TAKING A CLOSER LOOK AT HOW TO MANAGE HEART FAILURE PATIENTS IN LONG TERM NURSING CARE FACILITES

by

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ABSTRACT

TIYIKA JANAYE SULLIVAN. Taking a closer look at how to manage heart failure patients in long term nursing care facilities. (Under the direction of DR. MEREDITH TROUTMAN JORDAN)

Introduction: More than 40% of patients that are admitted to the hospital with HF exacerbations are discharged to LTC facilities. It is estimated that 50% of those patients are hospitalized within 90 days of going to a LTC facility, which may be attributed to most bedside care being provided by LPN/LVN. Research showed that HF patients at LTC facilities have anxiety associated with their diagnosis. The same research showed that the nurses that care for these patients also had increased anxiety and low self-efficacy associated with caring for HF patients. The purpose of this project, was to evaluate the effectiveness of implementing HF clinical guidelines that can be customized, and to evaluate if it affected anxiety of the patients and nurses while increasing the self-efficacy of the nursing staff.

Method: Design. This project utilized a quasi-experimental research design. Two LTCs, located in the triad area in North Carolina were the study setting. The sample were heart failure patients and nursing staff at these two facilities. There were 106 patients evaluated, by using a convenience sample. All the patients that were evaluated were older than 65 years old, admitted to the participating facilities, and have a diagnosis of heart failure, but due to the rapidly changing demographics of long term care (LTC) residents and circumstances that the researcher was unable to control, all 106 patients were unable to participate. Generalized Anxiety Disorder (GAD) & and Heart Failure (HF) Self-Efficacy tools were completed by 34 LTC nurses. In-services were given about the HF

clinical guidelines. Repeat GAD7 and HF self-efficacy scores were obtained within one month after education on HF guidelines were provided**.**

Results: Findings demonstrate that using clinical guidelines had a significant decrease in nursing anxiety and an increase in HF self-efficacy. These results were obtained by using a paired t-test and confirmed with a Wilcoxon analysis. There was no significant difference in the GAD7 and HF self-efficacy scores of the LPN/LVNs when compared to RNs.

Discussion: Finding of this scholarly project supported the use of HF clinical guidelines in LTC facilities. This is demonstrated by the decrease in GAD7 scores and the increase in HF self-efficacy score. The intervention involved providing HF education and empowering the nurses. It is possible that education for the nurses and empowering the nurses had more of an effect on the GAD7 scores and self-efficacy scores than the actual clinical guidelines. Further research is needed on how to implement HF guideline in LTC facilities and how to actively include the resident and their families.

DEDICATION

I would like to dedicate this work to my daughter, Makayla Sullivan. She is the light of my life, my biggest inspiration and my biggest supporter.

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LIST OF ABBREVIATIONS

ACCF	American College of Cardiology Foundation
ADON	Assistant Director of Nursing
AHA	American Heart Association
BPCI	Bundled Payments for Care Improvement
CMS	Centers of Medicare and Medicaid Services
CNA	Certified Nursing Assistant
DNP	Doctorate of Nursing Practice
DON	Director of Nursing
GAD	Generalized Anxiety Disorder
H&P	history and physical
HF	heart failure
IRB	institutional review board
IV	intravenous
LPN	Licensed Practical Nurse
LTC	Long Term Care
LVN	Licensed Vocational Nurse
MDS	Minimum Data Set
MOST	Medical Orders for Scope of Treatment
PCP	primary care providers
PD	panic disorder
PMH	past medial history
PSWQMR	Penn State Worry Questionnaire for Measuring Response

PTSD	post-traumatic stress disorder
QI	Quality Improvement
RN	Registered Nurse
SAD	social anxiety disorder
SNF	skilled nursing facilities
SWOT	strengths, weakness, opportunities, and threats
UNCC	University of North Carolina at Charlotte

CHAPTER 1: INTRODUCTION

The American Heart Association (AHA) describes heart failure (HF) as a condition in which the heart does not work as well as it should (American Heart Association, 2017). HF is becoming more prevalent and now accounts for more than one million hospitalizations annually among Medicare patients (Ogunneye et al., 2015). These authors stated that after an acute hospitalization, 40% of HF patients are discharged to a long-term care (LTC) facility. Their follow-up data showed that within 30 days, up to 25% of those patients were readmitted to the hospital. The percentage of readmissions increased to 50% within 90 days of being discharged to a LTC facility. Welch et al. (2012) suggested that almost 39% of hospitalizations, related to heart failure exacerbations, could have been avoided with early interventions. Ogunneye et al. (2015) predicted that as the aging population increases, the prevalence of HF is expected to double over the next four decades. Foebel et al. (2012) stated that the prevalence of HF in LTC patients, is 21.4%. Among these patients, 42% died within the first year of being admitted to a LTC and 31% were hospitalized within one year, with HF listed as the main admission diagnosis, or listed as a contributing factor of the admitting diagnosis. Clearly HF is a serious and pressing issue.

Problem Statement

Increased quality of care, in LTC facilities, has been associated with higher levels of registered nurse (RN) staffing (Corazzini et al., 2012), but 70% of licensed nursing care, is provided by licensed practical nurses (LPNs). RNs' assessments are usually comprehensive, while the focus of LPNs' assessments are focused based. Corazzini et al, (2014) stated that medical decisions that were based on LPN assessment alone increased the risk of having detrimental care. LTCs tend to have high turnovers rates. Most recently, data collected in 2012, showed the average turnover rate for all employees, in LTC facilities, is 43.9 percent per year. LTC retention rates are low with an average of 68.9 for direct care staff and LTC facilities continue to have a 16.8% vacancy rate on average (AHCA, 2014).

Due to most hospitals striving to achieve Magnet status, it is hard for LPNs to gain any acute care experience. Lack of acute care experience, places LPNs at a disadvantage, especially since the complexity of patient care is continuing to increase. During frequent conversations with the nursing staff, in LTC facilities, they often express concerns about not feeling comfortable with implementing interventions for fluid volume overload without "running it by a provider." Despite there being nationally recognized HF guidelines that are referred to as the "Gold Standard," many LTC facilities do not use them (Foebel et al., 2012). If they are in current use, the interventions are not feasible for every HF patient (Martinen and Freundl, 2004). The author works in the LTC setting, and after talking with HF patients and their families about the trajectory of this diagnosis, it appears that there is a lack of understanding of disease process and how treatment for HF, mostly using diuretics to maintain fluid volume homeostasis, can ultimately damage the

kidneys. This author has witnessed when HF patients begin to exhibit signs of HF exacerbation, the patient, their family and the nursing staff become anxious. The nursing staff has voiced that they are not confident in their clinical decision-making skills and that patients are often sent to the hospital for evaluation.

Purpose of the Project

The purpose of this doctorate of nursing practice (DNP) project is to introduce heart failure guidelines, in LTC facilities, as recommended by the American Heart Association. The goal of introducing these guidelines is to promote educational discussions of heart failure and interventions that can be implemented by the nursing staff or patients to decrease the risk of developing fluid volume overload. The intention of promoting education is to reduce anxiety of HF patients and the nursing staff that provide direct patient care while increasing their self-efficacy in using nursing judgement in implementing nursing interventions to prevent HF exacerbations.

Due to the fatality of HF diagnoses, it is important to address code status and review overall goals of care. Goals of care are addressed by reviewing advanced directives and completing a Medical Orders for Scope of Treatment (MOST) form. The MOST form is a neon pink physician order sheet that puts into writing the wishes of the patient regarding the type of care they wish to have as they reach the end of their life. It includes decisions based on code status, scope of treatment, use of antibiotics, the use of intravenous (IV) fluids and use of a feeding tube. Patients, in this setting, tend to have multiple comorbidities and are often unable to make medical decisions for themselves because of cognitive impairments. This often leaves end of life decision making to loved

ones who may or may not know the wishes of the patient. It is recommended that quality of life should be the overall goal of care and not quantity (Foebel et al., 2012)

Clinical Questions

Would having HF clinical guidelines sheets that can be individualized to each HF patient, decrease the anxiety of the patient and their family? Will placing these individualized clinical guideline sheets in an easily assessable place for nursing staff decrease their anxiety and increase self-efficacy associated with caring for this population?

Project Objectives

The main objective of this DNP project is to provide education on HF. HF clinical guideline sheets are being used to help promote critical thinking skills. The sheets list signs and symptoms of heart failure and group them in 'stoplight' zones per the severity with recommended interventions. They can be individualized with provider orders regarding how often to obtain weights, fluid restrictions, diet restrictions, and PRN diuretics to administer. Using these guidelines sheets helps to promote a more comprehensive assessment and promotes the early implementation of interventions to prevent fluid volume overload. By encouraging staff and providing education, nurse self-efficacy may increase and anxiety amongst patients, their family, and staff should decrease.

SWOT Analysis

According to Harrison (2010), a SWOT (strengths, weaknesses, opportunities, and threats) analysis is an examination that evaluates the internal strengths, weaknesses,

opportunities for growth and improvements, and threats of the external environments that are present to the survival of the organization.

Strengths that are included, are that there is limited research on HF management in LTC settings. There is a significant cost to LTCs when their patients are hospitalized for acute heart failure exacerbation. Due to the increase in cost and facilities starting to get "dinged" or reprimanded for high readmission rates, prevention of readmissions has gained special interest from local cardiologists, LTC administrators, PCPs (primary care provider) and even orthopedists. Orthopedists would benefit from the project, due to insurance companies transitioning to bundle payment. This means that when a HF patient receives a procedure, and develops fluid volume overload secondary to these procedures, if they are readmitted to the hospital from a LTC facility, then funds available for reimbursement will decrease.

Challenges that the author foresees are the lack of education surrounding the management of patients that are previously diagnosed with HF. A lot of people that eat a low salt diet will state that they are compliant, because they do not use salt, but will eat food high in sodium, and are unaware how this is related to salt intake. Another weakness is that the patients or the nursing staff may not understand the rationale for some interventions, such as no using diuretics in a patient with mild edema and stage III kidney failure.

Opportunities that are available will be to increase the opportunities for education associated with heart failure diagnosis and promoting early interventions to prevent acute exacerbations. The purpose of implementing these clinical guidelines is to minimize or prevent acute exacerbations. The supervising clinical staff has realized the importance of

this project by verbalization of/about how it improves the quality of care provided to HF patients in a skilled nursing facility.

Several threats could affect the clinical guideline implementation. Some patients and their family may not want to learn about CHF and may want to refer to a specialist. Due to the bundle payment system, some patients are admitted and discharged within the same week. There is also the risk that some patients or nurses may not be interested in participating.

CHAPTER 2: LITERATURE REVIEW

Several studies have yielded relevant findings to support the need for this project. Foebel et al. (2012) performed a prospective cohort study. The study followed 546 newly admitted residents, to the hospital, from long-term care (LTC) facilities for one year. Of those admitted, 21.4% had a diagnosis of HF. The researchers stated that a diagnosis of peripheral vascular disease and a history of exposure to cigarette smoke increased the risk of developing HF. They were considered the strongest predictors of hospitalizations among HF patients. In their conclusion, Foebel et al. (2012) recommended that more comprehensive HF management programs are needed to decrease the number of hospitalizations, from LTCs, related to HF exacerbations.

Ogunneye et al. (2015) followed HF patients from Baystate Medical Center in Western Massachusetts, that were discharged to 17 of the local LTC facilities between the dates of November 1, 2008, and October 31, 2011. A retrospective cohort study was conducted on the collected data. The quality of the LTCs was assessed, based on their characteristics and processes, obtained by the Directors of Nursing (DON) and by the Center of Medicare and Medicaid Services(CMS) 5-star quality rating. The characteristics and processes evaluated were: 1) How does the facility monitor weights? 2) How are the patients and staff educated on dietary restrictions? 3) Do the nurses have the ability to administer IV diuretics? 4) Are there any HF treatment protocols in place? 5) What are the standard criteria for a patient to be transferred to the hospital? 6) What is

the turnaround time for stat x-rays and lab work? and 7) Does the facility have telemetry monitoring capability? Out of the observed patients, 20% of them were readmitted to the hospital within 30 days. Almost 10% of them had an admitting diagnosis of a HF exacerbation. Ogunneye et al. (2015) showed that the quality ratings LTC facilities or processes of care did not correlate with the hospital readmission rate.

Martinen and Freundl (2004) conducted a study in which they used nationally recognized guidelines for HF, and compared them to practices used by local LTC facilities. The facilities included were LTCs associated with the St. John Health System in Warren, Michigan. After reviewing clinical practices in these facilities, researchers noticed that none of them used HF clinical guidelines with their patients. The facilities were unable to recognize which patient had HF. They were unable to understand the importance of using ACE inhibitors or monitoring weights. There was a lack of education by the staff with the patients regarding HF and why receiving immunizations are recommended. The study showed that there were episodes of clinical deterioration of HF patients, but that most of the cases could be managed if HF clinical guidelines were used and if the patient symptoms were treated instead of the underlying diagnosis (Martinen and Freundl, 2004).

Alhurani et al. (2015) noticed when reviewing literature associated with HF patients, it was often mentioned that HF patients had high incidence rates of depression and anxiety. These researchers conducted a study to evaluate if depression and anxiety affected the mortality and hospitalization of HF patients, due to exacerbating cardiac issues. In this study, the researchers included 1260 patients with cardiac diagnoses and performed a Cox regression analysis. The researchers were able to determine that

depression and anxiety were significant predictors of all-cause mortality in patients with cardiac issues, mainly HF. Alhurani et al. (2015) recommended that health care providers should frequently assess HF patients for any signs of depression and anxiety. It is recommended that these are treated and assessed on an ongoing basis.

Jurgens et al. (2015) identified that comorbid illnesses that are unrelated to HF, such as dementia and fractures, increases as ages increased. Comorbid illnesses complicated HF and impeded the ongoing management of it. In this study, the researchers developed a writing group of experts that included representatives from several disciplines such as nursing, medicine (cardiology, geriatrics, skilled and palliative providers), pharmacy, physical, occupational and speech therapy, and dietary located at a LTC facility. These experts identified clinical recommendations for HF patients. These experts were to tailor their recommendations so that they could be implemented with patients that were frail, physically debilitated, cognitively impaired, and had inadequate home support. The experts had difficulty altering these recommendations to accommodate this patient population. Most patients diagnosed with HF in this study were palliative care, and the focus was to maintain a quality of care by maintaining comfort. Jurgens et al. (2015) recommended that HF patients in LTCs need ongoing interdisciplinary management to manage signs and symptoms of HF to achieve their goals of care. The study concluded that there is a lack of research about HF patients in LTC facilities. They recommended that more research needs to be conducted to assess the implementation and effectiveness of interventions used on HF patients in a LTC. The researchers recommended that HF guidelines had to be slightly altered to meet the needs

of individuals in a LTC setting. However, there is a lack of recommendations for how to go about conducting this research.

Boxer et al. (2013) performed a randomized cluster trial to determine if community HF disease management programs, could influence the management of HF patients in a LTC facility. They wanted to evaluate if providing a standardization of HF care would have any benefit in this patient population. This study noted that patients in LTC settings are relativity frail and have poor clinical outcomes. Boxer et al. (2013) noticed that there were several challenges, such as the number of corporate people that had to approve for a research project to take place at the facility despite the fact that many them do not have any clinical experience. There was also the realization of frequent staff turnover. The researchers stated that the providers of these establishments are usually from a private practice and being involved in research is not a part of their practice. For these reasons, Boxer et al. (2013) concluded that implementing management programs helps allow patients gain a level of independence associated with managing their HF.

Boxer et al. (2012) completed a study that assessed the knowledge of staff at a LTC and how effective they were at sharing this knowledge with patients. These researchers acknowledged that there was not much literature available about HF management in a skilled setting. A bridge program was used to evaluate the current measure in place for HF patients and the acceptability and effect of an educational program for staff at a LTC (Boxer et al., 2012). Further investigation showed that the nursing staff involved in this study stated that HF was a common diagnosis among residents, but they were unaware of national HF guidelines or management of this disease

process. Boxer et al. (2012) concluded that the nursing staff needed education on HF and lacked the basic knowledge of HF pathophysiology and medical management. This author suggests that all disciplines in a LTC should be aware of signs and symptoms of worsening HF.

Dolansky et al. (2013) performed a study that designed and evaluated a program that implemented HF management in LTC. They had a coach that for four months met with the staff weekly and then monthly for an additional five months. Dolansky et al. (2013) performed audits to assess the staff's compliance with the HF management protocols. Adherence ranged from 17-82 percent. The researchers reported that adherence was greater during the coach's weekly visits and decreased significantly when the visits decreased to monthly. They documented that there was considerable disorganization of the patient's transition from the hospital to the LTC and that there was also a lack of communication involved. According to Dolansky et al. (2013) the management protocols did differentiate the sense of urgency in HF signs and symptoms and did not empower the nursing staff to take action. This study showed that weekend nurses, versus weekday nurses, were unable to identify HF patients as efficiently. They were also less compliant with the protocols. Dolansky et al. (2013) stated that LTCs are taking care of very frail patients with multiple comorbidities. They concluded that it is hard to implement protocols and have them be relevant to each HF patient. Medicare data reflects that in LTC facilities, there is poor management of HF, but the data does not reflect the severity and complexity of the patient's overall care, that hinders how effective HF management is in LTC facilities (Dolansky et al. 2013).

Nasir et al. (2015), stated that there is a lot of evidence that suggests that LTCs continue to struggle to provide adequate treatment for patients with HF. They addressed that the staff's job satisfaction could be a major contributing factor, and that frequent turnovers made it difficult to implement HF guidelines for a continuous period. The researchers, along with implementing a HF program for the LTC, assessed the staff members' knowledge about HF, their knowledge of HF care, their abilities and skill set to care for HF patients, their confidence in caring for HF patients, job satisfaction and overall perception of the program. Evaluations of this program suggested that it should include modifications that allowed care to be individualized. The program was a part of a quality improvement initiative and showed that implementing a HF program improved the staff's ability to identify signs of early HF exacerbations (Nasir et al., 2015). Data collected showed that the participants had an increased sense of staff empowerment and reported an increase in job satisfaction. Nasir et al. recommended that when a HF program is implemented, all disciplines, the patient, and the family be involved to help with overall communication among the staff and to improve compliance from the patient. These researchers also stated the importance of patient education. They referenced a study by Boyde et al. (2011) that showed that patient education was correlated with improved health outcomes and increased patient quality of life with a HF diagnosis. Nasir et al. (2015) recommended that there should be more research and Quality Improvement (QI) projects in LTCs to help with the management of HF in a LTC facility.

Conceptual/Theoretical Framework

The theoretical framework most appropriate for HF patients in a nursing facility, is transition theory, as it focuses on maintaining hope while a patient transitions through

different phases in their lives (Davidson et al., 2007). This theory will assist providers, patients, and families in adjusting to challenges associated with a diagnosis of HF and accepting the trajectory of this illness. It acknowledges changes in life circumstances, how patients have to restructure their reality, deals with the patient vulnerability and helps to achieve normalization while resolving uncertainties. Transition theory promotes education and developing anticipatory guidance so that the nurse is able to provide physical and emotional support to help alter behavior and establish a sense of stability. Nursing providing ongoing support, will help the patient and their family make more informed decisions when it comes to making end of life decisions that provide or improve quality of life (Im, 2011).

CHAPTER 3: SETTING, SAMPLE, INCLUSION AND EXCLUSION CRITERIA

There will be two populations sampled in this DNP Scholarly Project: residents and nurses at two rehab facilities in a North Carolina metropolitan. Inclusion criteria for participants in this study will be that there needs to be preexisting diagnosis of HF, age greater than 65 years, English speaking and a resident of a skilled or long-term nursing facility. Exclusion criteria for the study will be that the patient does not speak English, has no preexisting diagnosis of HF, dementia/ cognitive impairment, receiving hospice care, age younger than 65 years, and not a resident of a skilled or long-term nursing facility. There will not be any translators available, so there is an increased chance of miscommunication and this can cause inaccuracies with data collection if English is not the patient's primary language. Since the age 65 is considered elderly, the DNP student will be excluding resident that are 64 and under (Čanković, et al., 2016). Patients that have a moderate to severe cognitive impairment will be unable to participate in the study because it is difficult for the patient to retain the information that is provided. Patients that are a ward of the state will be excluded from the study because it is often difficult to get in contact with their guardian to obtain consent.

Inclusion criteria for nurses in this study are that they work and provide care to patients with a HF diagnosis at the participating facilities. Exclusion for nursing staff will be nurses that are not interested in participating in the study, due to the study being

voluntary. To decrease the chance of any miscommunication, patients and nursing staff that are included must speak fluent English.

Measurement Tool

The DNP Scholarly Project Student will be using a generalized anxiety scale which is also referred to as the 7-item GAD scale or GAD-7 (Generalized Anxiety Disorder 7 Item Scale) (Spitzer et al., 2006). According to Kertz et al. (2013), the GAD-7 has good clinical utilization and strong psychometric properties in the primary care and community settings. In the study conducted by Kertz and others (2013), the GAD-7 showed a high sensitivity, but limited specificity. The study concluded that this scale obtains a valid measure of anxiety with good internal consistency with convergent validity and sensitivity to change. Beard & Björgvinsson (2014) concluded in their research that the GAD-7 is a validated screening tool for generalized anxiety disorder (GAD), post-traumatic stress disorder (PTSD), social anxiety disorder (SAD) and panic disorder (PD). Both studies recommend that scores above 10 yield adequate sensitivity, but had poor specificity with high false positives in a psychiatric sample. Kertz et al. (2013) recommend that in a psychiatric setting, GAD-7 should only be used as a screening tool since the need for mental health treatment is already present. GAD-7 is noted to be sensitive to change within a heterogeneous sample (Beard & Björgvinsson, 2014). GAD-7 does well with recognizing the physical symptoms of anxiety, such as trouble relaxing and feeling restless, so it is not recommended to be used with patients that have social anxiety. Those diagnosed with social anxiety tend to not show typical signs of anxiety. Kertz et al. (2013) reported that women tend to score slightly higher than males. Other questionnaires such as the Penn State Worry Questionnaire for

Measuring Response (PSWQMR) have been compared to the GAD-7, but are not as widely used (Williams, 2014).

This DNP student will also be using a self-efficacy scale. Efficacy is a judgment to one's capability. Bandura (2006), states that self-efficacy should not be determined from one's self-worth. One's self-worth is related to one's self-esteem. The self-efficacy scale is used to judge one's capability to execute given tasks and can help to measure performance outcomes. Self-efficacy scales are not meant to be used as self-assessments, and therefore safeguards should be in place (Kennedy et al., 2015). The DNP student will not use any personal identifiers, but instead will use codes. These will only be shared with the DNP student's chair and clinical expert of this DNP project. Bandura (2006) also recommends that a non-descriptive title is used instead of self-efficacy, such as appraisal inventory. The self-efficacy scale is tailored to meet the needs, functional tasks and demands of what is being assessed. The questionnaire will consist of the following items: Maintaining weights during the same time of day, monitoring fluid intake, monitoring salt intake, giving medications as prescribed, auscultating the lungs, monitoring lower extremity edema, assessing for signs of anxiety and depression, providing avenues for education, promoting nursing interventions and knowing when to call a provider. The nurse will measure these 10 items of a scale of 0-10. Zero will mean not important/not confident in implementing, with five meaning somewhat and ten meaning extremely important and confident. The scale helps to identify the strengths and limitations in a person's perceived capability (Kennedy et al., 2015). The results of a self-efficacy questionnaire can help businesses perceive how productive a team will be or how willing the team is to make changes.

Method of Data Collection

The DNP student will start by having short in-services for nurses that are already working at the facilities. In-services will begin by sharing statistics related to HF in LTC facilities, such as the percentage of patients in LTC facilities that have HF, the rate of HF admissions to the hospital from LTC facilities and the percentage of hospitalizations that could have been avoided. The DNP student will explain that there are different classifications of HF. According to Bowers (2013), there are three types of HF: right-sided, left-sided and congestive. Left-sided HF can be classified at systolic and diastolic HF. Bower (2013) noticed that the majority of the nursing staff do not now that there are different classifications of HF. The DNP student will then ask the nurses how comfortable are they with implementing nursing interventions with HF patients to prevent exacerbations. After this discussion is completed, each nurse will be given a general anxiety and self-efficacy questionnaire and will be asked to fill them out based on how comfortable they are caring for a HF patient during an acute exacerbation. Once the questionnaires are completed, the DNP student will then explain to the nurses the clinical guideline sheet. The DNP project director will explain how each sign and symptom of an acute HF exacerbation is classified in categories of green, yellow, and red (Vincent & Mutsch, 2015). Each category also has a set of interventions for the nursing staff to implement and explains when to notify a provider. DNP Director will hold a Q&A after each of the meetings to answer any questions from the nursing staff.

As each patient is admitted to the facility, they are to receive a comprehensive history and physical (H&P) by the medical director of the facility, where they will go over all their diagnoses, medications, orders and a MOST form. Performing an H&P and

reviewing a MOST form is a practice that is already in place and completed by the medical director of these two facilities. A clinical guideline sheet will be filled out by one of the providers of these facilities. The DNP student will then approach the patient within 48 business hours of their H&P and explain the purpose of this DNP project. If the patient does not wish to participate in the study, a clinical guideline sheet will still be filled out to help aid the nursing staff in managing the patient's HF. The patients that wish to participate will complete a general anxiety questionnaire. The DNP student will go over the clinical guideline sheet and show it is used. The DNP Director will then explain the importance of reporting all signs and symptoms of HF exacerbations in the yellow or red categories to the staff immediately so that early interventions can be implemented. Once the guideline sheet is completed, it will be kept in a notebook in the nurses' station. Patients and their families can receive a copy of this sheet, but patient identifiers will be removed.

Each nurse and patient that completes a questionnaire will be reevaluated in 1 month. Scores from the questionnaires post implementation of the individualized clinical guideline sheet will be compared to pre-implementation scores. These scores will be compared to determine if there is a decrease in anxiety among patients and nurses and an increase in self-efficacy among nurses associated with the implementation of a clinical guideline sheet.

Timeline for Data Collection

The timeline for data collection will be one month for each participant. Participants will be enrolled in the study starting mid to late summer, and solicitation for participants in this study will stop mid fall. For residents, there will be two required

visits. The first visit will be to see if the person is eligible and willing to participate in the study and to have a generalized anxiety questionnaire completed. This meeting should last 10-35 minutes, which depends on how many questions the patient, and their family may have. The second visit will be a month later to perform another anxiety questionnaire assessment. The second meeting should last no longer than 20 minutes. The clinical guideline sheet will be completed once the patient is first admitted to the facility, to make sure that all HF patients have a sheet in place for the nursing staff. There may be a visit in between if there are questions that need to be asked by patient participants regarding the study.

Participants that are nurses at the LTCs will also have two required visits. The initial visit will last about 45 minutes. During this visit, the nurses will complete a generalized anxiety scale questionnaire to assess if there is any anxiety present regarding taking care of a HF patient during an acute exacerbation, in a long-term care setting. They will also fill out a HF management/care self-efficacy scale, to assess the nurses' perception of their capability to care for HF patients in a long-term care setting. Once these questionnaires are completed, the DNP project director will introduce the clinical guideline sheet and explain in detail how it is used. DNP Director will have a Q&A for the nurses to ask any questions regarding the use of the guideline sheet. The DNP Project Director will then follow up a month later to repeat the anxiety and self-efficacy questionnaires. The second meeting should last approximately 5-15 minutes.

Method of Data Analysis

Descriptive statistical analyses will be run using the demographic information collected from all study participants to describe the sample. All data will be assessed for

normal distributions. The data collected from this DNP project will then be evaluated by performing a Paired t-Test. A paired t-test will be performed, as the purpose of this DNP project is to compare anxiety before and after the implementation of the clinical guideline.

Data that will be collected from the residents that participate in this DNP project will be the score of the Generalized Anxiety Questionnaire pre and post implementation of the HF clinical guideline sheet. Other data that will be collected is the patients' gender, male or female. Level of education, such as less than a high school diploma, high school diploma, some college and a college degree, will also be obtained.

Data that will be collected from the nurses that participate in this DNP project will be the scores of the Generalized Anxiety and Heart Failure Self-Efficacy questionnaires, pre and post implementation of the HF clinical guideline sheet. Data will be collected related to the nurses' degree such as license practical nurse (LPN) registered nurse (RN), and if they are a floor nurse or an administrative nurse.

The DNP student performed a power analysis to determine the minimal amount of participants that are needed to show a statistical difference within this study. The following were assumed: Two tailed test will be performed, effect size of 0.5, significance level of 0.05 and power of 0.8. The total number of participants that are needed would be 34 resident and 34 nursing staff. An inferential statistical analysis will be performed with information obtained from the inferential statistic paired t-test by using SPSS statistical test software. This will allow the DNP project student to assess the percentage of change in scores from pre and post questionnaires. Data will be analyzed by the DNP project student and the chair.

Marketing and Cost

The author approached the administrator and Director of Nursing at the facilities and presented them with statistics of HF hospitalizations, research that supports that over 1/3 could have been avoidable, and how much these hospitalizations are costing Medicare. The administrators and Director of Nursing (DON) were provided with research that supports the need for more quality improvement (QI) projects and research for HF in long term care settings. The author explained the purpose of this project and how it would benefit HF patients and the staff.

There is no substantial cost related to this project. Each unit will require a binder, for the clinical guideline sheet to be located. Both participating facilities have a total of 6 units. This will be a total cost of about $6.50, which will be provided by the author. The clinical guidelines sheet will need paper and color ink to be printed, so that participants can easily differentiate the level of significance in HF signs and symptoms. Paper and color ink will cost approximately $20.00, and will be provided by the author. There are no foreseen costs for the patient or the nursing staff that are involved in this project. However, the clinical guidelines sheet will provide education on heart failure. There may be an increase in visits from the providers of the facilities as the nurses increase their self-efficacy by preventing hospitalizations and allowing medical management to occur at the facility. This would be an unavoidable cost and would occur if the patient was not a part of the project. Participants of this study do not receive any financial compensation through this project.

Ethical Considerations

This DNP project was approved by the Institutional Review Board (IRB), at University of North Carolina at Charlotte (UNCC). The nursing staff has access to the clinical guideline sheets, to help promote early intervention. The patients and their families are allowed to have a copy but all patient identifies are removed. Pre and Post Generalized Anxiety Scale scores and self-efficacy scales will be filed in a locked filing cabinet that is located at the DNP Project Director's home office. All electronic documentation will be stored in a password-protected computer or device. All information will be shredded at the completion of the DNP project. Any participants, that have any questions or concerns about the rights of the participants in this study, are able to contact the Director of research compliance of the IRB, at UNCC. If any emergencies, regarding residents, were to occur during this project, the provider on call for that resident is to be notified immediately.

CHAPTER 4: PROJECT RESULTS

One hundred six patients were approached to participate in this project but none were able to participate. Thirty-four of the patients had a diagnosis of dementia. There was no mention of dementia or a cognitive impairment referred to in PMH (past medical history), but during conversations with the staff, it was evident that there was significant cognitive impairment present. These patients were referred to the providers for cognitive evaluation, on which they were either scored with a moderate to severe dementia. Family Caregiver Alliance (2015) states that the prevalence of cognitive impairment, among the older population, increased over the past decade, while the prevalence of physical impairment remains unchanged. The population of those 85 years old +, is the fastest growing population, which in 2012 accounted for approximately 5.9 million people, and is expected to increase to 19.4 by 2040 (Family Caregiver Alliance, 2015). It is estimated that the amount of those with a moderate to severe cognitive impairment will rise from 1.6 million to 6.2 million (Family Caregiver Alliance, 2015). Twenty-four patients that were approached had such advanced heart and kidney failure that their life expectancy was less than six months. Unfortunately, all of these patients had passed by the time data collection stopped. Twenty-eight patients were a part of a bundled payment and were discharged within in the same week or within seven days of being admitted to the LTC facility for rehabilitation from a recent hospitalization. Bundled Payments for Care Improvement (BPCI) is a newer initiative that links the payment for multiple services for

beneficiaries during an episode of care. BPCI was developed to help provide a higher quality of care and an increase in coordinated care with a lower cost to Medicare. This has, however, lead to stays at skilled rehabilitation facilities (SNF's) becoming shorter, which correlated with the number of patients being discharged home with home health care to increase, since receiving rehabilitation at home usually cost less than begin discharged to a rehabilitation center (Hirsch et al., 2016). Due to unforeseen circumstances, 12 of the patients were sent back to the hospital for acute exacerbations of their heart failure, and eight were uninterested in being a part of the study. Those eight patients did not want to be included in the study because they were being discharged within the week and stated that they would just follow up with their cardiologist. Another reason stated was that any issues associated with their HF diagnosis should be addressed by their cardiologist. These factors limited the implementation of the project with the residents at these two facilities. It appears that the complexity of the patients that are being admitted to LTC facilities is increasing. Because of the increasing complexity and the need for ongoing reiteration of education, all education is continuously being reinforced by the bedside nursing staff.

Both facilities advertised that there was going to be an in-service that would be held at the facility. Some nurses were interested in attending the in-service but due to a scheduling conflict were unable to attend the scheduled one at the facility. Information was able to be obtained on alternative dates. The purpose of the DNP scholarly project was explained to the nurses, and then informed consent was obtained. At the beginning of the in-service, a GAD7 score was obtained, and so was a Heart Failure Efficacy score; each nurse was asked to write a number that was pertinent to them on the questionnaires

and to turn them in with their consents. Facts about HF in LTC, associated with cost and outcomes were given to the nurses. The nurses then learned about the HF guideline sheet and how it was adapted from the heart failure 'Golden Standard', rules of care from the American Heart Association (American Heart Association, n.d.). Time was allotted for all nurses to ask any questions regarding using the clinical guidelines sheet or about heart failure. All questions were answered by the researcher. A GAD7 and Heart Failure Efficacy Scale Questionnaire was given to the nurses at the end of the in-services. They were asked to use the clinical guideline sheet on their heart failure patients and to turn in the questionnaire to the researcher within one month.

A total of 36 nurses were approached to participate in this study. One of the nurses did not want to be included in the study, and one was lost to follow-up. Out of the 34 nurses that completed the study 41% (n=14) were registered nurses and 59 % (n=20) of them were LPNs. About 29% (n=10) worked in administrative roles, while the rest of the participants, 71% (n=24) worked in direct patient care positions. A paired t-test is recommended to test the data that is collected due to there being a single before and after treatment on the same individuals with an interval scale of measurement. A test for normality was done on both the GAD7 and Heart Failure Self-Efficacy scores, using the Shapiro-Wilk test, since the population data was less than 50. The pre-anxiety questionnaire showed a significance level of 0.148 and the post anxiety questionnaire showed a significance level of 0.001. The pre self-efficacy heart failure questionnaire showed a significance level of 0.183 and the post significant level of 0.004. According to Dancey et al., (2012), using a statistical program can adjust the t-test formula when the assumption of variance is violated. SPSS, version 23, was used to compare the scores

from the GAD7 and the Heart Failure Self-Efficacy pre and post implementation of the clinical guideline sheet education.

Using the paired t-test, the pre-intervention anxiety scale revealed a mean of 7.79 and a post-intervention anxiety mean of 4.06. The difference between the pre and post intervention GAD7 mean was 3.735 with a standard deviation of 4.287. The 95% confidence interval of the difference on the lower showed 2.239 and the upper 5.231. There was a statistically significant improvement in scores shown with a *p*-value of 0.00 ($t=5.080$, $df=33$, $p<0.05$). The pre-implementation Self-Efficacy data revealed a mean score of 75.76 and the post implementation self-efficacy data showed a mean score of 89.35. The difference in mean pre and post intervention self-efficacy scores was -13.588 with a standard deviation of 9.730. The 95% confidence interval of the difference in the lower was -16.983 and the upper was -10.193. There was a statistically significant improvement in score showed with a *p*-value of 0.00 ($t= -8.143$, $df= 33$, $p<0.05$).

A Wilcoxon test was used to check the validity of these results due to there being a possible violation of normality (Dancey, 2012). The non-parametric test does not make assumptions of there being a normal distribution and can detect lower statistically significant differences. A Wilcoxon test was used because it is the non-parametric equivalent of a t-test for repeated measures (Dancey, 2012). The Wilcoxon test using the pre and post GAD7 scores showed a $Z= -4.054$ and a $p<0.000$. The Wilcoxon test using the pre and post heart failure self-efficacy score showed a $Z=-4.863$ and a $p<0.00$.

To assess the difference in pre-clinical guideline GAD-7 scores and HF Self-Efficacy scores between LPNs and RNs, an unpaired t-test was performed. On average LPNs had a mean pre-GAD7 score of 8.55 compared to 6.71 for those who are RNs. The

difference between the mean is not statistically significant at the 0.05 level (1.836, 95% Cl= -1.830, 5.501, p<0.315). On average LPNs had a mean Pre-HF self-efficacy score of 72.05 compared to 81.07 for those who are RNs. The difference between the mean is statistically significant at the 0.05 level (-9.021, 95% Cl= -19.214, -1.171, p<0.80).

To assess the difference, in pre-clinical guideline GAD-7 scores and HF Self-Efficacy scores, between the floor nurses and administrative nurse, an unpaired t-test was performed. On average the floor nurses had a mean pre-GAD7 score of 7.79 compared to 7.80 for those who are administrative nurses. The difference between the mean was not statistically significant at the 0.05 level (-0.008, 95% Cl= -4.486, 4.470, p<0.997). On average, floor nurses had a mean Pre-HF self-efficacy score of 72.13 compared to 84.50 for those who are administrative nurses. The difference between the mean is statistically significant at the 0.05 level (-12.375, 95% Cl= -23.415, -1.335, p<0.03).

Discussion of Results

The results from the paired t-test showed that the null hypothesis was rejected and that there was a statistical difference in the pre and post-intervention score of both the GAD7 and heart failure self-efficacy questionnaire. The results from using the Wilcoxon analysis validate rejecting the null hypothesis. There was documentation in literature that showed that there an increase in clinical outcomes when care was administered by a RN than by a LPN (Corazzini et al., 2012). A paired t-test was completed to see if there was a difference in the pre-implementation scores of both questionnaires between the LPNs and the RN's. An unpaired t-test showed that when comparing the pre-GAD7 scores, there was a p-value of 0.315. This is higher than the alpha score of 0.05. Therefore, the null hypothesis failed to be rejected and it is concluded that there is no difference in pre-HF

self-efficacy score between LPNs and RNs. There did not appear to be a difference in pre-GAD7 score between floor nurses and administrative nurses as evident by a $p<0.997$, but there did appear to be a difference in the pre-HF self-efficacy scores as evident by a $p<0.03$. This is less than the alpha level of 0.05, so the null hypothesis is rejected, and it is concluded that there is a difference in pre-HF self-efficacy scores of floor nurses when compared to administrative nurses.

CHAPTER 5: SIGNIFICANCE

HF clinical guidelines were produced by a joint effort from the American College of Cardiology Foundation (ACCF) and the American Heart Association (AHA). They have produced heart failure guidelines since the 80's, and their target audience is clinicians and patients in North America. The guidelines are developed to help identify best evidence-based research on recommended therapies that lead to increased patient outcomes (American Heart Association, n.d.). Data showed that HF guidelines aren't frequently used in LTC facilities and were not use at the two facilities that this project was implemented in. The goal of this project was to see if having HF clinical guidelines sheets that can be individualized to each HF patient would decrease the anxiety of the patient and their family and would placing them in an easily assessable place for the nursing staff help to decrease their anxiety and increase their self-efficacy. Due to unforeseen circumstances, there weren't any patients that were able to be included in this project.

Data collected during this project showed that using HF clinical guidelines decreased the anxiety that the nursing staff had, that was associated with caring for HF patient and increased their self-efficacy. During follow-up evaluation after the completion of the project, nurses reported that learning about HF guidelines allowed them to be more proactive with their patient care and acknowledge early signs of HF

exacerbations. Nurses also reported that they were more confident when speaking to the provider on call and had more insight to what information may be requested.

GAD scores and HF self-efficacy scores were compared between LPN's and RNs. Pre-implementation scores were compared to evaluate the statements made by researchers (Corazzini et al., 2012), that state that patients had better outcomes when cared for by RNs. Pre-implementation scores were used to compare groups, as this was considered baseline data. The DNP student wanted to see if increased clinical outcomes associated with RNs when compared to LPN's were associated with anxiety or heart failure self-efficacy. Data didn't show any statistical significance between LPNs and RNs.

GAD and HF self-efficacy score were compared between floor nurses and administrative nurses. Many of the administrative nurse's roles included the wound nurse, director of nursing (DON), Assistant Director of Nursing (ADON), charge nurse, wound nurses, Minimum Data Set (MDS) nurses and Quality Improvement/Nurse educators. Data collected did not show any statistical difference in their scores.

Summary

Since implementation HF clinical guidelines, the nursing staff has been able to do comprehensive assessments for the heart failure patients instead of problem focused ones. One LPN reported that she would only worry about swelling in a patient's legs, but since the implementation of the guidelines, she now evaluates all the patient's medications, their fluid intake, their weight and lung sounds. They also report that they are more confident relaying this information and assessment data to the patient and their family when questions are asked regarding their HF diagnosis. The nursing staff has been

implementing orders for daily weights and no added salt diets to HF patients when they are first admitted to the facility.

Challenges that the DNP student faced during this project are that the DNP student was unable to find any patient that would be able to participate in the project. There were also some issues with the clinical guideline sheet. Since there was no clearly designated person to fill out the guideline sheets, many patients did not receive a completed sheet. There were also frequent changes made to the HF patients' orders and there was resistance from some of the staff to change the individualized HF clinical guidelines because this caused another task for the floor nurses to do. The nursing staff state that they use the information that they obtained during the in-service and used it on a case by case basis and referred to the HF guideline sheet as a reference. There was also an influx of provider visits. The nursing staff could identify early signs of fluid volume overload, and referred them to be seen by a provider before they developed a HF exacerbation.

Heart failure hospitalization rates were assessed for one of the participating facilities. This facility maintains around 98 percent occupancy and cares for at least 100 patients on any given day. In month before the implementation of the HF guidelines, per facility records, 4 patients were sent to the hospital for heart failure. Available documentation was reviewed, for heart failure related hospitalizations, for the 3 months post completion of the DNP project. There was one patient sent to the ED, that had documentations that were indicative of a heart failure exacerbation.

This project provided education to the nursing staff and allowed them to provide exceptional care to the HF residents at the facility. Education was provided to the nurses,

and they could educate the certified nursing assistant (CNA) staff, dietary aids, the patients and their families. Education is important with the theoretical framework, transition theory. The DNP student could help them develop clinical skills to help aid the patient and their family as they transition from one phase in their life to another. The nurses report that they could help educate the patient about the reality and trajectory of HF. Staff state that they were better able to provide support to the patient and their family because they were more confident in the care that they could provide. They could offer words of encouragement and were able to voice what to expect in the future to help decrease patients' anxiety of the unknown, to help promote a better quality of life.

Threats that were noticed during this project are that there was some turnover in nursing staff that hindered the implementation of the project. Both facilities also had regular state surveys that contributed to the staff appearing to have increased stress.

Recommendations

HF guidelines should be implemented in LTC facilities and nurses should be familiar with them. As the age of the population increases and as more people are being placed in permanent facilities, it is a necessity that guidelines are in place to make sure that these residents are given the best care possible. Education on HF guidelines, is recommended to be given yearly or as there are changes to the HF clinical guidelines. It is recommended that there is more communication surrounding HF. Most HF patients that were assessed for this project had very limited knowledge on this diagnosis, and only one patient knew that it is was a fatal disease process. The DNP student recommends that anyone that is diagnosed with HF should start to receive education upon initial diagnosis and that it is up to the primary care provider (PCP) and their cardiologist, if they have

one, to continuously provide education. Continued HF education is needed to prevent the development of anxiety around this diagnosis and promote nursing HF self-efficacy.

REFERENCES

Alhurani, A.S., Dekker, R.L., Abed, M.A., Khalil, A., Al Zaghal, M.H., Lee, K.S., & Moser, D. K. (2015). The association of co-morbid symptoms of depression and anxiety with all-cause mortality and cardiac rehospitalization in patients with HF. *Psychosomatics*, 56(4), 371-380.

American Health Care Association. (2014). LTC stats: Nursing facility operational characteristics report, December 2011 update. Washington, DC: Author.

American Heart Association. (n.d.). Retrieved, from http://www.heart.org/HEARTORG/

Bandura, A. (2006). Guide for constructing self-efficacy scales. *Self-efficacy beliefs of adolescents*, *5*(1), 307-337.

Bonnel, W., & Smith, K. (2014). Proposal writing for nursing capstones and clinical projects. New York: Springer Publishing Company.

Bowers, M. T. (2013). Managing Patients with HF. *Journal For Nurse Practitioners*, *9*(10), 634-642

Boxer, R. S., Dolansky, M. A., Bodnar, C. A., Singer, M. E., Albert, J. M., & Gravenstein, S. (2013). A Randomized Trial of Heart Failure Disease Management in Skilled Nursing Facilities: Design and Rationale. *Journal of the American Medical Directors Association, 14,* 9.

Boxer, R. S., Dolansky, M. A., Frantz, M. A., Prosser, R., Hitch, J. A., & Piña, I. L. (2012). The Bridge Project: Improving Heart Failure Care in Skilled Nursing Facilities. *Journal of the American Medical Directors Association, 13,* 1.

Boyde, M., Turner, C., Thompson, D. R., & Stewart, S. (2011). Educational interventions for patients with heart failure: a systematic review of randomized controlled trials. *The Journal of Cardiovascular Nursing, 26,* 4.

Čanković, S., Ač Nikolić, E., Jovanović, V. M., Kvrgić, S., Harhaji, S., & Radić, I. (2016). Quality of life of elderly people living in a retirement home. *Vojnosanitetski Pregled: Military Medical & Pharmaceutical Journal of Serbia*, *73*(1), 42-46

Corazzini, K. N., Anderson, R. A., Mueller, C., Thorpe, J. M., & McConnell, E. S. (2013). Licensed practical nurse scope of practice and quality of nursing home care. *Nursing Research, 62*(5)*,* 315-324

Dancey, C. P., Reidy, J., & Rowe, R. (2012). *Statistics for the health sciences: a non-mathematical introduction*. London: SAGE.

Davidson, P. M., Dracup, K., Phillips, J., Padilla, G., & Daly, J. (2007). Maintaining hope in transition: a theoretical framework to guide interventions for people with HF. *The Journal of Cardiovascular Nursing, 22,* 1.

Dolansky, M. A., Hitch, J. A., Piña, I. L., & Boxer, R. S. (January 01, 2013). Improving heart failure disease management in skilled nursing facilities: lessons learned. *Clinical Nursing Research, 22(*4), 432-47.

Family Caregiver Alliance (2015). Selected long-term care statistics. Retrieved from https://www.caregiver.org/selected-long-term-care-statistics

Foebel, A., George, H., Kexin, J., Dubin, J., Turpie, I., & Hussack, P. (2012). HF–Related Mortality and Hospitalization in the Year Following Admission to a

Long-Term Care Facility: The Geriatric Outcomes and Longitudinal Decline in HF (GOLD-HF) Study. *Journal of Cardiac Failure*, 19(7), 468-477.

Harrison, J. (2010). Strategic Planning and SWOT Analysis. In Harrison, J. (Ed.). *Essentials of Strategic Planning in Healthcare* (pp. 91-97). Retrieved from :www.ache.org/pdf/secure/gifts/Harrison_Chapter5.pdf

Hirsch, J. A., Leslie-Mazwi, T., Barr, R. M., McGinty, G., Nicola, G. N., Silva, E., & Manchikanti, L. (2016). The bundled payments for care improvement initiative. *Journal of NeuroInterventional Surgery, 8*(5), 547.

Im, E.O. (September 01, 2011). Transitions theory: A trajectory of theoretical development in nursing. *Nursing Outlook,* 59 (5), 278

Jurgens, C.Y., Goodlin, S., Dolansky, M., Ahmed, A., Fonarow, G. C., Boxer, R., . . . Rich, M. W. (2015). HF Management in Skilled Nursing Facilities: A Scientific Statement from the American Heart Association and the HF Society of America. *Journal of Cardiac Failure*, 21 (4), 263-299.

Kennedy, E., Murphy, G. T., Misener, R. M., & Alder, R. (2015). Development and Psychometric Assessment of the Nursing Competence Self-Efficacy Scale. *Journal of Nursing Education*, *54*(10), 550-558

Kertz, S., Bigda-Peyton, J., & Bjorgvinsson, T. (2013). Validity of the Generalized Anxiety Disorder-7 scale in an acute psychiatric sample. *Clinical Psychology & Psychotherapy*, 20 (5), 456-464

Martinen, M., and Freundl, M. (2004). Innovations in long-term care. Managing congestive HF in long-term care: development of an interdisciplinary protocol. *Journal Of Gerontological Nursing*, 30(12), 5-12.

Moran, K.J., Conrad., & Burson, R. (2013) *The Doctor of Nursing Practice Scholarly Project*. Sudbury, MA: Jones and Bartlett.

Nazir, A., Dennis, M. E., & Unroe, K. T. (2015). Implementation of a heart failure quality initiative in a skilled nursing facility: Lessons learned. *Journal of Gerontological Nursing, 41(*5), 26-33.

Ogunneye, O., Rothbert, M.B., Friderici, J., Slawsky, M.T., Gadiraju, V.T., & Stefan, M.S. (2015). The Association Between Skilled Nursing Facility Care Quality and 30-day Readmission Rates After Hospitalization for HF. *American Journal of Medical Quality,* 30(3), 205-213.

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine*, *166*(10), 1092-1097.

Vincent, S.E., & Mutsch, K.S. (2015). Recognizing Heart Failure Symptoms Can Improve Patinet Self-Management To Promote Better Outcomes, Teach Patients How to Care for Themselves. *American Nurse Today,* (10)2, 1-5.

Walsh EG, Wiener JM, Haber S, Bragg A, Freiman M, & Ouslander JG. (2012) *Potentially avoidable hospitalizations of dually eligible Medicare and Medicaid beneficiaries from nursing facility and home- and community based services waiver programs*. J Am Geriatr Soc. 60, 821-829.

Williams, N., (2014) *The GAD-7 Questionnaire.* Occupational Medicine, 24,224

APPENDIX A: Generalized Anxiety Disorder 7-item (GAD-7) scale

The Generalized Anxiety Disorder 7-Item Scale

Over the last 2 weeks, how often have you been bothered by the following problems?	**Not at all**	**Several Days**	**More than half the days**	**Nearly every day**
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

Total Score: ☐ = **Add Columns** _____+_____+_____

Source: Spitzer RL, Kroenke K, Williams JBW, Lowe B. A brief measure for assessing generalized anxiety disorder. Arch Inern Med. 2006;166:1092-1097.

APPENDIX B: Heart Failure Self-Efficacy

Self-Efficacy: Caring for Heart Failure in a SNF

Please rate each of the following components on a scale of 0-10 to indicate how confident you are in your ability to do them; 0 meaning not important/ confident, 5 meaning somewhat important/confident and 10 meaning extremely important/ confident

0 5 10

1. Maintaining weights during the same time of day _____
2. Monitoring fluid intake _____
3. Monitoring salt intake _____
4. Giving medications as prescribed _____
5. Auscultating the lungs _____
6. Monitoring lower extremity edema _____
7. Assessing for signs of anxiety and depression _____
8. Providing avenues for education _____
9. Promoting nursing interventions _____
10. Knowing when to call a provider _____

APPENDIX C: Heart Failure Clinical Guidelines

Heart Failure Clinical Guidelines

Green, Yellow, Red: Heart Failure Action Plan

This "stoplight" tool uses green, yellow, and red zones and simple interventions to help Patients and staff recognize symptoms and take appropriate action.

Green: Good	Action:
You are doing well. - No Shortness of Breath - Stable weight (Goal weight_____) - Little or no Swelling - Able to maintain usual activity - No Chest Pain	**Continue current medications, diet:** - Weigh yourself_____. - Limits fluids to _____cc/day. - Diet:_____
Yellow: Caution	**Action:**
Symptoms indicate closer monitoring, simple intervention and have a provider follow up. - Increased shortness of breath - Trouble sleeping, or having to use more pillows - Sudden weight gain of 2 pounds in 1 day or more than 5 pounds in 1 week. - Increased abdominal, foot or leg swelling.	Continue treatment plan. - Administer: _____. - Change fluid restriction to _____ - Change weights to _____. - Elevate bilateral feet while sitting or while in bed, if there are no signs of SOB. - Place the patient on the provider's list for a follow up.
Red: Stop!	**Action:**
Symptoms require immediate attention!!! Symptoms very unstable; provider will need to be called immediately for further instructions - Extreme difficulty breathing even at rest. - Weight gain of 4 lb. or more in 1 day - Wheezing, Rhonchi or Chest Pain - Severe weakness, dizziness, or fatigue.	Call provider immediately. This is a MEDICAL EMERGENCY!!! - Call PEC on call immediately for orders. - May need to be transferred to the emergency room.

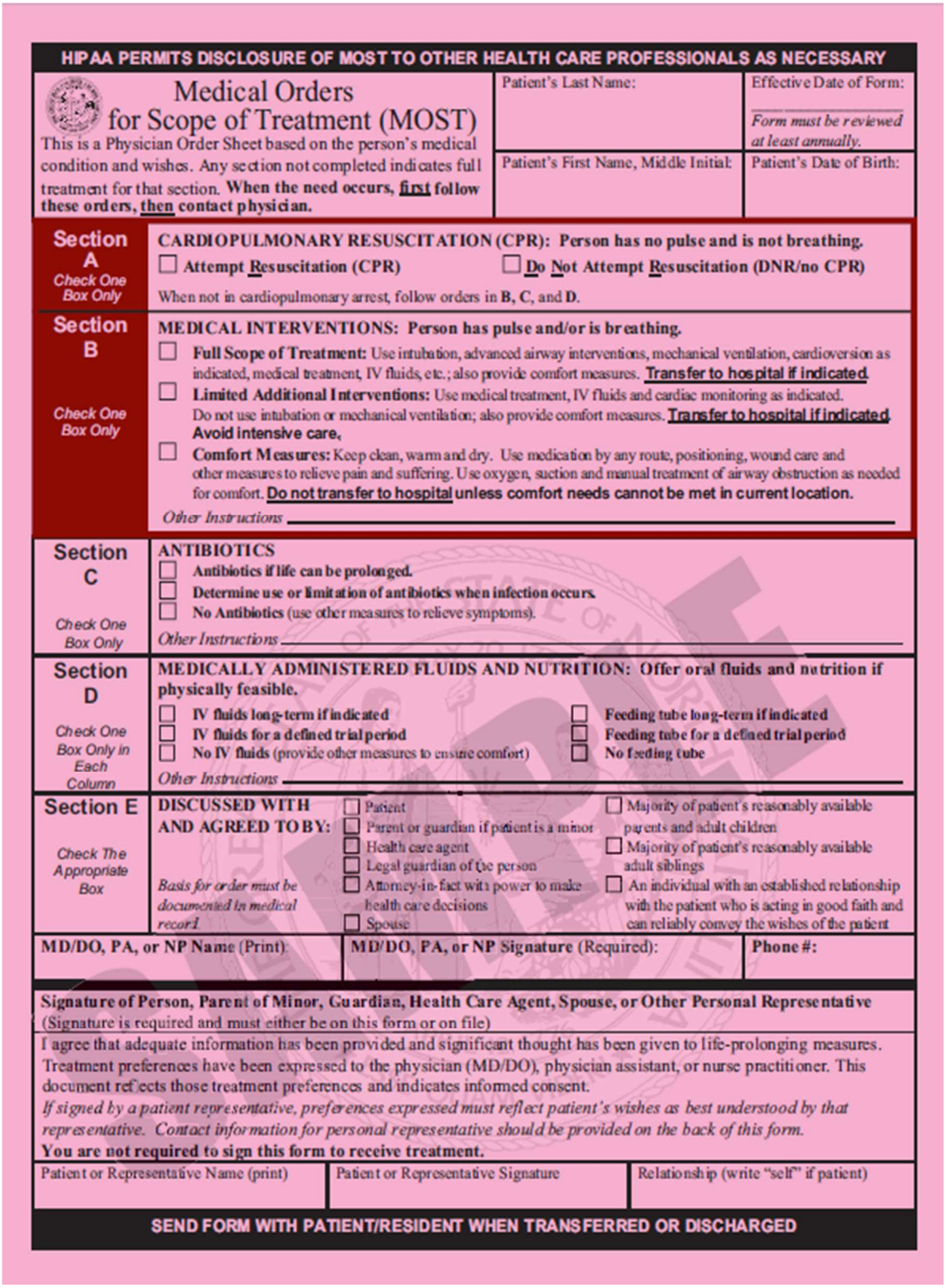
Adapted from resources at hnfs.gov

Heart Failure Medications

1._____ 6._____
2._____ 7._____
3._____ 8._____
4._____ 9._____
5._____ 10._____

Vincent, S.E., & Mutsch, K.S. (2015). Recognizing Heart Failure Symptoms Can Improve Patinet Self-Management To Promote Better Outcomes, Teach Patients How to Care for Themselves. *American Nurse Today,* (10)2, 1-5.

APPENDIX D: MOST Form



HIPAA PERMITS DISCLOSURE OF MOST TO OTHER HEALTH CARE PROFESSIONALS AS NECESSARY

Medical Orders for Scope of Treatment (MOST)

This is a Physician Order Sheet based on the person's medical condition and wishes. Any section not completed indicates full treatment for that section. **When the need occurs, first follow these orders, then contact physician.**

Patient's Last Name:

Effective Date of Form: _____ *Form must be reviewed at least annually.*

Patient's First Name, Middle Initial:

Patient's Date of Birth:

Section A *Check One Box Only*

CARDIOPULMONARY RESUSCITATION (CPR): Person has no pulse and is not breathing.

☐ **Attempt Resuscitation (CPR)** ☐ **Do Not Attempt Resuscitation (DNR/no CPR)**

When not in cardiopulmonary arrest, follow orders in **B, C,** and **D.**

Section B *Check One Box Only*

MEDICAL INTERVENTIONS: Person has pulse and/or is breathing.

☐ **Full Scope of Treatment:** Use intubation, advanced airway interventions, mechanical ventilation, cardioversion as indicated, medical treatment, IV fluids, etc.; also provide comfort measures. **Transfer to hospital if indicated.**

☐ **Limited Additional Interventions:** Use medical treatment, IV fluids and cardiac monitoring as indicated. Do not use intubation or mechanical ventilation; also provide comfort measures. **Transfer to hospital if indicated. Avoid intensive care.**

☐ **Comfort Measures:** Keep clean, warm and dry. Use medication by any route, positioning, wound care and other measures to relieve pain and suffering. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. **Do not transfer to hospital unless comfort needs cannot be met in current location.**

Other Instructions _____

Section C *Check One Box Only*

ANTIBIOTICS

☐ **Antibiotics if life can be prolonged.**

☐ **Determine use or limitation of antibiotics when infection occurs.**

☐ **No Antibiotics** (use other measures to relieve symptoms).

Other Instructions _____

Section D *Check One Box Only in Each Column*

MEDICALLY ADMINISTERED FLUIDS AND NUTRITION: Offer oral fluids and nutrition if physically feasible.

☐ **IV fluids long-term if indicated**	☐ **Feeding tube long-term if indicated**
☐ **IV fluids for a defined trial period**	☐ **Feeding tube for a defined trial period**
☐ **No IV fluids** (provide other measures to ensure comfort)	☐ **No feeding tube**

Other Instructions _____

Section E *Check The Appropriate Box*

DISCUSSED WITH AND AGREED TO BY: *Basis for order must be documented in medical record.*

☐ Patient	☐ Majority of patient's reasonably available parents and adult children
☐ Parent or guardian if patient is a minor	☐ Majority of patient's reasonably available adult siblings
☐ Health care agent	☐ An individual with an established relationship with the patient who is acting in good faith and can reliably convey the wishes of the patient
☐ Legal guardian of the person	
☐ Attorney-in-fact with power to make health care decisions	
☐ Spouse	

MD/DO, PA, or NP Name (Print):	**MD/DO, PA, or NP Signature** (Required):	**Phone #:**

Signature of Person, Parent of Minor, Guardian, Health Care Agent, Spouse, or Other Personal Representative
(Signature is required and must either be on this form or on file)

I agree that adequate information has been provided and significant thought has been given to life-prolonging measures. Treatment preferences have been expressed to the physician (MD/DO), physician assistant, or nurse practitioner. This document reflects those treatment preferences and indicates informed consent.

If signed by a patient representative, preferences expressed must reflect patient's wishes as best understood by that representative. Contact information for personal representative should be provided on the back of this form.

You are not required to sign this form to receive treatment.

Patient or Representative Name (print)	Patient or Representative Signature	Relationship (write "self" if patient)

SEND FORM WITH PATIENT/RESIDENT WHEN TRANSFERRED OR DISCHARGED

Obtained from North Carolina Department of Health and Human Services