


2013

Early Home Visits by a Registered Nurse Care Manager with Heart Failure Patients

Dana Davis Blake
Gardner-Webb University

Follow this and additional works at: http://digitalcommons.gardner-webb.edu/nursing_etd

 Part of the [Critical Care Nursing Commons](#), and the [Public Health and Community Nursing Commons](#)

Recommended Citation

Blake, Dana Davis, "Early Home Visits by a Registered Nurse Care Manager with Heart Failure Patients" (2013). *Nursing Theses and Capstone Projects*. Paper 48.

This Thesis is brought to you for free and open access by the Hunt School of Nursing at Digital Commons @ Gardner-Webb University. It has been accepted for inclusion in Nursing Theses and Capstone Projects by an authorized administrator of Digital Commons @ Gardner-Webb University. For more information, please contact digitalcommons@gardner-webb.edu.

Early Home Visits by a Registered Nurse Care Manager with Heart Failure Patients

by

Dana Davis Blake

A thesis submitted to the faculty of
Gardner-Webb University School of Nursing
in partial fulfillment of the requirement for
the Degree of Master of Science in Nursing

Boiling Springs

2013

Submitted by:

Approved by:

Dana Davis Blake, BSN, RN

Reimund Serafica, PhD, MSN, RN

Date

Date

Abstract

Strategies focused on 30 days in the life of a patient with heart failure will have limited impact on the burden that heart failure will have nationally or individually. The broader landscape of readmission risk underscores the need for a more comprehensive approach to heart failure management. Care management with a registered nurse demonstrated efficiently coordinate care. Home visits address the peaks of risk in the post-discharge transition and palliative phase while providing longitudinal support. The purpose of this study is to substantiate that early home visits and telephone followup with a registered nurse after discharge from the hospital will decrease the readmission rates of heart failure patients. The interventions used were face- to -face encounters, follow up telephone phone calls, a quality of life self-report tool and a medication reconciliation tool. This study utilized a secondary analysis of data collected with a state-funded grant to decrease readmissions of heart failure patients at a local 700-bed, not-for-profit hospital. The participants were identified based on their lack of insurance or being underinsured with Medicaid. A newly dedicated heart failure unit with 10 dedicated beds was opened in 2011. A team of case managers, nurses, and physicians responsible for referring the patients who met certain guidelines were referred to the care manager. If the patient met the insurance criteria and was NYHF Class III or IV, the patient would then be eligible for a care manager and pharmacist to assist with the transition home. Study results concluded that there were definite advantages to both these services in decreasing readmissions.

Acknowledgments

Appreciation is a small expression of how the sacrificial love of my mother during this process has ensured my success. I would never have attempted my Master's Degree of Nursing without her being on my side just as she has been for everything in my life. Her unending love and dedication was the propelling force that pushed me across the finish line. My Director is the most inspiring and influential professional I have worked with since my humble start in a fish camp 25 years ago. His encouraging spirit is a gift, and truly I covet his ability to build up people and leave an impression on their lives forever. Lastly, Dr. Reimund Serafica has sent countless emails and made countless phone calls, guiding me through this complex process. He is the epitome of everything a Professor should be, and I can only aspire to be a semblance of the educator he is.

TABLE OF CONTENTS

CHAPTER I

Introduction.....	1
Statement of Problem.....	1
Purpose.....	3
Background.....	3
Preliminary Chart Characteristics.....	3
Conceptual Framework.....	8
Significance to Nursing Studies.....	12
Theoretical Assumptions	12
Research Questions.....	13
Definition of Terms.....	13

CHAPTER II

Literature Review.....	14
Summary	17

CHAPTER III

Methodology.....	18
Setting.....	18
Sample Population	19
Procedure	20
Study Design.....	20

CHAPTER IV

Results.....	21
--------------	----

CHAPTER V

Discussion	23
Limitations	23
Implications for Nursing Practice	24
Recommendations for Future Researcha and Practice.....	24
Conclusion	26
REFERENCES	27

List of Figures

Figure 1: Health Promotion Model	11
Figure 2: Demographics of Referrals.....	22
Figure 3: Readmission and Total Admissions	22

CHAPTER I

Introduction

Statement of the Problem

Heart Failure (HF) is the leading cause of hospitalization for patients over the age of 65 years old (Desai & Stevenson, 2012). The Department of Health and Human Services estimates that there are 5.8 million people in the United States living with heart failure and another 670,000 are diagnosed each year. Approximately 1 to 2 % of the developing countries have heart failure with the prevalence growing to >10% among persons 70 years and older. Medicare estimates that heart failure costs 17 billion dollars annually (Desai & Stevenson, 2012). Literature shows that there is no universally acceptable definition of heart failure. In 1933, Lewis defined heart failure as a condition in which the heart is unable to discharge its contents. After more than 50 years of negotiating, there is still no agreement on a satisfactory definition among epidemiologist, cardiologist, scientist, insurance providers, and public health providers. One agreed on definition, is that HF is based on three tenets (Phillip & Poole-Wilson, 1996). First is an abnormal structure of the heart. Second, symptoms such as dyspnea (shortness of breath), easily fatigued, and lack of exercise tolerance are described by the HF patient. Lastly, heart failure is evidenced by unexplained fluid retention (Phillip & Poole-Wilson, 1996). As the illness progresses and the heart's inability to pump properly, the organs do not receive the oxygenation and blood supply needed to perfuse and circulate (Lloyd-Jones, Adams, Brown, et al., 2010). The inability of the heart to pump properly causes patients to experience a plethora of subtle changes such as activity intolerance, hypertension, and fluctuation in fluid weight gain. Typical symptoms of HF are breathlessness, orthopnea,

paroxysmal nocturnal dyspnea, swelling of the ankles, and fatigue. The clinician will need to assess signs of elevated jugular venous pressure, hepatjugular reflux, a third heartbeats (gallop) and often, a cardiac murmur. As the disease progresses to Classes III and IV, the patient may experience acute signs and symptoms. Class III patients may complain of marked limitations of physical activity. Some patients may be comfortable at rest, but less than ordinary activity results in breathlessness, fatigue, or palpitations. Inadvertently, as the illness progresses to Class IV, the patient experiences discomfort during any activity and symptoms at rest may occur. Acute HF is life threatening and requires immediate medical attention. The goal of treatment will be to relieve the signs and symptoms of fluid overload, restore oxygenation, improve hemodynamic and organ perfusion, and shorten length of stay. Prognosis of HF patients can be obtained from readily available data such as age, NYHF Class, EF, key co-morbidities (renal dysfunction, diabetes). Clearly, these variables will change over time as will the prognosis.

Depression is common in the HF population and is commonly associated with worsened clinical outcomes. A high clinical index of suspicion is needed to make the diagnosis, especially in the elderly. Psychosocial and pharmacological interventions may be necessary. Undiagnosed and untreated, anxiety and depression may manifest as non-compliance, so the clinician must remain vigilant during this crucial period. An assessment tool, referral to a psychotherapist for evaluation, or the implementation of medical therapy, may be warranted. Collaboration between the Registered Nurse Care Manager and Pharmacist is essential to ensure the success of the HF patient.

Purpose

The purpose of this study is to determine the effectiveness of early home visits with a Registered Nurse as a Care Manager during the first 30 days after discharge. The retrospective review at this stage is aimed at avoiding early readmissions. The discharge process is often tedious for the patient, and the teaching that is provided at discharge is often hard for the patient to recollect because of the illness and/or lack of attention. Often a patient gives inaccurate medication lists during admission, and therefore the regimen that the patient is discharged on may be incomplete or even incompatible with the actual home medications.

Background

Heart Failure (HF) readmissions are a national epidemic, and to affect the financial burden it has on healthcare, it will take collaboration across disciplines and facilities. Care management in this setting was certainly atypical patient care, and caring for the heart failure patient and reducing the readmission rate was going to take unusual measures. “Heart failure patients have a myriad of established clinical predictors and models with innumerable permutations of combinations of predictors (Desai & Stevenson, 2012, p. 6). However, it remains difficult to identify a risk model that is robust and actionable.

Preliminary Chart Characteristics

During the study, the Registered Nurse Care Manager visited several homes and found there were sometimes duplications, and the patient was actually taking two beta blockers - one brand name and one generic, with an unexplained bradycardia. The goal was for the Registered Nurse Care Manager to connect with the patient during the

inpatient stay and explain the services provided through the grant and role of the care manager and pharmacist. Once the patient authorized consent, a phone call is made within 72 hours of discharge to coordinate home visits. The home visit is imperative to the success of this relationship and the medication reconciliation. Multiple tasks are important during this encounter. However, the Registered Nurse Care Manager must be mindful not to overwhelm the patient. Reinforcing the teaching given at discharge will take precedent as well as ensure that the followup visit to the cardiology is kept. This home visit also allowed the Registered Nurse Care Manager to observe the patient in their home setting and see that there is a working scale in the home. Observing the patient in the home environment revealed many clues to what lifestyle modifications the Registered Nurse Care Manager needed to focus on during additional teaching. Sometimes there were areas where the patient may not have realized that there were issues that contributed to the exacerbation of their condition. Some essential topics that had to be discussed during home teaching included self-monitoring, pharmacological treatment, adherence to diet, smoking cessation, sleeping, and psychosocial concerns.

Patients would report minimal or “normal fluid” intake, and the Registered Nurse Care Manager would visualize this as being a 500 cc "kool aid" container at one meal. However, the patient’s calculation was incorrect, and the patient was counseled on excessive fluid intake (no more than 1.5-2.0 liters recommended in a 24-hour period) and maintaining a healthy weight. Abstinence from alcohol was also recommended, and sodium restricted to no more than 2000 mgs per day. Actually being in the patient’s setting revealed critical clues to elements that could have exacerbated their health problem. However, the Registered Nurse Care Manager found that patients were not

purposefully reporting all sodium intake, but were either not understanding the ingredients in the food or did not know how to read the labels properly. Another catalyst to keeping the patient out of the emergency room and hospital is to ensure the patient keeps their followup appointments with their primary care physician or cardiologist. The Registered Nurse Care Manager would verify that the patient had an appointment and call to give a reminder before the time. Because some patients cited lack of transportation as a reason for not keeping hospital followups, the Registered Nurse Care Manager would secure transportation prior to the appointment.

The home visits consisted of weekly visits (more if needed) by a Registered Nurse Care Manager as well as telephone coaching. It also included obtaining “first of the morning standing weight” without shoes and assessing the patient’s pill box to check for compliance. Each patient was also given printed literature and an instruction sheet on signs and symptoms of exacerbation that would require contact with the cardiologist and when to contact 9-1-1 for true emergencies. The Registered Nurse Care Manager stayed in close communication with any home health agencies, primary care physicians, and certainly the cardiologist assigned to the patient to ensure closed-loop communication. Historically, one identified conflict was that often if the patient had not received a call back from one physician during suspected exacerbation, he would reach out to another physician. This resulted in creating duplication and multiple orders because the patient would fail to mention the previous phone call. A large part of the education was to instruct the patient that the earlier in the day the exacerbation was noted was the best time to place a call to the cardiology office because the cardiology office was always the first point of contact for HF issues. If there were issues in the cardiology office due to the

untraditional role of the Registered Nurse Care Manager, there was access not only to the inpatient records but to the cardiology practice records as well. Since the inception of this study, the Registered Nurse Care Manager at the cardiology practice was challenged to keep the primary care physician notified of any changes to the medication list. This was not easily rectifiable because often the patient would not bring in the notebook for updates, or the updates would not make it to the Primary Care Physician's office before the patient's next appointment. There were some areas that needed improvement especially for practices where there was no care manager to receive the updates electronically. Occasionally there was some push back from Primary Care Physicians who wanted to continue to handle the cardiac medications, or the patient was unclear of which physician was the contact for which health concerns. Navigating the healthcare system and acting as a liaison is where the care management piece was critical. If any of the patients had denied the services of the Registered Nurse Care Manager during inpatient time, this is typically when the care giver or patient would reach out to the Registered Nurse Care Manager.

The Registered Nurse Care Manager offered additional education, as needed, in the community. This provided the evidence-based practice and education to primary care practices and skilled nursing facilities to aid in the reduction of readmissions. The Registered Nurse Care Manager worked closely with the staff of registered nurses, physician assistants, and the cardiologist to make this endeavor a success. If the data revealed one facility had more readmissions than another, the team would meet with the staff and offer additional education and followup regarding the signs and symptoms of

exacerbation. The Care Manager also left literature for the facility and dietary restrictions.

Crucial to the patient care was the four-section HF notebook that each patient was given. One section had current medications with the correct dose and administration, as well as vital signs that the Registered Nurse Care Manager listed at the first home visit. The second section listed future appointments. The third section had progress notes for physicians to communicate with one another and review previous comments. The last section was for legal documents such as DNR, copies of insurance cards, and the most current depart summary from the inpatient stay. The patient was given precise instructions that this notebook had to be taken to all appointments, regardless of the specialty.

1. Each participant was given a magnet that highlighted the different stages of exacerbation using a code system of green -- no signs of exacerbation; yellow -- mild symptoms and time to call the cardiologist, and red -- exacerbation and time to call 911.

2. Literature from American Heart Association

- Understanding Heart Failure
- Warning Signs and Actions of HF
- Silent but Deadly

Each patient also received an appointment with a community pharmacist who would conduct home visits to assess medications for adherence, compliance, and educational concerns. Since these types of patients often have no Primary Care Physician, each one also received a print out of local community practices that would accept uninsured patients. This was important because a lack of compliance in dealing with

other diseases such as diabetes or lack of an ability to get refills on medications could exacerbate HF. The Registered Nurse Care Manager supplied the patient with a list of transportation choices including, but not limited to, free public transportation, as well as private services that worked for a nominal fee per excursion, and helped with any applications or phone calls needed to arrange for it. The Registered Nurse Care Manager attempted to meet the patient at all cardiology visits and most other medical appointments as necessary to help convey accurate information to the provider and help in completion of paper work to ensure accuracy.

Conceptual Framework

Dr. Nola Pender is the nursing theorist who founded and developed the Health Promotion Model (HPM). This model identifies background factors that influence health behavior. However, the central focus is on the belief that assessing the patient's self-perception and beliefs should precede constructing a plan accordingly (Pender, 2010). This is critical to the interventions the nurse uses when working collaboratively with the patient/client in changing lifestyle behaviors to achieve a healthy lifestyle. The Pender Model originally appeared in nursing literature in 1982 and then was revised and updated in 1997 based on changing theoretical perspectives and empirical findings. It appears that Dr. Pender was forward thinking in her HPM. With healthcare costs out of control, the HPM is a monumental focus on wellness and prevention as opposed to disease treatment. HF patients are the ideal community to coordinate care with the HPM. In order to understand the relevance of Pender's Theory to the HF study it is important to understand her definition of health. Health is "the actualization of inherent and acquired human potential through goal-directed behavior, competent self-care, and satisfying relationships

with others, while adjustments are made as needed to maintain structural integrity and harmony with relevant environments” (Pender, 2010, p.22). Many nurses have gained a vast amount of knowledge and insight into patient behavior through the HPM. Pender’s model is meant to be a guide for “exploration of the complex biopsychosocial process that motivates individuals to engage in behaviors directed towards the improvement of health” (Pender, 1997, p. 51). Determinants that patients face is often charted as non-compliance before a true understanding has been discovered. Clinicians are charged with investigating individually each patient’s desires for health and outcomes and then designing individual care plans. Allowing the nurse to be more aware of the obstacles prepares the nurse to offer more substantial and applicable goals when offering lifestyle counseling. Pender describes “environment” as what she considers interpersonal influences (family, peers, and providers). All of these factors must be taken into consideration when preparing a care plan for these complex HF patients.

The patient has a history of thinking and behavior that must be altered to ensure the optimal result. To make this happen, the Registered Nurse Care Manager must first fully comprehend the patient’s value system and must help the patient understand it also. Environment can be manipulated into a positive context of cues and facilitators for lifestyle for health-enhancing behaviors (Pender, Murdaugh, & Parsons, 2011). During the case management process, one specific piece of the model resonated with most of the patients when asked about why they felt they were more successful with the engagement of a Registered Nurse Case Manager. Almost unanimously they said that they felt “they had a cheerleader,” someone to hold them accountable. This portion of the HPM proves that “persons are more likely to commit to and engage in health-promoting behaviors

when significant others model the behavior, expect the behavior to occur, and provide assistance and support to enable the behavior” (Pender, 2010, p.2). Applying the concepts identified in the Model, and realizing that lower levels of education and decreased literacy levels resulted in increased rates of readmissions, the Registered Nurse Care Manager consulted registered dietitians for assistance in planning low-cost meals. Lower socioeconomic status is also linked to a diet higher in saturated fats, cholesterol, and carbohydrates as well as poorer health and access to healthcare. The Registered Nurse Care Manager was also available to do occasional grocery shopping with patients, searching for nutritious, economical, low-sodium food choices, and providing support while offering atypical care management. During home visits, the Registered Nurse Care Manager collaborated with the patient in evaluating the items in the cabinets and refrigerator for high-sodium and high-fat content. The patient then showed which foods needed to be discarded. This collaboration allowed the Registered Nurse Care Manager to educate the patient and obtain self-efficacy while providing patient dignity and respect. Reading food labels also allowed the Registered Nurse Care Manager the additional opportunity to educate the patient about the importance of avoiding obesity and maintaining a healthy weight to prevent exacerbations and unnecessary readmissions.

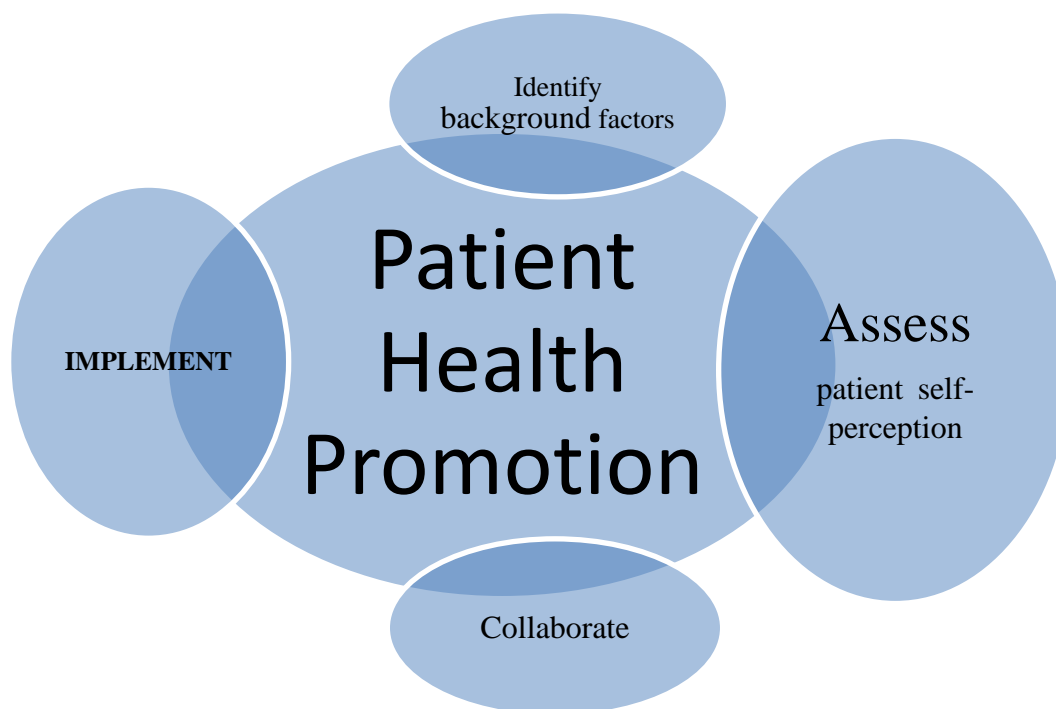


Figure 1. Health promotion model adaptation of the study (Adapted from Pender, 2010).

As demonstrated in Figure 1, the framework for the study was adapted from the HPM .

- *Identify background factors:* determining the patient’s past experiences. It will be important to find out what support, if any, the patient will have.
- *Assess patient self-perception:* administering the Self-Report Tool to gain insight to current feelings regarding readiness for dietary changes. Assessing the patient’s level of activity tolerance prior to developing exercise goals.
- *Collaborate:* incorporating the patient support person, dietician and any other disciplines in the decision making process to ensure continuity and compliance.

Most importantly, respecting the patient's right to prescribe to only a portion of the care plan or to modify it.

- *Implementation:* set realistic goals, cost effective goals, and follow up with the care plan frequently to see if the Registered Nurse Care Manager needs to make adjustments to the care plan in order to facilitate the patient's adherence.

Significance to Nursing Studies

As we move forward, the HPM will continue to be conducive to nursing for a multitude of reasons. Dr. Pender was progressive in implementing the promotion of wellness more than two decades prior. Health promotion has caught the attention of the world with the pandemic of obesity, premature morbidity, and mortality. HPM will continue to be utilized and, the concept of "self-contracts" being used with patients to promote compliance. This will allow the patient to be independent in rewarding themselves when they make good choices (Pender, 2010). Nurses and care managers will certainly use the model in their everyday practice as they develop care plans based on patient preferences as "tailoring interventions has been found to increase intervention effectiveness" (Peterson & Bredrow, 2009, p.297). Historically, the role of nurses has been in treatment of the ill but, HPM broadens the nurse's role to that of health and promotion educator.

Theoretical Assumptions

Ultimately, no one comes into the hospital wanting to be a bad patient or with the goal of being readmitted. HPM theorizes that individuals desire to actively regulate their own behavior. This study confirms that with the right tools and support systems, patients

are able to transform into self-managing individuals, with healthcare providers exerting a positive influence through education and positive reinforcement.

Research Question

Do early home visits with a Registered Nurse Care Manager immediately following discharge decrease readmissions for the heart failure patient?

Definition of Terms

New York Heart Failure (NYHF) Class System: heart failure affects people to varying degrees. There are four classes, but for this study only patients with NYHF Class III and IV were included.

NYHF Class III: Class III HF patients definitely suffer from activity intolerance. Most of this population will be comfortable at rest but almost all will suffer undue fatigue with any ambulation or activity. Typically this patient will be under a physician's care with careful monitoring of diet and watchful fluid restriction. Diuretics will be a part of the medication regimen.

NYHF Class IV: These patients are virtually unable to do any physical activity without discomfort. There may be significant signs of cardiac problems even while resting. Surgical options will be explored in addition to treating the same as Class I-III.

Registered Nurse Care Manager: Coordinates, facilitates, and follows up a patient's health and social services over a period of time.

CHAPTER II

Literature Review

There is a vast amount of literature published related to the readmission rates of the heart failure patients. Database searches included Ebscohost, CINAHL, and various other reputable scholarly sources. Studies have shown that HF patients were destined for readmissions especially without close followup. Fifteen to twenty percent of admissions occurred during the “plateau phase” (intercurrent between original admission and period prior to death) consistent with the REMATCH Trial (Desai, 2012). Perfect HF care by performance standards cuts down on early rehospitalization but does not do much for other outcomes in real-world practice (Phend, 2010). The need to understand the cause and effect related to the imbalance of readmissions related to heart failure patients is imperative with two-thirds of US Hospitals being assigned some level of penalty up to 1% of Medicare Reimbursement for all diagnoses for the first year (US Department of Health and Human Services Hospital, 2011).

According to the Institute for Healthcare Improvement a “hospitalization is when a patient is readmitted soon after discharge” this is both common and costly. Most often, the readmission is preventable with a more detailed and intense discharge process, and as the researcher attempts to prove, with early home visits with a Registered Nurse Care Manager. A decrease in readmissions “is a win-win for patients and families, payers, healthcare purchasers, and providers” (US Department of Health and Human Services Hospital, 2011, p. 3). A 30-day readmission is when a patient has had a recent hospital stay and needs to go back within the 30 days of discharge (US Department of Health and Human Services Hospital, 2011, p. 3).

Home visits to improve lifestyle changes and awareness have been examined in multiple studies (Goode et al., 2011; De Greef et al., 2011; Fjeldsoe et al., 2010; Rimmer et al., 2010; Eakin et al., 2010; Furber et al., 2010; Parra-Medina et al., 2011). All show the positive effects in introducing healthy eating through behavioral changes in diet as well as in the management of signs and symptoms. The goal of the home visits was to identify any discrepancy between the discharge medications and what the patient was actually taking at home. Management in co-morbidities is a key component in managing HF patients. Often, a patient would not report using an NSAID as part of the medication regime, believing that since it was not prescribed, it was not important. However, NSAIDs are contraindicated in HF patients and causes worsening of the condition. Thus, when the Registered Nurse Care Manager discovers that an NSAID is being taken for arthritis, it could explain the missing part of the puzzle. It also allows the Registered Nurse Care Manager to observe the patient's environment..

Implementing the home visit establishes a link between the patient and the clinician, and eliminates barriers in communication. Some of the comments made by the patients in previous studies was their concern about disappointing the clinician. Therefore, the patient tried harder to do the right thing by taking the prescribed medication or taking their weight daily as ordered. The one-on-one visit is not only meant to educate the patient but also to show and reinforce empathy, demonstrate support and help patients who otherwise would have no support system, how to better follow their prescribed wellness plan, and decrease their chances of an exacerbation.

Whellan performed a prospective multi-center observational study of subjects with CRT ICDS. Clinical and device data were collected at each visit. The algorithm was

considered positive if a patient had two of the following abnormal criteria during a one-month period: long atrial fibrillation period, high fluid index, low patient activity, abnormal autonomies, or notable device therapy or, if they only had high fluid index. Defibrillator patients were followed for 11.7 months. Data from 694 patients were analyzed, and of those, 90 patients had 141 adjudicated HF hospitalizations with pulmonary congestion within 60 days after device implantation. The limitations that were identified were those where the clinicians had access to the diagnostics, reviews, and interventions based on trends were not required and the alerts were not utilized. This revealed that patients with combined heart failure and device diagnostics were at higher risk for subsequent heart failure hospitalizations (Whellan, 2008).

The Quality Measures Study by Phend (2012) was a retrospective chart review. This research found that subjects who were treated with all eligible measures had a significant reduction in 30-day readmission rates, but at one year the mortality rate was unaffected. Patient care that met all quality indicators, including a beta blocker when indicated, were 24 % less likely to be readmitted than others in same healthcare (p=0.049). Mortality at one year outcomes was unchanged by strict adherence. There is only so much you can do in acute care settings that persists greater than 30 days. A lot depends on what happens to them once they leave the hospital (Phend, 2012). They noted that “policy is never perfectly designed at inception,” but the readmissions reduction program with adjustments can help hospitals become “increasingly accountable for what happens to their patients beyond their walls.” (Joynt, p.9, 2013).

Summary

Research is conflicting as to whether there are any interventions that will significantly reduce the HF readmissions. Providing the “perfect” discharge, surgical devices or hospitals being penalized has not proved to be “the golden egg” answer to decreasing readmissions. The HF population is complex, and although there are many studies on the subject, there still is no general consensus on the right prescription for this group. Almost as many definitions for HF exist as literature reviews on different ideologies on the solution. The purpose of this study is to demonstrate a relationship between early home visits with a Resident Care Nurse Manager and a reduction in Heart Failure patient hospitalizations.

CHAPTER III

Methodology

Setting

The original “Registered Nurse Care Manager” received referrals directly from a newly designed heart failure unit at a non-for-profit, 700-bed, tertiary-care facility in Western North Carolina. Patients were selected based on stage of heart failure as well as the type of payer source. Class III and IV Heart Failure patients were targeted. The study grant was for uninsured patients or those with Medicaid and uninsured. Cardiovascular nurses, social workers, discharge planners, physician assistants, inpatient pharmacist, managers, and dieticians were all led by a cardiology champion to be especially trained and educated to care for these critical patients.

During the process, the study applied for accreditation from the National Chest Pain Society. Preliminary data from the study were used to show the positive impact care management and medication management is having on the HF program.

Once the patient was identified as meeting criteria, a referral was made to the Registered Nurse Care Manager who was embedded part time at the hospital and part time at the cardiology practice. If the patient agreed to case management the Registered Nurse Care Manager introduced the program while the patient was still an inpatient. If the patient declined care management, the Registered Nurse Care Manager would leave contact information in the hope either the patient or caregiver would attempt to make contact at discharge. Theoretically, the Registered Nurse Care Manager would attend rounds in order to learn about the patient and details of their treatment plan at discharge. Unit secretaries were diligent in making follow-up appointments with the Pharmacist to

allow time to perform medication reconciliation at that time and to notify the Registered Nurse Care Manager when the patient was discharged. Telephone followup and face-to-face home visits were crucial to avoiding readmission.

A direct correlation developed between the involvement of the Registered Nurse Case Manager and the readmission rate based on how involved nurse and patient were with one another. The research design for this study was a secondary analysis with chart review that utilized a quantitative design. A recent grant to an agency in the South, assigned a Registered Nurse Care Manager and Pharmacist to help decrease readmissions of the HF patient. The Registered Nurse Care Manager's role is to be a navigator and liaison to the patient and cardiologist. Initially, the pharmacist was going to do the home visit but the cardiologist became dependent on the pharmacists being at the practice, so they arranged for the patient to have time for medication review with the pharmacist their hospital followup, before seeing the cardiologist. Patients were instructed to bring all their medications to this appointment, at which time the pharmacist would also be able to help with finding financial medication assistance, if needed.

Sample Population

The study population included 254 total referrals. Referrals were directly from the HF unit, the cardiology clinic, Registered Nurse Care Managers at other practices, as well as from other primary care physicians. Ideally, the subjects should have NYHF Class III and IV as the primary diagnosis. However, in the beginning, the Registered Nurse Care Manager was inundated with referrals from the cardiology practice so the pilot had to be clarified. HF was the targeted population, although the study did include 31 non-HF complex cardiac diagnoses. The grant dictated that the payer source included only

Medicaid and uninsured patients. Although no one was excluded based on race, religion, or ethnicity, remarkably all the HF patients except one, a Latino, and all spoke English.

Procedure

The Gardner-Webb University IRB gave written approval for the study. The Principal Investigator received a letter from the Executive Director of the agency that supported the community care management and pharmacy services, and asking for permission for secondary analysis of the original data.

Study Design

This study used a descriptive secondary analysis design to determine if an early home visit with a Registered Nurse Care Manager immediately following discharge would decrease readmissions for the HF patients in the data. The Principal Investigator used the existing data to answer the research question for this study. Graph and pie charts were used to analyze trends on readmissions.

CHAPTER IV

Results

The findings of the study demonstrated many opportunities to improve on the readmission rate of HF patients through close follow up after discharge. The purpose of the study was to determine if the actual home visits by the registered nurse immediately following discharge actually decreased readmissions. The sample population consisted of Stage III and IV HF patients discharged from a 10-bed unit designated for HF specialty care. A specific team of HF nurses, social workers, dieticians, pharmacist, discharge planners, cardiologist, and physician assistants comprise the network designated to these complex patients while inpatient. Once the patient is identified, matches criteria for care management, and agreeable, the patient will work closely with a care manager and pharmacist to transition home. Communication is key in thwarting any inappropriate emergency room visits or readmissions. The research question answered during the study was the following:

Do early home visits with a Registered Nurse Care Manager (RNCM) decrease readmission of the HF patient during the first 30 days of discharge?

The study was to determine if home visits immediately following discharge from the hospital decreased readmission of the HF patient. A total of 254 (n=254) patients were referred for case management for the HF pilot (Figure 2). Of those, 188 were direct heart failure referrals from the inpatient unit; 35 were referred from the specialty practice (without recent hospitalizations); and 31 were non-HF patients with complex cardiac diagnoses. The Registered Nurse Care Manager (RNCM) was able to get a commitment

from 143 of the referred patients with a primary diagnosis of HF (NYHF Stage III or IV) 56.3% of the referred patients.

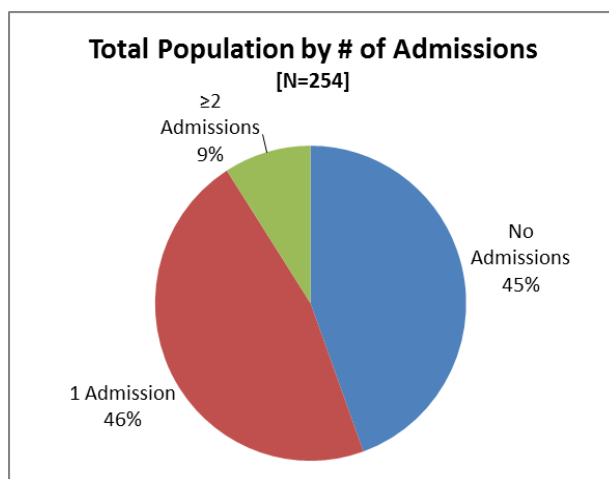


Figure 2. Demographics of referrals

Figure 3 reveals that 17% of 30 day all cause readmission had no face to face encounter with the RNCM and only 9% was readmitted with any face to face encounter with RNCM.

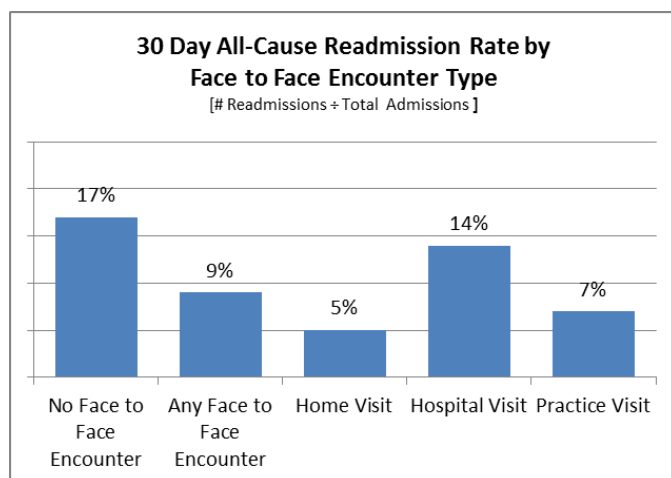


Figure 3. Readmissions and total admissions

CHAPTER V

Discussion

The length of study proved to be a major obstacle for this data collection. Nevertheless, the data collected through Medicaid claims and CMIS provided a snapshot. At least three years would be needed to provide a more concise portfolio. Results at 15-month completion revealed 80% of HF patients referred for care management received a follow-up phone call within 72 hours of referral. Seventy-four percent of HF patients referred, who agreed to care management, had a face-to-face home visit within one week of discharge. The actual goal for face-to-face was 75% and an action plan was implemented for an improved process between hospital data sharing and the referral process for an improvement in outcomes. As for the 72-hour follow-up, the target fell quite short of the 90% goal. Data analysis revealed that the Registered Nurse Care Manager was not documenting the phone call task correctly. The team felt that if the calls were documented appropriately, the “actual met” would have been much higher. One major contributing factor that affected the “72-hour phone call” goal was the possibility that some patients refused to utilize the Registered Nurse Care Manager’s services because they “feel well” at discharge. Further action plan is needed to underscore this factor.

Limitations

The major limitation was the small study sample. Many of the original participants did not complete the care management to the 15-month completion. Out of 254 referrals only 188 patients engaged in care management. A change in the Registered Nurse Care Managers caused some skew in data collection because interventions were

not entered properly. Once this was reconciled, it appeared the goals of face-to-face encounters would be met, as well as the 72-hour phone calls. Another limitation was that some patients continued to be reluctant to engage in the process while still in hospital. However, once home and faced with the often tedious medication lists, medical appointments, and lack of support would then reach out for the service. Then, the Registered Nurse Care Manager would usually be able to arrange the home visit. Unfortunately, with the delay was not uncommon and by that time, the patient would already be in decompensation by the time the Registered Nurse Care Manager made the first home visit.

Implications for Nursing Practice

It was not possible to determine exactly what aspect of the home visits was instrumental in decreasing the readmissions. However, the earlier the follow-up the more successful the patient was in staying out of the hospital. Consistent discharge procedures were found to be imperative to the process. The discharge process should start at admission. During the entire inpatient stay, the patient should receive instructions regarding dietary restrictions and medication instructions. When teaching is done at discharge only, even with the teach-back method, it tends to be overwhelming and only minimally retained. Patient self-care is essential in this special population, especially within the first 30 days of discharge, therefore daily teaching more than once daily is optimal.

Recommendations for Future Research and Practice

Additional research needs to be conducted for a better visual understanding on the impact of the care coordination. Future recommendation includes a longitudinal study to

determine mediating factors for minimizing readmissions. An improved understanding of compliance is necessary to open communication between healthcare providers and patients. The concept of compliance is widely used although the definition is not universal. All disciplines must act congruently to educate and improve understanding, while honoring the patient's right to refuse treatment or part of a treatment plan. Literature supports a linkage between a complex regimen and compliance before a patient is labeled as non-compliant. Fielding (1999) suggests nonadherence could be related to normal response to the demands of the illness.

A focus of the heart failure team will be to integrate the care management piece within skilled nursing facilities and primary care physician practices. The evidence practice guidelines that were being implemented on the HF unit and at the cardiology practice would need to gain wide acceptance in order to promote cohesiveness in the community. The buy in from all levels will be a big component in decreasing readmissions. A patient centered HF clinic model is being developed to address system changes, implement and test new or improved process, and collect and analyze outcome data. Meetings with the inpatient and outpatient HF teams will continue with work focused on integrating the HF care management services.

Team members focused a great deal on issues related to decreasing the readmission rates as our goal, but this is only a surrogate for what we are hoping to achieve. Improvement in the overall quality of life and the duration of life should be the focus (Phend, 2012).

Conclusion

This research supports that case management immediately following discharge for HF patients is imperative to increasing HF patients' quality of life, although it was unclear if it significantly reduced readmissions. In the ever evolving world of healthcare and the penalties being imposed for these readmissions, hospitals are being forced to investigate all traditional and non-traditional areas of patient care. The purpose of this research study was to reveal the relationship between a Registered Nurse Care Manager and the HF patient in decreasing readmissions and this was not substantiated. There was a definite positive correlation in improved medication compliance, adherence to prescribed dietary, and exercise regimens. The evidence demonstrated that the patient did benefit from the services of the Registered Nurse Care Manager. However, a redesigned and longer study would be needed to see if the snapshot of the initial impact was indeed an indicator of the true portfolio provided to the patient.

References

- De Greef, K. P., Deforche, B. I., Ruige, J. B., Bouckaert, J. J., Tudor-Locke, C. E., Kaufman, J., & De Bourdeaudhuij, I. M. (2011). The effects of a pedometer-based behavioral modification program with telephone support on physical activity and sedentary behavior in type 2 diabetes patients. *Patient Education And Counseling*, 84(2), 275-279. doi:10.1016/j.pec.2010.07.010
- Desai A.S., & Stevenson L.W. (2012). *Rehospitalization for heart failure: Predict or prevent? Circulation*, 126, 501-506.
- Desai A.S., & Stevenson L.W. (2012). The three-phase terrain of heart failure readmissions. *Circulation*, 126, 398-400.
- Eakin, E., Reeves, M., Winkler, E., Lawler, S., & Owen, N. (2010). Maintenance of Physical Activity and Dietary Change Following a Telephone-Delivered Intervention. *Health Psychology*, 29(6), 566-573. doi:10.1037/a0021359
- Fielding, D. (1999). Compliance with treatment protocols interventions for children with chronic illness. *Archives of Disease in Childhood*, 80 (10), 196-200.
- Fjeldsoe, B., Miller, Y., & Marshall, A. (2010). MobileMums: a randomized controlled trial of an SMS-based physical activity intervention. *Annals Of Behavioral Medicine*, 39(2), 101-111. doi:10.1007/s12160-010-9170-z
- Furber, S., Butler, L., Phongsavan, P., Mark, A., & Bauman, A. (2010). Randomised controlled trial of a pedometer-based telephone intervention to increase physical activity among cardiac patients not attending cardiac rehabilitation. *Patient Education & Counseling*, 80(2), 212-218. doi:10.1016/j.pec.2009.11.012
- Goode, A., Winkler, E., Lawler, S., Reeves, M., Owen, N., & Eakin, E. (2011). A telephone-delivered physical activity and dietary intervention for type 2 diabetes

- and hypertension: does intervention dose influence outcomes?. *American Journal Of Health Promotion*, 25(4), 257-263. doi:10.4278/ajhp.090223-QUAN-75
- Joynt, K.E, et al., (2013). "A path forward on medicare readmissions" *N Engl J Med* 2013; DOI: 10.1056/NEJMp1300122.
- Lloyd-Jones, D., Adams, R.J., Brown, T.M., et al. (2010). Heart disease and stroke statistics-2010 Update. A report from the American heart association statistics committee and stroke statistics subcommittee. *Circulation* , 121, 70.
- Parra-Medina, D., Wilcox, S., Salinas, J., Addy, C., Fore, E., Poston, M., & Wilson, D. K. (2011). Results of the Heart Healthy and Ethnically Relevant Lifestyle Trial: A Cardiovascular Risk Reduction Intervention for African American Women Attending Community Health Centers. *American Journal Of Public Health*, 101(10), 1914-1921. doi:10.2105/AJPH.2011.300151
- Pender, N.J. (1997) Health promotion: An emerging science for self care and professional care. *Qual Nurs* 1997; 3(5): 449-454.
- Pender, N.J., Murdaugh, C. L., & Parsons, M.A. (2010). *Health Promotion in Nursing Practice* (6th Edition). Boston, MA: Pearson
- Pender, N.J., Murdaugh, C. L., & Parsons, M.A. (2011). *Health promotion in nursing practice* (6th ed.). Boston, MA: Pearson
- Peterson, S. J., & Bredow, T.S. (2009). *Middle range theories: Application to nursing research* (2nd ed.). Philadelphia, PA: Lippincott, Williams & Wilkins.

- Phend, C. (2012). *Quality measures for heart failure don't affect mortality*. Retrieved September 13, 2012 from http://www.medpagetoday.com/meetingcoverage/HFSA/34749?utm_source=WC&utm.
- Poole-Wilson, P. A. (1996). Chronic heart failure: definition, epidemiology, pathophysiology, clinical manifestations and investigation. In D. Julian & P.A. Poole-Wilson (Eds.) *Diseases of the heart* (pp. 467-482). London: WB Sanders.
- Rimmer, J., Hsieh, K., Graham, B., Gerber, B., & Gray-Stanley, J. (2010). Barrier Removal in Increasing Physical Activity Levels in Obese African American Women with Disabilities. *Journal Of Women's Health* (15409996), 19(10), 1869-1876. doi:10.1089/jwh.2010.1941
- U. S. Department of Health & Human Services Hospital. (2011) *Compare risk adjusted readmission rates for heart failure, heart Attack and pneumonia*. Retrieved from <http://www.hospitalcompare.hhs.gov/hospital-compare.aspx>
- Whellan, D . (2008). Rationale, design, and baseline characteristics of a program to assess and review trending information and evaluate correlation to symptoms in patients with heart failure. *Journal of American Heart*, 156(5), 833-9, 839.e2.