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Improving Care Transitions in Patients with Heart Failure: An Integrative Literature Review

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
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Abstract

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MSN, Western Governors University, 2015

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Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

Heart failure (HF) hospital readmission reductions are linked to nursing interventions that include scheduling a hospital follow-up appointment with the patient's health care provider within a week of discharge. Yet, patients often leave the hospital without an appointment scheduled. The focus of this integrative literature review was on analyzing data that associated follow-up within 7 days with reduced 30-day readmissions. A search of articles using CINAHL, MEDLINE, Cochrane Database of Systematic Reviews, and ProQuest databases resulted in 4,813 articles retrieved using the following search terms: heart failure, readmissions, follow-up appointments, and heart failure guidelines. Scholarly articles selected for inclusion were published between January 1, 2007, and June 30, 2017, in the English language, regarding studies completed in the United States, available online in full text, and specific to patients with HF. The Melnyk Critical Appraisal Guide was used for the appraisal, evaluation, and synthesis of the evidence. The transitional care model served as the theoretical framework for the project. A key finding of the review was that follow-up appointment scheduling within 7 days was associated with a modest reduction in readmissions; more research is needed to produce additional evidence on this topic. Project dissemination may result in positive social change by raising awareness of health disparities and empowering patients and staff to work collaboratively. Through improved communication and follow-up between patients and the interdisciplinary team, patients with HF may be able to experience improved disease management and a reduced number of hospitalizations.

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Dedication

The support, guidance, and direction received from Susan Johnson Brown, MSN, RN, and the entire heart failure/VAD team at Mercy Medical Center- Des Moines throughout this project has been valuable and inspiring. I dedicate this project to my nurse colleagues who work diligently every day to improve the lives of patients through education, practice, and caring.

I also dedicate this project to those nurses I have had the opportunity to know, learn from, laugh with, and in some cases, say goodbye to as they received their wings. Jean, Lisa, Dottie, Soco and Martha- I will never forget your support throughout my career and above all, your friendship. I hope to leave behind the same legacy as you all.

Acknowledgments

All glory to God for the opportunity He has allowed me to have on this journey, and to my Lord and Savior Jesus Christ for guiding me always. I am humbled by the love and grace I have been shown.

I would like to thank the Walden doctorate faculty for the support and guidance through this project process. Dr. Mirella Brooks has been the encouragement and inspiration every step of the way, advising me to “enjoy the journey.” Great thanks also to Dr. Anna Valdez and Dr. Francisca Farrar, for their work and time dedicated to this project.

I would also like to thank my family, especially my husband Mike for his devotion and encouragement during this journey so I could chase and achieve this dream “right now.” To my sons and grandchildren, you always knew when I needed an encouraging word, and I am forever grateful for your love and respect.

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Section 1: Nature of the Project

Introduction

Prevention of readmissions in the heart failure (HF) population has been a significant health care focus for hospitals (Davies et al., 2013). Readmissions of HF patients account for 250,000 patient readmissions per year in the United States, which is the most of any patient group (Centers for Medicare and Medicaid Services, 2016). There is evidence that adherence to national guidelines for the scheduling of patient follow-up (e.g., scheduling a patient for a follow-up appointment within 7 days of discharge) is associated with reduced readmission rates (American College of Cardiology [ACC], 2016). Early identification of at-risk heart failure patients, use of standardized HF education and tools by all staff, and consistent processes of scheduling hospital discharge appointments is critical to empower patients and foster improved management of HF.

In this project, I conducted an integrative review of the literature on strategies for timely discharge follow-up to improve readmission rates in the HF population. This project supports positive social change through the promotion of self-care, improved symptom management, and continuity of care for the HF population. Section 1 includes discussion of the problem and the purpose of the integrative literature review. The project question, framework, definitions, assumptions, limitations, and significance of the integrative literature review are also included.

Problem Statement

In developing the DNP project, I became aware of the inconsistent follow-up scheduling practices for HF patients at the practicum site, an 800-bed urban tertiary facility.

Data review at the practicum site revealed a 23% compliance rate of follow-up appointment scheduling according to American Heart Association (AHA)/ACC guidelines (American College of Cardiology, 2013) in the third quarter of 2016 (April, May, and June 2016; S. Brown, September 2016). This gap-in-practice signifies a missed opportunity to provide patients with HF at the site with timely follow-up that may help them avoid hospital readmission.

Local Relevance

According to a review of transitional care interventions published by the Agency for Healthcare Research and Quality (AHRQ; 2016), reduction in HF specific readmissions, mortality, and number of hospital days at readmission was associated with home-visit programs and structured telephone support. Multicomponent interventions have been shown to reduce all-cause readmissions and mortality (Centrella-Nigro et al., 2016). Reducing overall costs, improving value and quality, and streamlining care transitions were the goals of staff at the practicum site. To strengthen these efforts, the site participated in a retrospective episode payment program specific to patients with HF. The Bundled Payment for Care Improvement Initiative (BPCI) is a 90-day episode of care in which the site is reimbursed through a determination of the previous 2-year costs with a 2% payment reduction (Stachura et al., 2017). The site and patient benefit through decreased use of skilled nursing services and readmissions, increased use of care coordination, interdisciplinary communication and improved transition care, according to hospital executives.

HF affects over five million persons in the United States (AHA, 2016). Symptoms associated with HF such as dyspnea, cough, edema, weight gain, and fatigue cause patients to seek treatment in emergency departments and urgent care centers (AHA, 2016). Over one million patients with heart failure are hospitalized per year (Centrella-Nigro et al., 2016), and nearly 22% of those patients experience a 30-day readmission to the hospital (Centers of Medicare and Medicaid Services (CMS), 2016). HF diagnoses represent the highest percentage of hospital readmissions in the United States (Banoff et al., 2016). A review of the literature indicated that 30-day readmission rates contribute to patient morbidity and mortality and are tied to quality and successful transitions of care (Goyal et al., 2016; White & Hill, 2014). According to the practicum site's quality improvement staff, reducing readmissions is critical to the financial health of the facility.

The Patient Protection and Affordable Care Act (PPACA) imposes penalties on U.S. hospitals for 30-day readmissions requiring focus on the improvement of quality and efficiency in the delivery and transition of care in patients with heart failure (Hobbs et al., 2016). Excessive readmission rates reflect care performed in the hospital, as well as processes used to transition patients out of the hospital environment. National initiatives to reduce hospital readmissions include (a) implementation of HF clinics (Carpenter et al., 2015), (b) follow-up provider visits, (c) post-discharge telephone calls, (d) use of a teach-back technique (Whittaker, Soine, & Errico, 2014), and (e) medication instruction by pharmacy staff (House et al., 2016). Despite interventions and use of AHA guidelines in diagnostic testing and medication management HF readmissions remain the most frequent cause of hospital readmissions in the United States (Armstrong, 2014). In this DNP project, I

addressed the gap in practice between the use of evidence-based strategies for appointment scheduling prior to hospital discharge and current practices of appointment scheduling at the practicum site.

Significance for Nursing Practice

Patients with HF are at risk for poor symptom management, medication compliance issues, and subsequent hospital treatment without timely follow-up with a primary care or heart failure specialty provider (Schell, 2014). Timely follow-up for patients minimizes the risk of readmission through effective medication and symptom management (Schell, 2014).

Pressure to decrease readmission exists within the hospital setting due to penalties that hospitals may face with excessive readmissions. When a patient with HF is readmitted to the hospital within 30 days, a disruption in environment, sleep, and health maintenance occurs (Al-Rawashdeh, Lennie, & Chung, 2016). This disruption affects the patient's ability to manage the disease effectively, and it affects a practitioner's ability to manage patients in a more affordable outpatient environment (Jackson, Shahsabebi, Wedlake, & DuBard, 2015). Nurses can impact patient outcomes by advocating for timely follow-up (Schell, 2014).

Purpose

The purpose of this integrative literature review was to evaluate the effects of appointment scheduling prior to discharge to readmissions and examine the strategies available to health care providers to reduce readmissions of patients with HF. Understanding the gap in practice and identifying evidence-based strategies to improve the appointment

scheduling process is critical to the success of readmission reduction (Centrella-Nigro et al., 2016).

Gap in Practice

Timely follow-up visits by practitioners are a component of transitional care interventions designed to prevent HF readmissions, according to the AHRQ (2016). Guidelines from the American College of Cardiology Foundation (ACCF)/AHA, for instance, include the recommendation of follow-up visits within 7 to 14 days of discharge to decrease the rate of potentially preventable readmissions and reduce overall health care costs to the facility and the patient (AHRQ, 2016). Transition planning and multidisciplinary care approaches reduce all-cause hospitalizations and mortality; however, the AHA (2013) stated that few HF-specific interventions had been identified and applied consistently and successfully in practice.

At the practicum site, there was no standardized process of scheduling a patient for a follow-up appointment before discharge. Often, patients were discharged with instructions to call their provider to set up an appointment after discharge. Standard language on discharge paperwork stated that patients should "call your provider within two weeks to schedule an appointment." This practice is not standard of care for HF patients according to AHA/ACC guidelines (AHA, 2016), and may result in medication mismanagement, lack of self-care education, suboptimal symptom management, and potential for increased emergency department utilization, or hospital readmission (AHA, 2016).

Practice-Focused Question

Recognizing the significance and value of follow-up appointments in the reduction of HF readmissions, the project question explored a potential relationship between scheduling follow-up appointments within seven days and reduced readmission rates. The integrative literature review evaluated the following:

- Question: Will scheduling a follow-up appointment within seven days for heart failure patients decrease 30-day readmission rates?
- Population: All heart failure patients
- Intervention: Scheduling of follow-up appointment prior to hospital discharge within seven days of discharge
- Outcomes: Reduce 30-day readmissions of patients with heart failure
- Study design: The synthesis of the literature review research will include RCTs, cohort studies, qualitative and quantitative studies, and pilot studies.

Means of Addressing the Gap-in-Practice

The DNP project has the potential to address the gap-in-practice through identification of studies that support the effectiveness of follow-up appointment scheduling prior to discharge in patients with heart failure. This is accomplished through critically appraising and analyzing peer-reviewed articles, then disseminating the findings to stakeholders.

Nature of the Doctoral Project

Sources of evidence for this DNP project included full-text, online articles, which I obtained by searching the Cumulative Index of Nursing and Allied Health Literature (CINAHL), MEDLINE, and ProQuest databases, along with the Cochrane Database of

Systematic Reviews. The following keywords and word combinations were entered into the search engines of the databases to retrieve articles for the integrative literature review: heart failure/AND readmissions, heart failure/AND follow-up appointments, heart failure/AND transitions of care, and heart failure guidelines.

Approach

The Melnyk Critical Appraisal Guide (Melnyk, Fineout-Overholt, Stillwell, & Williamson, 2010) was the framework used to appraise the literature and establish the literature review. This framework was chosen as it is easy to understand, especially for a student with minimal exposure to research work. Using the Rapid Critical Appraisal of Systematic Reviews of Clinical Interventions or Treatments (part of the Melnyk Critical Appraisal Guide), I examined the body of evidence related to outcomes for HF patients receiving a follow-up appointment prior to hospital discharge. The three key critical appraisal questions include (a) are the findings valid, (b) are the findings important, and (c) are the findings clinically relevant to the selected population (Melnyk et al., 2010)?

The theoretical framework chosen for this project was the transitional care model (TCM) developed by Naylor (1989). The TCM supports health care continuity and improved patient outcomes. Interventions that improve transitions in care through the planning and implementation of a standardized follow-up appointment scheduling process were evaluated (AHRQ, 2016). The TCM (Hirschman et al., 2015) and Hospital-to-Home Guidelines issued by the ACC Patient Navigator Program (ACC, 2014) were also used in the framework of the project. The goal for the practicum site was to decrease in 30-day readmission rates in

patients with HF as a primary diagnosis through application of evidence-based practice strategies.

The assumptions for the project were that, if patients receive scheduled appointments prior to hospital discharge, (a) they would attend a scheduled appointment and (b) would not be readmitted within 30 days. These assumptions were required to establish a framework in the evaluation of follow-up appointment effectiveness; if the patient did not attend the appointment or were readmitted within 30 days of discharge, the follow-up appointment intervention was considered ineffective.

I chose an integrative literature review as the basis of this doctoral project due to the continued increase in the number of U.S. patients with a HF diagnosis (AHA, 2016) and the need to develop creative approaches to reduce readmissions. Managing HF requires a multifaceted approach to ensure the patient's optimal success. Self-care management requires disease-specific education, tools, and resources provided by nurses, providers, and pharmacist staff (Vellone et al., 2015). Medication compliance after discharge is also a challenge in the HF population; patients are often prescribed multiple medications to control symptoms, and cost may serve as a barrier to obtaining medications. The patient is at risk if timely follow-up does not occur as early symptom management is key to decreasing emergency department visits and readmissions. The risk for suboptimal care results from breakdowns in communication between patients and providers, delayed medication management, and reduction in educational opportunities through staff and provider interactions with patients.

The integrative literature review has the potential to improve transitions of care in the HF population, as well as in the general patient population. Limitations included my inclusion only of research studies published within the last 10 years, which resulted in my not considering potentially useful older data and information, and my inclusion of studies deemed low-level evidence. Readmissions are a complex occurrence that are not the result of a single element, I acknowledge. The authors of the research studies included in this review did not consider levels of self-care management or medication compliance. These factors must be considered when assessing the validity of the included research studies and are a possible limitation in this literature review.

Significance

The project was worthy of doctoral study because of the continued increase in HF prevalence (AHA, 2015). The study is also significant because limited health care resources and increased health care costs create a burden to key stakeholders, such as patients and family members, health care workers, hospital systems, insurance providers, and state and federal policy makers. The patient and family are directly affected by this identified gap in practice; patients who do not receive a follow-up appointment are at a higher risk for hospital readmission that may result in physical, mental, and financial hardship (e.g., lost productivity, wages, and insurance copays; White & Hill, 2014). Poor symptom management is associated with increased use of emergency departments, clinics, and hospitals that results in more significant health care expenditures, delays in care, and increased morbidity and mortality (Goyal et al., 2016). Hospitals experience financial penalties based on the number of readmitted patients (Goyal et al., 2016), resulting in

limited resources to care for all patients, reduced reimbursements for services, and health care worker burnout (Goyal et al., 2016). Insurance providers also pay out more claims with increased health care use, resulting in higher premiums for all patients with coverage (Bradley et al., 2014).

Contributions to Nursing Practice

Identification of risk factors, such as depression and anxiety, recent falls, the inability to complete basic activities of daily living, or comorbid conditions, through screening empowers nurses to target potential barriers for the patient upon discharge and assist the patient in receiving the assistance needed to enhance successful transition to the next level of care. Early identification and treatment of cardiovascular disease risk factors are becoming more important in public health, community, outpatient, and inpatient areas (Gilotra et al., 2017). Nurses are often at the frontline of patient care, serving in roles such as case managers, discharge planners, patient advocates, and direct caregivers (Hirschman et al., 2015). Creating awareness of the gap-in-practice may encourage changes in discharge processes, identification of risk factors, and evaluation of biases that may cause discrimination in completion of follow-up scheduling.

Transferability

The integrative literature review is relevant to the nursing profession, I believe. It contributes to nursing practice through the identification and implementation of evidence-based interventions that may improve care transitions for patients with HF. Interdisciplinary interventions that include prescheduling appointments may improve readmission rates for many patients with chronic disease (Dickens et al., 2012).

Implications for Social Change

Populations that have been identified as experiencing disparate outcomes associated with HF include African-American men, patients with comorbid conditions, and patients over the age of 65 (Yancy et al., 2013). Addressing the cognitive, social, physical, and psychological aspects of chronic disease management in patients with HF through guideline-based strategies is a critical role for nurses. Screening patients for readmission risk factors, implementing specialty education, and serving as an active stakeholder in a patient's discharge planning can reduce readmission rates (Hobbs et al., 2016). Through evidence-based interventions in care coordination and transitional care, hospital readmissions may be reduced through effective symptom management, improvement in quality of life, and adherence with medications (Robert Wood Johnson Foundation, 2001; Yancy et al., 2013). The project may contribute to positive social change by raising awareness of the gap in practice regarding the needs of HF patients, identifying improvements needed in interdisciplinary care, and encouraging the use of risk identification systems that target key HF populations that may experience barriers or biases to adequate follow-up care.

Summary

The need for effective strategies to reduce hospital readmissions in patients with HF is crucial in providing high quality, patient-and-family-centered, and evidence-based care. Financial consequences imposed by the Affordable Care Act (Hobbs et al., 2016) coupled with the increase in HF diagnoses (Yancy et al., 2013) make this DNP project relevant and valuable to nursing practice. The purpose of this integrative literature review was to evaluate the correlation between timely discharge follow-up and reduction in 30-day readmission

rates. I identified and evaluated the gap between current practices and evidence-based HF specific guidelines to reduce readmissions (ACC, 2014).

Section 2: Background and Context

Introduction

To address the heavy burden of HF on the health care system, hospitals have focused their efforts on the improvement of quality, efficiency, and care transitions (Goyal et al., 2016). Discharging patients without a prescheduled follow-up appointment results in a missed opportunity to provide guideline-based care (Goyal et al., 2016; ACC, 2016). In an attempt to answer the question "Will scheduling a follow-up appointment within seven days for heart failure patients decrease 30-day readmission rates?" I evaluated the effect of scheduling appointments before discharge on readmissions for this integrative literature review. Specifically, I evaluated the strategies used by, and available to, health care providers to reduce readmissions in patients with HF through timely appointment scheduling.

For the integrative literature review, I evaluated nine peer-reviewed research studies on the topic of guideline-directed follow-up for HF patients. Some of these efforts include the Care Transitions Intervention (Center for Healthcare Research & Transformation, 2014), the TCM (Williams, Akroyd, & Burke, 2010), and Project RED (AHRQ, 2016). High-risk patients are sometimes difficult to accurately identify using current methodologies and risk stratification software (Center for Healthcare Research & Transformation, 2014). Innovative strategies for identification of readmission risks are critical to quality care (Devore et al., 2016). The LACE model and the 8Ps Risk Assessment Tool (through Project BOOST) are recommended in the literature as practical tools to measure risk that include assessment of clinical and psychosocial variables (Center for Healthcare Research & Transformation,

2014). Evidence-based guidelines, such as those produced by the AHA and the ACC were reviewed prior to the search. In Section 2, the concepts, models, and theories that inform the project, relevance to nursing practice, local background and content, and the role of the DNP student in this project are discussed.

Concepts, Models, and Theories

Naylor's TCM provides a comprehensive framework for reviewing care transitions. Because the TCM can be used to address the complexity of chronic disease management from inpatient to outpatient, I concluded that it was appropriate for this scholarly project. Middle-range theories and models such as the TCM approach the complexity of care transitions and reflect current clinical practice (Meleis, 2010). Lack of transitional care interventions often results in patients hospitalized with the diagnosis of HF experiencing breakdowns in care and poor outcomes, resulting in subsequent readmissions and continued multiple transitions from hospital to home (Meleis, 2010). The 10 essential elements of the TCM are

1. use of a transitional care nurse (TCN) as the primary are coordinator,
2. in-hospital assessment and collaboration with team members to prepare and develop an evidence-based plan of care,
3. home visits by the TCN with 7 day-a-week telephone support,
4. a TCN accompanying patients to first follow-up visits,
5. holistic and comprehensive focus on the goals and needs of each patient,
6. active engagement of patients and caregivers, focusing on meeting goals,
7. early identification and response to health care risks and symptoms,

8. emphasis on multidisciplinary strategies of care,
9. physician-nurse collaboration across episodes of acute care, and
10. communication between patient, family, and health care providers (Meleis, 2010).

The TCM encourages unique, patient- and-family-centered care provided by nurses and use of a multidisciplinary approach to provide optimal care for patients (Meleis, 2010). Incorporating this model in the care of patients with HF offers a valuable tool for patients and caregivers alike in the management of this chronic disease (Hirschman et al., 2015). The TCM was used as a guide when synthesizing similar literature regarding readmissions.

Definitions

Admission: Placement of the patient in an inpatient room where the patient receives nursing care, provider supervision, and management of care. Only those admissions with the primary diagnosis of HF were included in the population studied in this project.

Discharge: The act of a patient leaving the hospital after criteria are no longer met for hospital convalescence (Alper, O'Malley, & Greenwald, 2016). This includes discharge to any post-acute setting. For the purposes of this project, a discharge refers to a patient who has been deemed medically appropriate to leave the hospital to the next level of care and who has left the facility.

Follow-up: An appointment scheduled post-acute hospital discharge (DeLia, 2014). For this project, I used the guideline established by the AHA and ACC for a follow-up appointment to be scheduled within 7 days of hospital discharge.

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Heart failure (HF): A condition in which the heart muscle is unable to meet the blood and oxygen needs of the body through inadequate pumping leading to enlargement of the heart, narrowed blood vessels, and decreased cardiac output (AHA, 2016). Patients with HF in this project were limited to those with a primary admission diagnosis of HF.

Patient-centered discharge care: Care that involves patients in their medical decision-making and coordination of medical care through the understanding of the patient's cultural beliefs, concept of illness, and available emotional and physical support (Institute of Medicine, 2001). Designing HF discharge care specific to the needs of the unique patient promotes self-care, care collaboration, transparency, and trust, according to the AHA (2016).

Readmission: An admission to a hospital within 30 days of discharge (Centers for Medicare and Medicaid Services, 2016). It applies to only HF patients in this project.

Relevance to Nursing Practice

HF is a chronic disease affecting over five million persons in the United States (AHA, 2016; Hobbs et al., 2016)). Expenditures related to the treatment and care of HF patients can be significant due to the high cost of medications for symptom management, the cost of transportation to provider appointments, and costs associated with hospitalizations. Discharge planning that includes HF-specific education, medication reconciliation, and the addressing of literacy and social barriers before a patient is discharged has been shown to reduce risk of readmission (Morrison, Val Palumbo, & Rambur, 2016). Addressing the patient's unique needs according to his or her physical health and mental health status, age,

culture, and self-care readiness and tailoring their discharge plan to reflect those needs is significant in reducing risk of readmission.

HF readmissions are the most frequent cause of readmissions in the United States (Banoff et al., 2016). Interventions to assist in readmission reduction include follow-up provider visits, teach-back technique, post-discharge telephone calls, and utilization of pharmacists for medication education and reconciliation (Carpenter et al., 2015; Whittaker et al., 2014; House et al., 2016). The Patient Protection and Affordable Care Act (PPACA) penalizes hospitals for thirty-day readmissions, meaning loss of revenue for the hospital and is an indicator of hospital quality (Hobbs et al., 2016; Morrison, Val Palumbo, & Rambur, 2016).

A review of transitional care interventions published by the AHRQ (2016) listed reduction in heart failure specific readmissions, mortality, and number of hospital days at readmission with home-visit programs and structured telephone support. No benefit was listed in the same indicators with use of only educational interventions, telemonitoring, and heart failure clinics. Multicomponent interventions have shown to reduce all-cause readmissions and mortality.

Improving and standardizing discharge processes while adapting and modifying to the unique needs of the patient requires a team approach. One of the key interventions is patient education, and in the heart failure population, this training is critical to effective symptom management. The goal of education is to foster the motivation and knowledge of patients and caregivers to effectively participate in self-care (AHA, 2011). The research

literature discusses several variables and barriers that affect patient outcomes and offer reasons for variances to guideline-directed medical therapy.

Heart failure is a chronic disease affecting over five million persons in the United States (AHA, 2016; Hobbs et al., 2016). Expenditures in the treatment and care of heart failure patients can be significant due to the high cost of medications for symptom management, transportation to provider appointments, and costs associated with hospitalizations. Discharge planning that includes heart-failure specific education, medication reconciliation, and addressing literacy and social barriers before a patient is discharged have shown to reduce risk of readmission (Morrison, Val Palumbo, & Rambur, 2016). Addressing the patient's unique needs according to their physical health and mental health status, age, culture, and self-care readiness and tailoring their discharge plan to reflect those needs is significant in reducing risk of readmission.

Strategies

Heart failure readmissions are the most frequent cause of readmissions in the United States (Banoff et al., 2016). Interventions to assist in readmission reduction include follow-up provider visits, teach-back technique, post-discharge telephone calls, and utilization of pharmacists for medication education and reconciliation (Carpenter et al., 2015; Whittaker et al., 2014; House et al., 2016). The Patient Protection and Affordable Care Act (PPACA) penalizes hospitals for thirty-day readmissions, meaning loss of revenue for the hospital and is an indicator of hospital quality (Hobbs et al., 2016; Morrison et al., 2016).

Improving and standardizing discharge processes while adapting and modifying to the unique needs of the patient requires a team approach. One of the key interventions is

patient education, and in the heart failure population, this education is critical to effective symptom management. The goal of education is to foster the motivation and knowledge of patients and caregivers to effectively participate in self-care (American Heart Association, 2011). The research literature discusses several variables and barriers that affect patient outcomes and offer reasons for variances to guideline-directed medical therapy.

Local Background and Context

In the development of the DNP project, I was made aware of the inconsistent follow-up scheduling practices for heart failure patients at the practicum site, an 800-bed urban tertiary facility in the Midwest United States. Data review at the practicum site revealed a 23% compliance rate of follow-up appointment scheduling according to American Heart Association/American College of Cardiology guidelines in the third quarter of 2016 (April, May, and June, 2016) (S. Brown, September 2016). A review of transitional care interventions published by the AHRQ (2016) listed reduction in heart failure specific readmissions, mortality, and number of hospital days at readmission with home-visit programs and structured telephone support and no benefit listed in the same indicators with only educational interventions, telemonitoring, and heart failure clinics. Multicomponent interventions have shown to reduce all-cause readmissions and mortality. In an effort to reduce overall costs and improve value, quality, and care transitions, the practicum site participated in a retrospective episode payment model, or bundle, specific to heart failure patients. The Bundled Payment for Care Improvement Initiative (BPCI), is a 90-day episode of care in which the facility is reimbursed through a determination of the previous 2-year costs with a 2% payment reduction (Stachura et al., 2017). Through decreased utilization of

skilled nursing services and readmissions, and increased use of care coordination and interdisciplinary communication and improved transition care, the facility financially benefits from the effect of the interventions, and the patient benefits through timely treatment, care coordination, and improved symptom management (Stachura et al., 2017).

Role of the DNP Student

My role in the integrative literature review was to appraise current literature that examines effectiveness of follow-up appointment scheduling before discharge with 30-day readmission rates in patients with heart failure. My doctoral practicum experience was conducted with an advanced heart failure team that provided inpatient and outpatient care to patients with heart failure. The motivation for this doctoral project stemmed from working with heart failure patients in a rural setting as a case manager for a critical access hospital. Higher healthcare utilization and poorer health outcomes have been shown among patients with heart failure in a rural area (Young, Barnason, & Kupyk, 2016). My perspective as a rural healthcare provider may have created potential bias in rural versus urban patients, as I was most familiar with the rural population. Completing practicum at an urban hospital allowed for integration of different perspectives and a better understanding of heart failure self-care and importance of timely follow-up for all heart failure patients.

Summary

Assuring patients receive optimal transitional care requires a multidisciplinary approach and must be individualized per patient. Poor communication, care continuity, and lack of collaboration are cited as problems leading to negative outcomes for patients with chronic disease (Hirschman et al., 2015). Utilizing the TCM as a framework for transitional

care targets outcomes of patients transitioning between providers, levels of care, and needs according to the severity of their disease (Hirschman et al., 2015). Identification of risk factors, such as depression and anxiety, recent falls, inability to complete basic activities of daily living, or comorbid conditions through screening empowers nurses to target potential barriers for the patient upon discharge and assist the patient in receiving the assistance needed to enhance successful transition to the next level of care.

Section 3: Collection and Analysis of Evidence

Introduction

The purpose of this integrative literature review was to evaluate the effectiveness of scheduling follow-up appointments for HF patients before discharge and whether this intervention decreases readmission rates. In this section, I discuss the strategy I used to analyze current literature in addition to inclusion and exclusion criteria for the selection of articles. In the section, I also discuss the review method used in selecting articles for this integrative literature review, present the hierarchy of evidence table, and discuss my use of the 7-step Melnyk Critical Appraisal Guide (Melnyk et al., 2010).

Practice Focused Question

To address the local problem of missed appointment scheduling and to establish the gap in practice, I retrieved data from the ACC registry for the practicum site and compared these data to the AHA/ACC guidelines. Analysis of data revealed that a patient received a scheduled follow-up appointment only 23% of the time in the third quarter of 2016 (April, May, and June 2016), signifying a significant need for improvement in order to meet recommended guidelines for follow-up. The AHA/ACC guidelines include the instruction that patients follow up with a health care provider within 7 days after discharge (Yancy et al., 2013). The question formulated for this project was "Will scheduling a follow-up appointment within 7 days for HF patients decrease 30-day readmission rates?" Literature that examined correlations between follow-up appointment scheduling within 7 days and 30-day readmission rates were reviewed.

Sources of Evidence

The sources of evidence for this project were nine peer-reviewed journal articles obtained through Walden University Library databases. These databases included the CINAHL MEDLINE, ProQuest databases, along with the Cochrane Database of Systematic Reviews. I specified inclusion criteria based on the availability of data contained within databases and as a means of reducing the number of articles to only those that included follow-up appointment scheduling data in patients with HF. A total of 4,813 articles were retrieved through the CINAHL, MEDLINE, ProQuest, and Cochrane databases, with nine articles meeting all inclusion criteria. The nine articles that met all inclusion criteria were conducted in the United States, available in full text in electronic format, written in the English language, and specific to heart failure readmissions. Articles also included the keywords heart failure, readmissions, follow-up appointments, and heart failure guidelines, and were published between January 1, 2007, and June 30, 2017. Duplicate articles were identified and excluded from the final review.

The project used the 7 steps of evidence-based practice to establish and guide the direction of the project. The Melnyk Critical Appraisal Guide (Melnyk et al., 2010) was used as a framework to establish an integrative literature review that yields comprehensive data for review. Using the Melnyk Critical Appraisal Guide was the approach of choice due to the sequential nature of the guidelines and their applicability to this integrative literature review. Evidence obtained through the initial literature review was synthesized with the integrative literature review. The following keywords and word combinations were entered into the databases to retrieve articles for the integrative literature review: heart failure/AND

readmissions, heart failure/AND follow-up appointments, heart failure/AND transitions of care, and heart failure guidelines.

Exclusion Criteria

I reviewed peer-reviewed research publications and article references for consideration. Exclusion criteria for reviewed articles included (a) articles published prior to January 1, 2007, and published after June 30, 2017; (b) articles containing only general information regarding hospital readmissions that were not specific to the HF population; (c) articles not written in English; (d) studies completed outside of the United States; and (e) articles that were not full-text and available online.

Inclusion Criteria

To meet the inclusion criteria, articles had to be (a) published between January 1, 2007, and June 30, 2017; (b) include the keywords of heart failure, readmissions, follow-up appointments, and heart failure guidelines; (c) contain information specific to HF readmissions and strategies specific to the HF population; (d) be available in full-text and in electronic format; (e) be studies conducted in the United States; and (f) be written in the English language. Randomized controlled trials, qualitative studies, and quantitative studies were included in the review (see Appendix A for a summary of articles included in the integrative review and Appendix B for a flow chart illustrating the literature review process).

Analysis and Synthesis

Articles were scored using a system based on the research results and level of evidence-based research. Melnyk's levels of evidence were used to analyze the quality of the selected studies. Melnyk Levels of Evidence include

- Level I: Systematic reviews or meta-analyses of non-randomized controlled trials and synthesis of evidence from all relevant RCTs,
- Level II: One or more RCTs,
- Level III: Case-controlled studies and trials (no randomization),
- Level IV: Cohort or case-control study,
- Level V: Systematic review of descriptive and qualitative studies,
- Level VI: Single qualitative or descriptive study, and
- Level VII: Expert opinion (Melnyk et al., 2010).

The hierarchy level of evidence was used for articles that met inclusion criteria and were grouped by Melnyk's 7 levels. Greater quality of data is indicated by a lower numerical value and signified higher quality and strength of evidence. I evaluated each research article for feasibility, effectiveness, and appropriate content, and compared studies with similar data. The articles were evaluated based on (a) purpose for the study, (b) population, (c) design or method, (d) analysis of data, (e) evaluation of findings, (f) strengths and weaknesses of the study, (g) practice or knowledge gaps, and (h) application to nursing practice.

Protection of Human Subjects

Walden University Institutional Review Board (IRB) was not required for this DNP project as the integrated literature review did not involve utilization of human subjects or information that would identify any participants. The DNP project is an integrative review of published literature; therefore, the project is exempt from the Walden University IRB. Walden University's IRB preliminary ethics review form (Form A) was submitted for review and accepted with the IRB approval number of 10-23-17-0659902. In accordance with the Belmont Report, this integrative literature review adhered to the ethical standards in the research process. The three basic principles relevant to the ethics of research include (a) respect for persons, (b) beneficence, and (c) justice. The confidentiality and anonymity of patients were protected as all data in the review of literature contains no patient identifiers. Obtaining informed consent of subjects was not required in this project, and assessment of risks and benefits and selection of subjects were not necessary for this project. A certificate of completion for the course "Protecting Human Research Participants" through the National Institutes of Health is included in this review.

Summary

The inclusion and exclusion criteria for this integrative literature review created a specific set of data for the project. Utilizing data analysis, the quality of the research was evaluated and generated high levels of evidence-based research. The process of extracting quality studies yielded the most valuable data for dissemination. The purpose of this integrative literature review was to provide evidence-based research applicable to the care of patients with heart failure and their transition from the hospital.

A comprehensive evaluation of research studies was conducted identifying the effectiveness of follow-up appointments for patients with heart failure in the prevention of hospital readmissions. After obtaining Walden University IRB approval, the integrative literature review was continued. Identification of practice gaps assists caregivers in the approach to vulnerable populations of patients with chronic disease to decrease readmissions. Nurses may use the information in the integrative literature review to improve transitions in care to reduce readmissions of patients with heart failure.

Section 4: Findings and Recommendations

Introduction

The purpose of the integrative literature review was to examine articles that support the need for consistent follow-up appointment scheduling prior to discharge for patients with HF. Outpatient management of HF and reducing readmissions are national priorities in the United States (Bradley et al., 2014). Nurses play an important role in facilitating effective transitions from the hospital to home. Timely follow-up (within 7 days) facilitates medication reconciliation, clinician communication, monitoring for signs and symptoms of worsening conditions, and continuity of care (ACC, 2014).

Combining the search words heart failure/AND readmissions, heart failure/AND follow-up appointments, heart failure/AND transitions of care, and heart failure guidelines, I found 4,813 articles when searching the literature. I narrowed the literature search to include HF readmissions and follow-up, yielding 993 articles. The search was then narrowed to 63 relevant articles that met most inclusion criteria, nine of which met all inclusion criteria. Upon Walden University's IRB approval, review of the literature began focusing only on those articles in which follow-up appointments in HF patients and its relationship to readmissions was discussed.

Section 4 contains the evaluation and synthesis of the articles included in the integrative literature review. I explain how appropriate research articles were chosen for the integrative literature review through exclusion and inclusion criteria. The nine articles selected for this project are arranged in chart form (See Appendix A). The project used keywords, limited results to full-text, the English language, and peer-reviewed journals. The

section concludes with a discussion of the implications of the project for nursing practice, the offering of recommendations, and a consideration of the strengths and limitations of the project.

Findings and Implications

There were no Level I, Level V, or Level VII articles identified in the nine studies that met criterion for inclusion. Of the nine articles included in this literature review, one Level II, one Level III, five Level IV, and two Level VI articles were analyzed. The three subthemes yielded from the articles were (a) comparison of discharge planning strategies, (b) disparities related to patient groups, and (c) identification of patients at high risk for readmission. Although there has been extensive research conducted on multiple interventions used to decrease readmissions in patients with heart failure (see AHA, 2016), only nine articles met the inclusion criteria set for this integrative literature review. The Melnyk Critical Appraisal Guide (Melnyk et al., 2010) was used in this integrative literature review to guide the analysis of the nine articles meeting the inclusion criteria standards.

The integrative literature review may offer insight to the health care community by raising awareness among stakeholders about the real-world consequences of inadequate follow-up appointment scheduling prior to hospital discharge for patients with HF. Health care personnel who provide care to patients with HF may be able to identify those at highest risk for readmission and apply patient-centric strategies that uniquely address the individual's needs. The intent of the integrative literature review was to examine the practice of scheduling follow-up appointments within 7 days of hospital discharge and whether this practice decreases 30-day readmission rates. This information can be applied to efficient use

of resources through effective identification of patient risk levels and ensuring processes are in place in health care facilities so that patients receive follow-up appointments scheduled prior to discharge.

Further implications of this integrative literature review include identification of vulnerable groups that may require additional resources so that patient needs are met and positive outcomes achieved. Engaging health systems and communities to increase their awareness of vulnerable groups and establishing a plan for resource utilization may result in more positive outcomes for members of this vulnerable population. Potential biases and discriminatory practices that affect patient outcomes must be evaluated by health care professionals.

Level II Study

Balaban et al. (2014) conducted a RCT to determine if the use of interventions provided by patient navigators reduced readmissions in high-risk, low socioeconomic patients with HF. Balaban et al.'s study was conducted with the Cambridge Health Alliance and Whidden Hospital in the U.S. state of Massachusetts between October 2011 and April 2013. The analytical sample consisted of 585 intervention patients and 925 control patients (Balaban et al., 2014). There were no differences in 30-day readmission rates between the intervention and control groups; however, the two age subgroups experienced very different results (Balaban et al., 2014). The older group (60 years or older) experienced a 4.1% decrease in readmissions compared an 11.8% increase in the younger group (60 years of age or younger; (Balaban et al., 2014). This study provides evidence that patients in the younger group may be a vulnerable group who have a higher risk of readmission. It is important to

note, however, that this study included previously excluded populations (non-English speaking patients, homeless patients, and those leaving against medical advice; Balaban et al., 2014).

Level III Study

A case-controlled study met inclusion criteria for the project. Huntington, Gusman, Roemen, Fieldsend, and Saloum (2013) measured all patients with the diagnosis of HF admitted between June 7, 2010, and June 6, 2011, at a general hospital and cardiac specialty hospital in rural South Dakota in a community of 150,000 persons. The prospective, non-randomized, two-center pilot project yielded an unexpected result of no association between the timing of post-discharge follow-up and readmission rates, despite confirming that an appointment was scheduled with the patient's specialty or primary care physician within 10 days of discharge (Huntington et al., 2013). Patients enrolled in the implementation of an extensive transition of care program (n = 98) versus non-enrolled (n =152) experienced fewer and later readmissions (Huntington, Gusman, Roemen, Fieldsend, & Saloum, 2013).

Level IV Studies

Bradley et al. (2013) conducted a prospective study using a Web-based survey including hospitals participating in the Hospital-to-Home (H2H) (a National Quality Improvement Initiative) and State Action on Avoidable Rehospitalizations (STARR) initiatives (a state-based collaborative including patients in the Massachusetts, Michigan, and Washington that were funded by the Commonwealth Fund). The study examined the associations between the uptake of strategies and change in 30-day risk-standardized readmission rates (RSRR) (Bradley et al., 2013).

The hospitals that adopted the strategy of routinely discharging patients with scheduled follow-up appointments experienced significant reduction in 30-day readmissions (0.63, p-value <0.05, *n* =658) (Bradley et al., 2013). Although this study also measured other strategies and the benefit of implementing additional strategies to reduce readmission risk, the study was significant for this integrative literature review as the data was specific to the heart failure population, and extracted the individual strategy of clinic appointment arrangement before discharge. With an estimate of 95% confidence interval, the strategy of scheduling patients for follow-up appointments before discharge from the hospital resulted in a -0.53 (-0.93, -0.13 with a p-value of <0.01) for adjusted baseline RSRR only and -0.63 (-1.03, -0.23 with a p-value of <0.01) for adjusted model using data from 475 hospitals due to missing variables (Bradley et al. 2013). The adjusted model included all strategies performed at the same time, hospital characteristics (H2H versus STARR), type of ownership, multihospital affiliation, teaching status, number of staffed beds, geographic location, and census region (Bradley et al., 2013).

Increasing coordination and transitions of care is critical to reducing readmissions. This study concluded that many of the hospitals studied reduced readmission rates significantly in the 12-18-month period of study (Bradley et al. 2013). The hospitals showing the most significant improvement did not show a specific formula in their choice of interventions, but those hospitals demonstrated improvement (Bradley et al, 2013).

Bradley et al. (2014) conducted a prospective study utilizing a Web-based survey of 478 hospitals for baseline and 12-18-month data for risk-standardized readmission rates (RSRR). Hospitals enrolled in the Hospital to Home (H2H) or STAAR initiatives by July 1,

2010 were included in the study, and hospitals that were enrolled in both H2H and STAAR were excluded. The independent variables were nine strategies used to reduce readmissions that include (a) patient education, (b) discharge planning, (c) telephone follow-up and, (d) making follow-up appointments prior to discharge. The data reveals that hospitals that adopted the strategy of routinely discharging patients with a scheduled follow-up appointment experienced a significant reduction in RSRR for heart failure patients (0.63%) (Bradley et al, 2014). Although this is an effective strategy, greater reduction in RSRR occurred with use of three or more strategies versus fewer strategies. The hospitals taking up at least three new strategies to reduce readmissions experienced a reduction of 1.29% versus 0.57% with only one to two strategies (Bradley et al., 2014).

Arranging follow-up appointments before discharge is one strategy contained in a study of hospitals (*n* =571) to reduce readmissions in patients with heart failure (Bradley et al., 2014). The study indicated that scheduling follow-up appointments before discharge resulted in a 0.19% decrease (p =0.037) in lower RSRR. Of note, those hospitals arranging follow-up appointments had processes in place to send electronic hospital summaries and discharge information to the primary care provider directly. Although arranging follow-up appointments prior to discharge did not have the largest association with lower RSSRs, this strategy supports outpatient care. The frequency in which patients left the hospital with an outpatient follow-up appointment scheduled (*n* =571) included (a) never-21 (3.7%), (b) sometimes- 246 (43.1%), (c) usually- 250 (43.8%) and (d) always- 54 (9.5%), signifying need for improvement (Bradley et al., 2014).

Research by Kuhn and Brown (2015) explored the factors related to hospital readmissions in patients with heart failure through a retrospective record review. The purpose of the study was to evaluate factors that may predict high-risk heart failure patients. The factor of a scheduled follow-up appointment prior to hospital discharge was an element measured for risk. It is noted that patients readmitted within two weeks post-discharge did not experience a significant difference between those who had a follow-up appointment scheduled before discharge and those that did not receive an appointment (Kuhn & Brown, 2015). More than half of the patients readmitted in less than two weeks did not have a follow-up appointment scheduled before they left the hospital (n =16), and of all the patients readmitted (n =45), more than half did not have a follow-up appointment made prior to discharge (n =28). The importance of scheduling a follow-up prior to discharging the patient cannot be over-emphasized. Patients experience more favorable outcomes with timely follow-up as evidenced by this study (Kuhn & Brown, 2015).

Goyal et al. (2016) discussed the patterns of scheduling follow-up appointments upon discharge, characterizing patterns of scheduled follow-ups in patients with heart failure. This retrospective cohort study was conducted at an 850-bed urban academic tertiary medical center located in New York City, New York, the United States of America January 1, 2013 through December 31, 2014. Of the 796 patients identified for this study, 56% of the patients had a scheduled follow-up (45% with a cardiologist and 31% with a noncardiology physician). Patients with a scheduled follow-up appointment within seven days were 30%, and 44% had a scheduled appointment within 14 days. The study conducted by Goyal et al. indicated that those patients without a scheduled appointment were older, less likely to have

Medicaid, were more commonly white, and had a slightly higher left ventricular ejection and higher rates of heart failure with preserved ejection fraction (HFpEF) when compared to those with a scheduled appointment. The study revealed that patients less than 65 years of age were more likely to receive and appointment (Goyal et al., 2016). Appointments scheduled within 7 to 14 days of discharge did not vary with age. With only half of the patients receiving a scheduled follow-up appointment before discharge, this represents a gap in best practice, especially in patients 65 years or older, signifying a vulnerable population whose readmission and outcomes may be affected through risk identification and guideline adherence (Goyal et al., 2016).

Considered a key strategy in the reduction of readmissions, timely outpatient follow-up scheduling has shown to be successful in patients with heart failure. Jackson, Shahsahebi, Wedlake, and DuBard (2015) used North Carolina Medicaid inpatient, outpatient, pharmacy, and professional claims for dates of services January 1, 2008 to April 30, 2013 calculating variables that would affect a readmission rate. The study shows that the benefit of early follow-up varies according to the patient's complexity and comorbidities. Determining an evidence-based need when scheduling follow-up appointments allow for improved utilization of health system resources (Jackson et al, 2015).

Devore et al. (2016) discussed that data before 2016 demonstrated that early follow-up (defined as within seven days after a hospitalization with the primary diagnosis of heart failure) was associated with a lower risk of readmission, but noted that there is limited data to support the use of early discharge follow-up. The data was extracted from the Get with the Guidelines- Heart Failure (GWTG-HF) Medicare claims to examine trends in patient and

hospital characteristics. The retrospective review included 52,438 patients discharged from 239 hospitals from 2009 to 2012 (Devore et al., 2016). Scheduled follow-up within seven days rose from 51% to 65% ($p < 0.001$) and it was noted that patients with older age, comorbidities of anemia, diabetes mellitus, and chronic kidney disease, and use of anticoagulation at discharge were more likely to receive an early scheduled follow-up appointment (Devore et al., 2016). Patients treated in the Midwest United States were less likely to receive an appointment for follow-up within seven days (Devore et al., 2016)

Level VI Study

Patient-identified reason for hospitalization were studied with the hypothesis that the patient's perception of the prevention of an admission or reason for admission may be linked to 30-day readmission rates (Gilotra et al., 2016). Through telephone call and chart review, 94 patients with heart failure from July 2014 through March 2015 were administered a questionnaire that asked about the patient's feeling regarding circumstances that led to their admission. The results of the study indicated that readmitted patients had a longer waiting time until their first follow-up appointment after hospitalization (21 versus eight days). The conclusion of the study revealed that 50% of the patients felt their hospitalization was preventable, citing lack of knowledge and nonadherence as factors to rehospitalization (Gilotra et al., 2016). Of those in the "not preventable" group (n =50), 47 patients had a scheduled follow-up at discharge. The "preventable" group (n =42) yielded 39 patients with a scheduled follow-up at discharge. The study identified patients that completed a scheduled and timely follow-up were less likely to be readmitted. Those patients identifying their hospitalization as preventable experienced a significantly lower likelihood of readmission.

Findings Summary

Analysis of the articles for this integrative literature review demonstrated mixed results on the effect of scheduling a follow-up appointment within seven days in decreasing 30-day readmission rates. Although some articles support follow-up appointments within seven days as an effective strategy in reducing 30-day readmissions, there is limited evidence available that utilizes this strategy as a single intervention; multiple strategies to reduce readmissions are recommended in the literature. The lack of quality evidence is limited on this topic. More research is needed to establish outcomes specific to 7-day follow-up appointment scheduling in reducing readmissions.

Recommendations

Recommendations from this study include (a) development of specific processes per facility for scheduling follow-up appointments for patients prior to discharge, and (b) educational programs regarding potential disparate populations and potential bias related to scheduling outpatient appointments for these populations. Identifying readmission risk is practiced in hospitals and specific “heart failure alerts” could be integrated into electronic medical records that do not allow a patient to receive discharge instructions without a scheduled appointment. The educational programs regarding disparate populations could be used in notifying staff of potential biases when scheduling appointments and could serve as a means to understand and embrace diversity in our healthcare systems.

Adopting a holistic viewpoint regarding a readmission can empower caregivers to provide enhanced patient education and increased patient engagement in self-care. The integrative literature review derived its data from mixed sources, providing a more

comprehensive view on this phenomenon; it offers a broader perspective that can be applied to not only patients with heart failure, but with other chronic diseases.

Strengths and Limitations of the Project

The strengths of this integrative literature review included availability of peer-reviewed articles discussing heart failure readmissions and contributions to the body of knowledge regarding the topic. Early follow-up after a hospitalization with heart failure is associated with lower 30-day readmission rates (Baker, Oliver-McNeil, Deng, & Hummel, 2015). The literature review attempted to provide information to the reader regarding the importance of timely follow-up appointments for patients with heart failure according to risk factors and vulnerabilities. Another strength of the integrative literature review included articles within the last ten years, signifying the most recent data and inclusion of information regarding the Affordable Care Act passed in 2010, which imposes penalties for excessive hospital readmissions.

The integrative literature review included several limitations. There are many strategies used to reduce readmissions in patients with heart failure, but this study was limited to follow-up appointments scheduled prior to discharge as a single intervention. This study was also limited to patients with heart failure only, and the doctoral candidate recognizes that there are additional diagnoses that benefit from similar strategies in an effort to reduce readmissions. There is also a lack of high-level evidence on this topic, requiring analysis of lower-level evidence for this study, reducing the quality of the research The study excluded all articles that were not available in full text online, potentially excluding valid high quality evidence.

Further recommendations of this integrative literature review include dissemination of findings that support change in processes to ensure that all patients are assessed for readmission risk and the timing of their follow-up appointment scheduled prior to discharge according to the results of the risk assessment. Another suggestion for future research includes development of additional and improved care transition processes to ensure patients benefit from current evidence-based practices.

Summary

The integrative literature review offers data that supports the benefit of scheduling timely follow-up appointments for heart failure patients prior to hospital discharge according to readmission risk. Awareness of barriers to appointment scheduling that may exist for all patient age groups and comorbid conditions (Balaban et al., 2014; Goyal et al., 2016) is critical in assuring all patients have the opportunity for smooth healthcare transitions. Healthcare providers who implement strategies to reduce readmissions can improve the care and outcomes of patients with heart failure (Gilotra et al., 2016). The significance of this study aims to advance the healthcare profession through interprofessional coordination of care, risk identification, and barrier reduction or elimination that effect patients with heart failure. The implementation of high-level, evidence-based research ensures that the highest quality, up-to-date information is disseminated to academic and clinical applications.

Section 5: Dissemination Plan

Introduction

The dissemination of research is important because study results have the potential to change clinical practice that affect patient outcomes. The results of this study can be translated to evidence-based practice through restructuring discharge planning, preparing the patient for discharge, and offering more flexible scheduling (in discharge clinics, home visits, and nurse-led HF clinics). In Section 5, I will discuss how the results of this integrative literature review will be disseminated to HF care providers.

Dissemination Plan

Dissemination of information to stakeholders is the final process of the systematic literature review process. Reaching the largest, most appropriate audience that influences outcomes in transitions of care for patients with HF was the goal of this doctoral student. My plan to disseminate this study involves submitting a manuscript to the journal *Professional Case Management*. This forum was chosen due to the subject matter of the scholarly project and targeting of case management professionals. Published by Wolters Kluwer Health, *Professional Case Management* is a contemporary, peer-reviewed journal that features best practices and industry benchmarks for professional and novice case managers (Wolters Kluwer Health, 2017). The official journal of the Case Management Society of America, *Professional Case Management* focuses on improving care quality and patient outcomes, patient advocacy, coordination of services, and disease-specific aspects of patient care (Wolters Kluwer Health, 2017).

One of the strengths of using *Professional Case Management* for the dissemination of research results includes its being indexed in several widely-used databases, including ProQuest, EMBASE, CINAHL, PubMed, and MEDLINE. This is beneficial because individuals retrieving articles from these databases would have exposure to the article content. Another strength is that the subject matter is generalizable, meaning that the research could easily be used for other diagnoses. Prescheduled follow-up appointments may be valuable in patients with chronic diseases such as diabetes and chronic obstructive pulmonary disorders.

After graduation, I plan to seek opportunities to collaborate with regional HF providers and groups to disseminate the information produced from this study. Nurses are central to coordinating hospital discharges, and targeting this group with information regarding evidence-based practice research that supports timely hospital follow-up for patients with HF and other chronic conditions is critical in readmission reduction (Centrella-Nigro et al., 2016). Presenting the outcomes of this study at a HF conference would be an opportunity to target this specialty group of nurses, practitioners, and researchers.

The high-level goal of the literature review is to improve outcomes of HF patients by presenting literature that supports the importance and benefit of timely follow-up appointment scheduling completed before hospital discharge. Reducing readmissions and increasing self-care efficacy in patients with heart failure will become even more important as the potential for penalties for readmissions increase and resources to provide quality care becomes more difficult to obtain in the future (Hobbs et al., 2016). With the predicted incidence of heart failure increasing in the United States, it is imperative for leaders of

health care systems to examine current processes to assure patients receive quality, timely, and efficient care transitions (AHA, 2016).

Analysis of Self

The need for hospitals to decrease readmissions in patients with HF guided my efforts in this project. Conducting this project expanded my knowledge and experience regarding chronic disease management, helped me understand the complexity of readmissions, how to identify changeable gaps in care, and how to review and appraise current literature to support and defend guidelines. I also obtained a better understanding of the challenges associated with successfully conducting am integrative literature review from start to finish. This subsection includes discussion of my roles as a practitioner, scholar, and project manager.

Practitioner

Pursuing a terminal degree in nursing was something about which I was passionate. Through this experience, I was able to see the possibilities and opportunities of achieving a Doctor of Nursing Practice degree. Working closely with an advanced HF team to identify gaps in practice revealed a new perspective in interprofessional collaboration, quality improvement, and role of the DNP as a change agent in evidence-based practice. I gained valuable experiences and knowledge through my practicum and project that translated to a deeper understanding of HF quality measures and interventions. In my current role as a full-time nursing instructor, I can bring this perspective to the classroom and encourage nursing students to more fully understand evidence-based practice in addition to being a resource for colleagues.

Scholar

Integrating and applying knowledge through development of research skills such as critically appraising, analyzing, and synthesizing data has created a foundation for my life-long learning and translation of evidence-based practice in my work. Managing this project from start to finish equipped me with a framework that can be easily applied in future endeavors. Designing, directing, and evaluating projects competently in the translation of research to evidence-based practice are valuable skills that I have learned through this process (AACN, 2006).

Project Manager

The skills and experience I developed as the project manager for this integrative literature review serve as a firm foundation for future work. I gained substantial understanding of practice management, quality, policy, and diversity that, I believe, will serve me well in future projects. The leadership role in this project evolved through the evolution of the project; I progressed through the process of creating a proposal through evaluation and dissemination of information. The most significant gain from this project was confidence in my work and a renewed passion for care quality. I am confident that this enthusiasm will be passed along to the students served in my role as a nursing instructor.

Summary

This integrative literature review serves as validation of the need to improve the scheduling of timely follow-up appointments for patients with HF with their care provider before discharge from the hospital. Using readmission reduction strategies that include scheduling follow-up appointments prior to hospital discharge, care transitions and self-care

efficacy may be enhanced. All health care providers may benefit from using the information in this integrative literature review to create processes that improve care, reduce waste, and create patient-centric systems.

References

Alper, E., O'Malley, T., & Greenwald, J. (2016). Hospital discharge and readmission. Retrieved from http://www.uptodate.com/contents/hospital-discharge-and-readmission

Al-Rawashdeh, S., Lennie, T., & Chung, M. (2016). The association of sleep disturbances with quality of life in heart failure patient-caregiver dyads. *Western Journal of Nursing Research, 39(*4), 492-506. doi:10.1177/0193945916672647

Agency for Healthcare Research and Quality. (2016). *Congestive heart failure (CHF): Hospital admission rate.* Retrieved from https://www.qualitymeasures.ahrq.gov/summaries/summary/15419

American Association of Colleges of Nursing. (2006). *The essentials of doctoral education for advanced nursing practice.* Retrieved from http://www.aacn.nche.edu/publications/position/DNPEssentials.pdf

American College of Cardiology. (2013). *Survey of H2H hospitals shows improvements and inconsistencies of readmission reduction strategies.* Retrieved from http://www.acc.org/latest-in-cardiology/articles/2013/10/30/09/51/survey-of-h2h-hospitals-shows-improvements-and-inconsistencies-of-readmission-reduction-strategies?w_nav=LC

American Heart Association. (2016). *Rise above heart failure.* Retrieved from http://www.heart.org/HEARTORG/Conditions/HeartFailure/Heart-Failure_UCM_002019_SubHomePage.jsp

Armstrong, C. (2014). AACF and AHA release guidelines on the management of heart failure. *American Family Physician, 90*(3), 186-189. Retrieved from https://web-a-ebscohost-com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?vid=5&sid=2029d4be-7136-4af3-abd1-6da29dccc597%40sessionmgr4008

Axon, R., Cole, L., Moonan, A., Foster, R., Cawley, P., Long, L., & Turley, C. (2016). Evolution and initial experience of a statewide care transitions quality improvement collaborative: Preventing avoidable readmissions together. *Population Health Management, 19*(1), 4-10. doi: 10.1089/pop.2014.0182

Baker, H., Oliver-McNeil, S., Deng, L. & Hummel, S. L. (2015). See you in 7: Regional hospital collaboration and outcomes in Medicare heart failure patients. *JACC Heart Failure*. 3(10), 765-773. doi: 10.1016.j.jchf.2015.06.007

Balaban, R., Galbraith, A., Burns, M., Vialle-Valentin, C., Larochelle, M., & Ross-Degnan, D. (2015). A Patient Navigator intervention to reduce hospital readmissions among high-risk safety-net patients: A randomized controlled trial. *Journal of General Internal Medicine, 30*(7), 907-915. doi: 10.1111/1475-6773.12790

Banoff, K., Milner, K., Rimar, J., Greer, A., & Canavan, M. (2016). Assessment of a novel tool for identifying hospitalized patients with heart failure at risk for 30-day readmission, high cost, and longer length of stay. *Nursing Economic*$, *34*(4), 172-181. doi: 10.1007.s11606-015-3185-x

Bradley, E., Curry, L., Horwitz, L., Sipsma, H., Wang, Y., Walsh, M., … Krumholz, H. (2013). Hospital strategies associated with 30-day readmission rates for patients with heart failure. *Circulation Cardiovascular Quality and Outcomes, (6),* 444-450. doi: 10.1161/CIRCOUTCOMES.111.000101

Bradley, E., Sipsma, H., Horwitz, L., Ndumele, C., Brewster, A., Curry, L., & Krumholz, H. (2014). Hospital strategy uptake and reductions in unplanned readmission rates for patients with heart failure: a prospective study. *Journal of General Internal Medicine, 30*(5), 605-611. doi: 10.1007/s11606-014-3105-5

Bronstein, L., Gould, P., Berkowitz, S., James, G., & Marks, K. (2015). Impact of a social work care coordination intervention on a hospital readmission: a randomized controlled trial. *National Association of Social Workers, 60*(3), 248-255. doi: 10.1093/sw/swv016

Carpenter, J., Short, N., Williams, T., Yandell, B., & Bowers, M. (2015). Improving congestive heart failure care with a clinical decision unit. *Nursing Economics, 33*(5), 255-262. Retrieved from https://web-a-ebscohost-com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?vid=20&sid=a5c7ebd4-d710-4d5e-a3e6-4c9472ac105d%40sessionmgr4006

Centers for Medicare and Medicaid Services (CMS). (2016). *Hospital Compare Heart Failure-details.* Retrieved from https://www.medicare.gov/hospitalcompare/details.html?msrCd=prnt8grp1sub3&ID=160083&stsltd=IA.

Centers for Medicare and Medicaid Services (CMS). (2016). *Readmissions Reduction Program (HRRP).* Retrieved from https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html.

Centrella-Nigro, A., Bognar, L., Burke, K., Faber, K., Flynn, V., LaForgia, M., & Wiklinski, B. (2016). The readmitted patient with heart failure. *MEDSURG Nursing, 25*(3), 163-167. Retrieved from https://web-a-ebscohost-com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?vid=22&sid=a5c7ebd4-d710-4d5e-a3e6-4c9472ac105d%40sessionmgr4006

Davies, S., Saynina, O., Schultz, E., McDonald, K., & Baker, L. (2013). Implications of metric choice for common applications of readmission metrics. *Health Services Research, 48*(6), 1978-1995. doi: 10.1111/1475-6773.12075

DeLia, D., Tong, J., Gaboda, D., & Casalino, L. (2014). Post-discharge follow-up visits and hospital utilization by Medicare patients, 2007-2010. *Medicare and Medicaid Research Review, 4*(2), 1-7. doi: 10.5600/mmrr.004.02.a01

DeVore, A., Cox, M., Eapen, Z., Yancy, C., Bhatt, D., Heidenreich, P., Peterson, E., Fonarow, G., & Hernandez, A. (2016). Temporal trends and variation in early scheduled follow-up after a hospitalization for heart failure. *Circulation: Heart Failure, 9*(1), 1-6. Doi: 10.1016/j.ahj.2016.07.025

Dickens, C., Vuckovic, K., Nehmer, M., DiDomenico, R., Kerbow, D., Stamos, T… …Piano, M. (2012). Improving the heart failure readmission rate at an urban medical center. *Western Journal of Nursing Research, 34*(8), 1066-1067. doi: 10.1177/0193945912453686

Falvey, J., Burke, R., Malone, D., Ridgeway, K., McManus, B., & Stevens-Lapsley, J. (2016). Role of physical therapists in reducing hospital readmissions: optimizing outcomes for older adults during care transitions from hospital to community. *Physical Therapy, 96*(8), 1125-1134. doi: 10.2522/ptj.20150526

Fotos, N. Giakoumidakis, K., Kollia, Z., Galanis, P., Copanitsanou, P., Pananoudaki, E., & Brokalaki, H. (2012). Health-related quality of life of patients with severe heart failure- a cross-sectional multicenter study. *Scandinavian Journal of Caring Sciences, 27*(3), 686-694. doi: 10.1111/j.1471-6712.2012.01078.x

Garin, O., Ferrer, M., Pont, A., Wiklund, I., Van Ganse, E., Vilagut, G… …Alonso, J. (2013). Evidence on the global measurement model of the Minnesota living with heart failure questionnaire. *An International Journal of Quality Life Aspects Of Treatment, Care And Rehabilitation, 22*(1), 2675-2684. doi: 10.1007/s11136-013-0383-z

Gilotra, N., Shpigel, A., Oswuosa, I., Tamrat, R., Flowers, D., & Russell, D. (2017). Patients commonly believe their heart failure hospitalizations are preventable and identify worsening heart failure, nonadherence, and a knowledge gap as reasons for admission. *Journal of Cardiac Failure, 23*(3), 252-256. doi: 10.1016/j.cardfail.2016.09.024

Goyal, P., Sterling, M., Beecy, A., Ruffino, J., Mehta, S., Jones, E… … Horn E. (2016). Patterns of scheduled follow-up appointments following hospitalization for heart failure: insights from an urban medical center in the United States. *Clinical Interventions in Aging,* 2016(11), 1125-1325. doi: 10.2147/CIA.S113442

Grafft, C., McDonald, F., Ruud, K., Liesinger, J., Johnson, M., & Naessens, J. (2010). Effect of hospital follow-up appointment on clinical event outcomes and mortality. *Journal of the American Medical Association, 170*(11), 955-960. doi: 10.1001/archintermed.2010.105

Grove, S.K., Burns, N., & Gray, J.R. (2013). *The practice of nursing research: Appraisal, synthesis, and generation of evidence* (7th ed.). St. Louis, Missouri: Elsevier.

Hirschman, K., Shaid, E., McCauley, K., Pauly, M., & Naylor, M. (2015). Continuity of care: the transitional care model. *Online Journal Of Issues In Nursing, 20*(3), 13-27. Retrieved from https://web-a-ebscohost-com.ezp.waldenulibrary.org/ehost/detail/detail?vid=46&sid=a5c7ebd4-d710-4d5e-a3e6-4c9472ac105d%40sessionmgr4006&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#AN=26882510&db=mnh

Hobbs, J., Escutia, D., Harrison, H., Moore, A. & Sarpong, E. (2016). Reducing hospital readmission rates in patients with heart failure. *Medsurg Nursing, (3),* 145-152. Retrieved from https://web-a-ebscohost-com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?vid=51&sid=a5c7ebd4-d710-4d5e-a3e6-4c9472ac105d%40sessionmgr4006

Hohner, E., Ortmann, M., Murtaza, U., Chopra, S., Ross, P., Swarthout, M… …Saheed, M. (2016). Implementation of an emergency department-based clinical pharmacist transtions-of-care program. *American Journal of Health-System Pharmacists, 73*(15), 1180-1187. doi: 10.2146/ajhp150511

House, M., Stephens, K., Whiteman, K., Swanson-Biearman, B., & Printz, M. (2016). Cardiac medicine 30-day readmission reduction strategies: do improved discharge transitions decrease readmissions? *MEDSURG Nursing, 25*(4), 251-254. Retrieved from https://web-a-ebscohost-com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?vid=70&sid=a5c7ebd4-d710-4d5e-a3e6-4c9472ac105d%40sessionmgr4006

Huntington, M., Guzman, A., Roemen, A., Fieldsend, J., & Saloum, H. (2013). Hospital-to-home: a hospital readmission reduction program for congestive heart failure. *South Dakota Medicine: The Journal Of The South Dakota State Medical Association, 66*(9), 370-373. Retrieved from https://web-a-ebscohost-com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?vid=72&sid=a5c7ebd4-d710-4d5e-a3e6-4c9472ac105d%40sessionmgr4006

Institute of Medicine. (2001). *Crossing the Quality Chasm: A New Health System for the 21st Century.* Retrieved from http://www.nationalacademies.org/hmd/~/media/Files/Report%20Files/2001/Crossing-the-Quality-Chasm/Quality%20Chasm%202001%20%20report%20brief.pdf.

Jackson, C., Shabsabebi, A., Wedlake, T. & DuBard, C. (2015). Timeliness of outpatient follow-up: an evidence-based approach for planning after hospital discharge. *Annals of Family Medicine, 13*(2), 115-122. Doi: 10.1370/afm.1753

Kuhn, D., & Brown, C. (2015). Exploration of factors associated with hospital readmissions in patients with chronic heart failure: a pilot study. *Professional Case Management, 20*(2), 106-109. doi: 10.1097.NCM.000000000000086

Martinson, W. (2012). Hospital initiative reduces heart failure readmissions. *Hospital Case Management: The Monthly Update on Hospital-Based Care Planning and Critical Paths*, 161- 163. Retrieved from https://www.ahcmedia.com/articles/79139-hospital-initiative-reduces-heart-failure-readmissions

Melnyk, B. & Fineout-Overholt, E. (2010). *Evidence-based practice in nursing & healthcare: a guide to best practice.* 2nd ed. Wolters Kluwer Health, Lippincott, Williams & Wilkins.

Moher, D., Liberati, A., & Altman, D. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med, 6*(7). Retrieved from https://web-a-ebscohost-com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?vid=81&sid=a5c7ebd4-d710-4d5e-a3e6-4c9472ac105d%40sessionmgr4006

Morrison, J., Val Palumbo, M., & Rambur, B. (2016). Reducing preventable hospitalizations with two models of transitional care. *Journal of Nursing Scholarship, 48*(3), 322-329. doi: 10.1111/jnu.12210

Regalbuto, R., Maurer, M., Chapel, D., Mendez, J., & Shaffer, J. (2014). Joint Commission requirements for discharge instructions in patients with heart failure: is understanding important for preventing readmissions? *Journal of Cardiac Failure, 20*(9), 641-649. doi: 10.1016.j.cardfail.2014.06.358

Robert Wood Johnson Foundation. (2011). *You Can Live with Heart Failure.* Retrieved from http://www.rwjf.org/en/library/research/2008/06/expecting-success-toolkit/you-can-live-with-heart-failure-.html

Schell, W. (2014). A review: discharge navigation and its effect on heart failure readmissions. *Professional Case Management, 19*(5), 224-234. doi: 10.1097/NCM.0000000000000040

Smith, C., Piamjariyakul, U., Dalton, K., Russell, C., Wick, J., & Ellerbeck, E. (2015). Nurse-led multidisciplinary heart failure group clinic appointments: methods, materials, and outcomes used in the clinical trial. *Journal of Cardiovascular Nursing, 30*(4), 25-34. doi: 10.1097/JCN.0000000000000255

Toles, M., Abbott, K., Hirschman, K., & Naylor, M. (2012). Transitions in care among older adults receiving long-term services and supports. *Journal of Gerontological Nursing, 38*(11), 40-47. doi: 10.3928/00989134-20121003-04

Vellone, E., Fida, R., Mottola, A., Juarez-Vela, R., Alvaro, R., & Riegel, B. (2015). Self-care confidence may be the key: A cross-sectional study on the association between cognition and self-care behaviors in adults with heart failure. *International Journal of Nursing Studies, 52*(11), 1705-1713. doi: 10.1016/j.ijnurstu.2015.06.013

Vesterlund, M., Granger, B., Thompson, T., Coggin, C., & Oermann, M. (2015). Tailoring your heart failure project for success in rural areas. *Quality Management in Health Care, 24*(2), 91-95. doi: 10.1097/QMH.0000000000000055

Wang, H., Robinson, R., Johnson, C., Zenarosa, N., Jayswal, R., Keithley, J., & Delaney, K. (2014). Using the LACE index to predict hospital readmissions in congestive heart failure patients. *BioMed Central Cardiovascular Disorders, 14*, 97. doi: 10.1186/1471-2261-14-97

White, S., & Hill, A. (2014). A heart failure initiative to reduce the length of stay and readmission rates. *Professional Case Management, 19*(6), 276-284. doi:10.1097/NCM.0000000000000059

Whittaker, B., Soine, L., & Errico, K. (2014). Patient and process factors associated with all-cause 30-day readmission among patients with heart failure. *Journal of the American Association of Nurse Practitioners, 27*(2), 105-113. doi: 10.1002/2327-6924.12123

Williams, G., Akroyd, K., & Burke, L. (2013). Evaluation of the transitional care model in chronic heart failure. *British Journal Of Nursing, 19*(22), 1402-1407. doi: 10/12968/bjon.2010.19.22.1402

Yancy, C., Jessup, M., Bozkurt, B., Butler, J., Casey Jr, D., Drazner, M… …Wilkoff, B. (2013). 2013 ACCF/AHA guideline for the management of heart failure: a report of the American College of Cardiology Foundation/American Heart Association task force on practice guidelines. *Journal of the American College of Cardiology, 62*(16), 147-23. doi: 10.1161/CIR.0000000000000509

Young, L., Barnason, S., & Kupzyk, K. (2016). Mechanism of engaging self-management behavior in rural heart failure patients. *Applied Nursing Research, 30*, 222-227. doi: 10/1016/j.apnr/2015.09.008

Yu, D., Lee, D., Stewart, S., Thompson, D., Choi, K., & Yu, C. (2015). Effect of nurse-implemented transitional care for Chinese individuals with chronic heart failure in Hong Kong: a randomized controlled trial. *Journal of the American Geriatrics Society, 63*(8), 1583-1593. doi: 10.1111/jgs.13533

Appendix A: Summary of Articles Included in the Integrative Review

Author/Year	Level of evidence	Study design	Setting	Participants	Outcome
Balaban et al., 2015.	Level II	RCT	Cambridge Hospital, Cambridge, MA	Patient Navigator Group, *N* = 585 Control Group, *N* =925	Overall 30-day readmission rates- no difference between navigator and control groups; intervention patients >60 with readmission decrease; patients <60 experienced increase in readmissions.
Bradley et al., 2013	Level IV	Cross-sectional study using multivariable linear regression model	Web-based survey of 585 hospitals	*N* =585	Follow-up appointments before discharge- 0.19 percentage point improvement p =0.037
Bradley et al., 2014.	Level IV	Prospective study	658 hospitals across the United States participating in H2H National Quality Improvement Initiative or the STAAR Initiative	*N* =501 Hospitals that completed both the initial and follow-up survey	Included all strategies; discharging patients with appointment resulting in reduction in readmissions (0.63, p value < 0.05.

(table continues)

Author/Year	Level of evidence	Study design	Setting	Participants	Outcome
DeVore et al., 2016	Level IV	Retrospective review; cohort	Medicare claims data of patients discharged from 239 hospitals from 2009-2012	*N* = 52,438	Scheduled early follow-up rose from 51% to 65%, patients in Midwest less likely to have early scheduled appointment, opportunities for improving transitional care still exist
Gilotra et al., 2016.	Level VI	Descriptive study	Johns Hopkins Hospital, Baltimore, MD	*N* =94, admitted with decompensated HF July 2014-March 2015	Readmitted patients with greater readmission rate with delayed appointment scheduling (21 v. 8 days)
Goyal et al., 2016.	Level IV	Retrospective cohort study	Large Urban academic center in the United States	*N* =798	Follow-up appointment scheduled in 56% of cases; unknown reasons why absence of scheduled follow-up; scheduled appointments less common in elderly patients 65 years of age and older

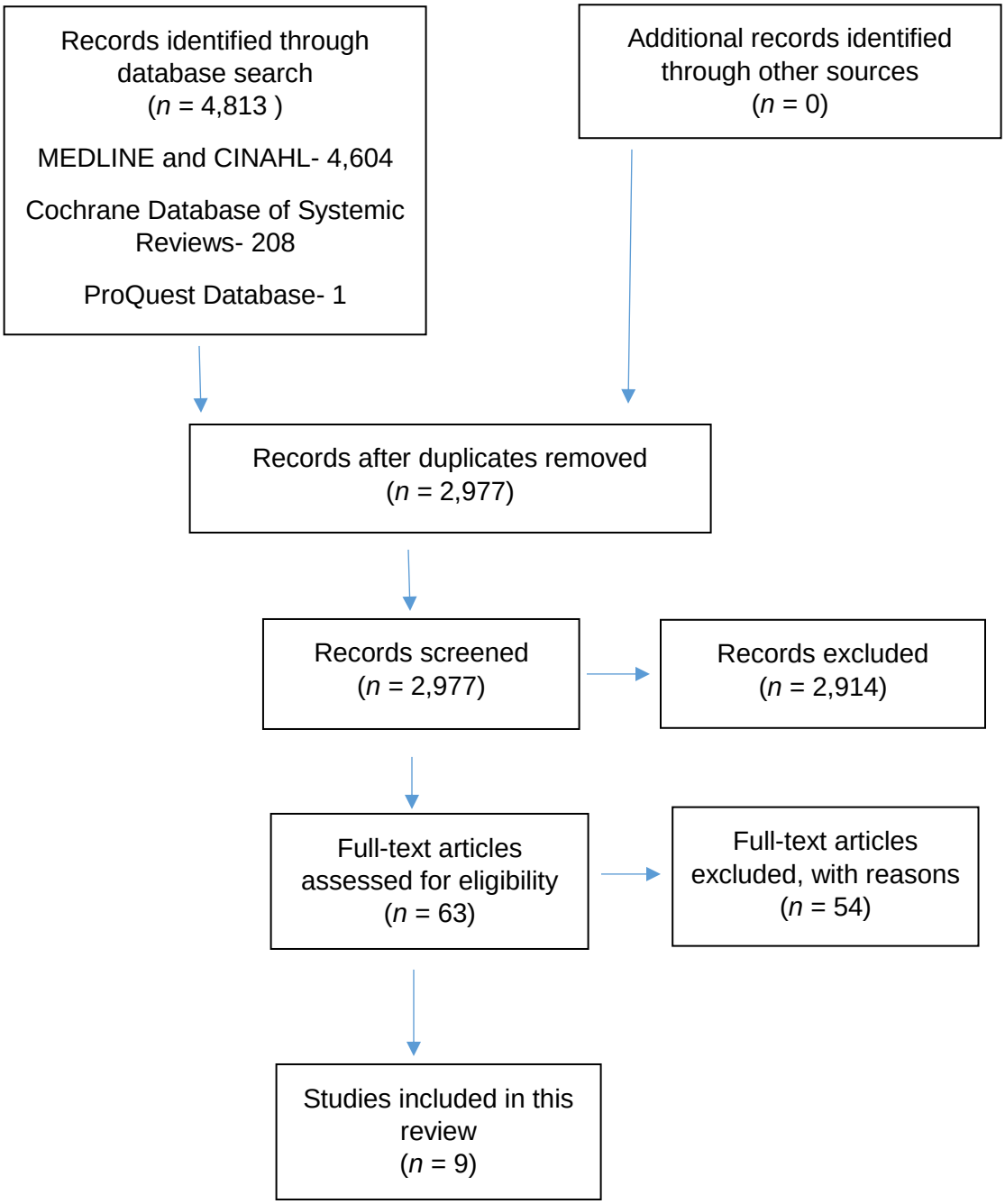
(table continues)

Author/Year	Level of evidence	Study design	Setting	Participants	Outcome
Huntington, Guzman, Roemen, Fieldsend, & Saloum, 2013.	Level III	Prospective, non-randomized, two-center pilot project	General hospital and cardiac specialty hospital, located in community of 150,000 in rural South Dakota	*N* =98	Confirmation of appointment scheduled within ten days of discharge (in addition to educational materials and telephone support) resulted in decrease in 30-day readmissions
Jackson, Shahsahebi, Wedlake, & DuBard, 2015.	Level IV	Retrospective chart review	Community Care of North Carolina, Raleigh, NC.	*N* =44,473	1.5%-point reduction in readmissions for lowest risk strata group and 19.1%-point reduction for highest risk strata group with follow-up within seven days showing meaningful reduction in readmission; most patients without benefit from early outpatient follow-up.

(table continues)

Author/Year	Level of evidence	Study design	Setting	Participants	Outcome
Kuhn & Brown, 2015.	Level IV	Retrospective chart review	New Hanover Regional Medical Center, Wilmington, NC	*N* =45, patients older than age 18 with primary discharge diagnosis of CHF admitted between October 1, 2011 and December 31, 2011	Fewer patients were readmitted in first 2 weeks after discharge if follow-up appointment was made prior to discharge.

Appendix B: Literature Review Flow Chart



Appendix B: Literature review flow chart, 2018. (Adapted from Moher, Liberati, & Altman, 2009)