's activity levels/functional capacity (Stamp et al., 2014).

The panel concluded that the revised teaching plans were needed for staff to utilize with different ethnic groups that were culturally specific. The new educational materials can support HF self-management, which includes proper use of medications, dietary changes, and evaluating response to daily therapy. The nursing assessment will include the ability to perform activities of daily living, medication management, daily monitoring of weight to detect fluid diet and sodium intake, lifestyle modification, and restriction or abstinence from alcohol consumption and avoidance of illicit drugs. The recommendations are to restrict sodium 3g/day and fluid restriction 1.5/2L day and

avoidance of obesity (see Colucci, Gottlieb, & Yeon, 2019). This will ultimately improve HF patient education and quality of life, which is best practice.

The clinical practice development guideline (CPDG) suggests using the AGREE II tool to critically appraise new HF practice guidelines developed by the team to grade the strength of the proposed practice guideline and its trustworthiness in adapting new recommendations. The higher the AGREE II score, the more confident its stakeholders are in utilizing the updated revised guideline materials linking recommendations to supporting evidence. The AGREE II is both valid and reliable and consists of 23 key items organized within six domains. The guideline suggests that a single domain can be used, which is defined as prioritizing one domain—through consensus or based on decisions by leadership, one quality domain may be prioritized over the others. Thus, thresholds can be created based on scores for the prioritized domain (e.g., high quality guidelines are those with a domain 3 score >70%). Domain scores are calculated by summing up all the scores of the individual items in a domain and by scaling the total as a percentage of the maximum possible score for that domain (AGREE II, 2017).

Domain 1, which involves scope and purpose, was utilized to grade the strength of this project. The three items examined are (a) the overall objective of the guideline is specifically described (preventing HF readmission), (b) the health question covered by the guideline is specifically described (can revised updated teaching guidelines prevent HF readmission?), and (c) the population to whom the guideline is meant to apply is specifically described (undeserved Hispanic population). The four appraisers consisted of nurse managers, TOC coordinators, a chief financial analyst, and a chief medical officer.

The updated guidelines domain scored 86%, suggesting that the recommended teaching materials are high quality (AGREE II, 2017; see Figure 1 for calculations).

Calculating Domain Scores

	Item 1	Item 2	Item 3	Total
Appraiser 1	5	6	6	17
Appraiser 2	6	6	7	19
Appraiser 3	6	6	7	19
Appraiser 4	6	6	7	19
Total	23	24	27	74

Obtained score Total = 74

Maximum possible score = 7(strongly agree) x3 (items) x4 (appraisers) = 84

Minimum possible score =1(strongly disagree) x3(items)x4 (appraisers) = 12

The scaled domain score will be:

$$\frac{\text{Obtained score – minimum possible score}}{\text{Maximum possible score – minimum possible score}}$$

74-12/84-12 = 62/72 x100 = 86%

Figure 1. Domain calculations.

Implications

The process was useful to secure all stakeholders at the table to review the updated evidence-based teaching guidelines and to achieve a consensus. The proposed outcome measure will be the reduction in readmission rates within 30 days post hospital

discharge over a period of six to twelve months. Unanticipated findings indicated that nurses perceive a lack of authority to change patient care procedures and the team noted a lack of organizational commitment to engage in research activities and translate them into practice (Hauck, Winsett, & Kuric, 2013). Addressing these challenges include creating opportunities to learn and use skills and creating the culture to have a voice in practice are important leadership challenges. Building the culture starts with a vision of how evidence-based practice (EBP) will be operationalized and an assessment of the leader and organizational readiness for EBP. Readiness includes the resources to assist nurses in skill development and facilitating the organizational structures and processes for incorporating EBP (Hauck et al., 2013).

The organizational implications resulting from staff education and TOC goals are to reduce hospital readmissions, test sustainable funding streams for care transition services, maintain or improve quality care, and document savings to the Medicare program. Transitional of care practice regulation as stipulated by CMS requirements for reimbursement, patient access, safety and efficacy in quality healthcare.

The implications from updating HF teaching materials for staff will benefit both HF patients, nurses, institutions and systems. Positive social change achieved from improved staff education on HF leads to improved knowledge for staff and patients. It has been proven that readmissions are costly to the health care system and affect quality of life for patients. Decreased reimbursement to hospitals due to high 30-day readmission rates may have negative impact on services, staffing, and programs due to reduced income. In addition, patients benefit from better education. Decreased readmissions lead

to less out-of-pocket expenses, and patients are able to remain independently in their homes.

Recommendations

A key recommendation is to provide additional education for staff nurses that empowers them as partners in the care team. Initiatives that focus on continuing educational programs for nurses affect quality of care for patients to create more effective outcomes. Nurses must be able to provide knowledgeable discharge instruction for patients. Educational programs increase knowledge and improve patient outcomes (Sterne, Grossman, & Migliardi, Swallow, 2014). As a study by Sterne et al., (2014), noted, nurses gained knowledge from the educational programs that enable them to provide comprehensive care to their patients. The 30-day readmission rate for patients with HF decreased after nurses attended an educational program. This nursing improvement in patient care may improve patient's self-management of HF, reduce hospitalizations, decrease costs, and ultimately enhance quality of life (Sterne et al., 2014).

Once the guidelines are in place, it is important to evaluate the outcomes. Sources of evidence to be collected for Nurse Practitioner-led Education Program for Heart Failure Patients project will consist of recording patient monitoring and readmission data for those admitted with HF who were managed under the new guidelines. This readmission data will be compared to the baseline established in 2017-2019. It is also important to develop a mechanism for measuring patient/ family satisfaction with care.

Contribution of the Doctoral Project Team

Each member of the project team was engaged in the process and contributed to the multi-disciplinary perspective of the guidelines. Future roles for the team are to enhance staff education by incorporating their Hispanic background and clinical expertise. The team will be engaged in the development of patient education materials. They will be part of the interdisciplinary management team and will meet regularly to review progress and program outcomes.

Strengths and Limitations of the Project

The process was useful to secure all stakeholders at the table to review the updated evidence-based teaching guidelines and to achieve a consensus. As Wyer et al. (2016) noted, utilizing a broad-based multidisciplinary team approach helps to maximize the value of both external research and practice-based evidence in defining the problem and identifying effective interventions. Harnessing the multidisciplinary composition of the project team is also decisive in enhancing both the quality of the educational initiative and the success of the clinical project (Wyer et al., 2016).

Limitations of the project identified is that the positive effects of the education program regarding self□care behaviors could be influenced by the investigator's expectation that all staff would be competent in reteaching patients the updated clinical guidelines in a timely manner before discharge. Another limitation would be if the education session is conducted by other persons, the results might be different (Koberich, Pflegepad, Lohrmann, Mittag & Dassen, 2015).

Recommendations for future projects include educational programs taught by nurse practitioners on updated diabetes guidelines to improve patient education to prevent readmission for diabetic patients including DKA and hypoglycemia. As Sonmez, Kambo, Taha, and Poretsky (2016) explained, the risks of readmissions include social, economic, and educational factors, the solutions are likely not to come from medical measures alone. State-wide and national initiatives may be needed to consistently reduce readmission rates among patients with diabetes. Efforts to identify new risk factors for readmission in patients with diabetes should be ongoing, as these factors may change over time. There is a need for well designed, multicenter, prospective studies to further examine both the factors causing increased readmission rates and the interventions that can reduce readmission rates in patient with diabetes (Sonmez et al., 2016).

Section 5: Dissemination Plan

A PowerPoint presentation will be used to disseminate evidence-based research project findings and updated teaching material handouts at the project site. This small facility has been experiencing higher than normal HF readmission rates within the last five years, which poses significant financial risk to the institution. The intended audience will include the chief medical officer (CMO), nursing leaders, quality improvement (QI) teams, case-managers, a chief financial analyst, and healthcare providers. This education will be extended to other organizations involved in transitions of care including long-term care facilities, home health, and community support organizations such as Meals on Wheels. Once the outcomes of implementing the new guidelines are known, these will also be communicated at the facility and in the community. Findings may warrant an abstract at a professional meeting or publication.

Analysis of Self

As I reflect on my development as a scholar-practitioner and nurse leader, several ideas come to mind. When working with the case management team, financial team, and other nurse leaders in reducing HF readmissions, I developed skills on the aggregate, systems, and organizational level. If the program is proven to be successful in the underserved communities, this will enhance the health of the population. The TOC model should show a reduction in readmission rates, better quality of life, and improved functional status for patients.

The DNP essentials have been my guide and have allowed me to incorporate its strategies for becoming a scholarly practitioner (Holland, n.d.). As Polancich, James,

Miltner, Smith, and Moneyham (2018) posited, the DNP essentials on clinical practice require that the DNP graduate possess a wide array of knowledge from the sciences that will integrate nursing science with knowledge from ethics, and the biophysical, psychological, analytical, and organizational sciences. The graduate should be able to use theories and concepts to determine the nature and significance of health and health care delivery, describe actions and advanced strategies to enhance health and health care delivery, evaluate outcomes, and develop and evaluate new practice approaches based on nursing and other theories. (Polancich et al., 2018). The knowledge acquired stems from the research findings that nurses and NPs can improve the TOC process for HF patients within their organizations from hospital to home, thereby reducing hospital readmission rates.

The TOC model was utilized as the cornerstone for my project. The TOC program project is anchored on imparting a set of individual self-management skills with the help of transitional care coaches (TCC) to help patients gain the confidence they need for self-care to prevent excessive hospital visits for the same symptomatology, which is usually fluid overload.

Another established role as a scholar-practitioner is to respond to organizational system issues in various avenues, which has helped me gain confidence in introducing my evidence-based project to key stakeholders such as cardiologists, nursing administrators, nursing educators, nurse managers, staff nurses, case-managers, the hospitals administrators and financial advisors, patients, and family members. I have assumed leadership roles that incorporated teamwork with nursing disciplines to promote

quality healthcare. Effective leadership requires shared leadership within an organization to advance transitional care thus in preventing HF readmission rates. As Squires et al. (2012) pointed out, effective leadership gives rise to clear roles, effective teamwork, and effective organizational structures, as well as staff involvement in decision making and approaches to learning. Shared leadership—meaning a unit structure and process that legitimizes nurses' control over their practice and permanently extends their influence on areas previously controlled by management—is integral to the success of shared leadership between nurses and leaders. Nurse leaders, following a shared leadership governance model, can empower nurses by instilling a sense of power (Squires et al., 2012).

Summary

The specific goal of this project was to improve the process for HF patients during TOC. One of the major needs identified in the process is for new teaching materials for staff which utilize the 2017 AHA guidelines and are culturally appropriate for this community. An improvement in teaching materials may prove essential in promoting positive social changes for staff knowledge, patient self-care education, and the prevention of costly HF readmissions, leading to improvement in quality of care and QoL for HF patients. As a scholar-practitioner and nurse leader, the project also embodies the DNP essentials as the foundation for success.

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Appendix A: Clinical Guideline Development Using AGREE II

Clinical Practice Guideline Development requires a systematic method with inclusion and exclusion criteria to search the literature, and grade the strength of evidence (Moran, Burson, and Conrad, 2017). The Appraisal of Guidelines Research and Evaluation (AGREE) II provides the framework that the DNP can use to guide the development of Clinical Practice Guidelines and to assess the quality of the guideline developed.

The AGREE II is both valid and reliable and consists of 23 key items organized within six domains (http://www.agreetrust.org). The six domains include:

Domain 1: Scope and purpose Description: The Scope and Purpose domain is concerned with the overall aim of the guideline, the specific health questions and the target population. Items:

1. The overall objective(s) of the guideline is (are) specifically described.
2. The health question(s) covered by the guideline is (are) specifically described.
3. The population (patients, public, etc.) to whom the guideline is meant to apply is specifically described.

Clinical Practice Guideline Process (Using the AGREE II Criteria as a Checklist in Each Step)

1. Identify a problem to be addressed with a guideline.
2. Develop a PICO (Problem Population, Intervention, Comparison, Outcome) question.
3. Develop evidence selection criteria: a. Describe the systems used for recording, tracking, organizing, and analyzing the evidence—including any software used for these purposes. b. Outline the procedures used to assure the integrity of the evidence, including approaches to managing outliers and missing information. c. Describe analysis procedures used in the doctoral project to address the practice- focused question(s) (e.g., coding, statistical analyses, etc.).
4. Search the literature.
5. Synthesize the evidence from the literature.
6. Develop recommendations /guideline.
7. Identify an expert panel.
8. Using the AGREE II Instrument, the expert panel reviews the guideline to validate content. The AGREE II instrument and users guide can be found here: https://www.agreetrust.org/resource-centre/agree-ii/
9. The AGREE II instrument is scored per the instructions provided by the Agree Trust, those instructions can be found at the following website: https://www.agreetrust.org/resource-centre/agree-ii/
10. The guideline is revised based on recommendations.
11. Identify a group of key stakeholders/end-users.
12. Present the revised guideline to end-users/key stakeholders /local experts and discuss to validate content and ensure usability.
13. Develop a final report.
14. Disseminate the final report to key stakeholders.

Appendix B: Sample of Patient Guideline in Spanish

Educación para el paciente: Insuficiencia cardíaca (Conceptos Básicos)

¿Qué es la insuficiencia cardíaca?

La insuficiencia cardíaca es un padecimiento en el que el corazón no bombea bien la sangre y en consecuencia, se demora en transportarla por el organismo. De esta manera, se acumula líquido en el cuerpo y los órganos no reciben toda la sangre que necesitan, lo cual puede provocar síntomas, como inflamación, dificultad para respirar y cansancio.

Si tiene insuficiencia cardíaca, no quiere decir que el corazón "falló" o dejó de latir, sino que no funciona como debería.

¿Cuáles son los síntomas de la insuficiencia cardíaca?

Si el corazón no bombea sangre correctamente, es posible que no tenga síntomas al principio, pero a medida que el padecimiento empeora, puede causar:

- Cansancio, debilidad o mareos
- Dificultad para respirar, lo cual podría hacer que reduzca su nivel de actividad o que necesite más almohadas para dormir por las noches
- Latidos muy rápidos, incluso al descansar
- Inflamación en los pies, los tobillos y las piernas (figura 1) o el área del estómago

¿Existe alguna prueba para detectar la insuficiencia cardíaca?

Sí. Si su médico o enfermero cree que usted podría tener insuficiencia cardíaca, le hará un examen y es posible que solicite alguna de las siguientes pruebas:

- **Un electrocardiograma (ECG)** – Esta prueba mide la actividad eléctrica del corazón. Se puede observar si tiene un ritmo cardíaco anormal o si tuvo un infarto en el pasado. Esos son algunos de los problemas que puede causar la insuficiencia cardíaca.

- **Una prueba de sangre llamada “péptido natriurético cerebral” o “prohormona N-terminal del péptido natriurético cerebral”** – El nivel de péptido natriurético cerebral o prohormona N-terminal del péptido natriurético cerebral es alto en las personas que tienen insuficiencia cardíaca.
- **Una radiografía de tórax** – Con una radiografía de tórax se puede ver si hay líquido en los pulmones. También se puede observar la forma general del corazón y los vasos sanguíneos grandes que hay en el pecho.
- **Un ecocardiograma** – En esta prueba se utilizan ondas sonoras para crear una imagen de su corazón mientras late. Se puede ver el tamaño de las cámaras cardíacas, si el bombeo es suficiente y cómo están funcionando las válvulas cardíacas.
- **Prueba de esfuerzo** – Durante la prueba de esfuerzo, es posible que deba caminar o correr sobre una cinta caminadora mientras le hacen un ECG u otras pruebas del corazón. La actividad física hace que el corazón necesite una cantidad mayor de sangre y lata más rápido. Esta prueba ayuda a los médicos a ver si el corazón recibe suficiente sangre cuando se hace un esfuerzo. Si no puede caminar o correr, es posible que deba tomar una medicina para que el corazón haga un esfuerzo.
- **Cateterismo cardíaco** – En esta prueba, el médico coloca un tubo delgado en un vaso sanguíneo de una pierna o un brazo. Luego, desplaza el tubo hasta el corazón. Cuando el tubo llega al corazón o los vasos sanguíneos, el médico toma unas medidas. Es posible que el médico también inyecte en el tubo un tinte que aparece en las radiografías. Así, se puede observar si alguna de las arterias del corazón está bloqueada total o parcialmente. Esta parte de la prueba se llama "angiografía coronaria".

¿Qué puedo hacer por mi cuenta para proteger mi corazón?

Si toma estas medidas, se sentirá mejor y reducirá las posibilidades de tener que ir al hospital:

- **Tome sus medicinas, aunque se sienta bien** – Las medicinas que le receta su médico pueden ayudarlo a vivir mejor y más tiempo, pero solamente funcionarán si las toma de la forma que él se lo ha indicado.
- **Observe cambios en sus síntomas y siga un plan de acción** – Un plan de acción es una lista de instrucciones sobre qué hacer si los síntomas cambian. Para usar el plan de acción, debe observar sus síntomas detenidamente y pesarse todos los días (consulte el siguiente punto). Si los síntomas empeoran o sube de peso de repente, debe tomar medidas.

Tenga su plan de acción a mano (por ejemplo, sobre el refrigerador), para poder revisarlo siempre y ver qué debe hacer.

- **Llame a su médico o enfermero si sube de peso de repente** – Pésese todas las mañanas después de orinar y antes de desayunar. Trate de llevar puesta aproximadamente la misma cantidad de ropa cada vez y asegúrese de anotar su peso todos los días en un calendario. Llame a su médico o enfermero si su peso aumenta 2 o más libras (1 kilo) en un día, o 4 o más libras (2 kilos) en una semana. Cuando tiene insuficiencia cardíaca, un aumento de peso repentino es un signo de que su cuerpo está reteniendo demasiado líquido y es posible que deba cambiar sus medicinas.
- **Reduzca el consumo de sal** – Evite agregar sal en la mesa o mientras cocina. Evite también los alimentos que vienen en cajas o latas, salvo que en las etiquetas se indique que tienen bajo contenido de sodio. Las mejores opciones son los alimentos frescos, o frescos congelados, y los que prepare usted mismo. Pregúntele al médico cuánta sal debe consumir. Es posible que el médico también le sugiera limitar la cantidad de líquido que consume.
- **Baje de peso, si tiene sobrepeso** – Si tiene sobrepeso, su corazón debe esforzarse más para satisfacer las necesidades de su organismo.
- **Deje de fumar** – Fumar empeora la insuficiencia cardíaca y aumenta las posibilidades de que tenga un infarto o muera.
- **Limite el consumo de alcohol** – Si es mujer, no beba más de una copa al día. Si es hombre, no beba más de dos.
- **Haga actividad física** – Pregúntele al médico qué actividades son seguras para usted. El médico le dirá si ciertas actividades, como caminar o andar en bicicleta la mayoría de los días de la semana, pueden ayudar a disminuir los síntomas, pero no haga ejercicio si los síntomas son demasiado molestos.
- **Consulte a su médico antes de tomar medicinas o suplementos nuevos** – Algunas medicinas de venta con y sin receta, remedios “naturales” y suplementos no son convenientes para las personas con insuficiencia cardíaca. Por ejemplo, ciertas medicinas como el ibuprofeno (ejemplos de nombres comerciales: Advil, Motrin) y el naproxeno (ejemplo de nombre comercial: Aleve) pueden empeorar su insuficiencia cardíaca.

¿Cómo se trata la insuficiencia cardíaca?

Existen muchos tratamientos para la insuficiencia cardíaca, pero las medicinas son un elemento clave para controlar el padecimiento.

- Tome sus medicinas todos los días según las indicaciones del médico ya que estas pueden disminuir las posibilidades de que tenga que ir al hospital, sufra un infarto o muera, y también pueden aliviar o detener sus síntomas, por lo que son muy importantes.

- Hable con su médico si no puede pagar sus medicinas. Es posible que le ofrezca alternativas para reducir el costo de estas.
- Informe a su médico si las medicinas producen efectos secundarios u otros problemas. Es posible que pueda cambiarle la medicina o disminuir la dosis para que no tenga el problema.

Otros tratamientos para la insuficiencia cardíaca consisten en dispositivos para que el corazón bombee sangre con más fuerza o lata al ritmo correcto, y cirugías para mejorar el flujo de sangre al corazón o para reemplazar el corazón.