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Reducing Congestive Heart Failure Hospital Readmissions through Discharge Planning

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Walden University

College of Health Sciences

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Lacy Thomas

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Walden University

2018

Abstract

Reducing Congestive Heart Failure Hospital Readmissions through Discharge Planning

by

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MS, Walden University, 2014

BS, University of Arkansas at Little Rock, 2012

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

April 2018

Abstract

Every year, thousands of congestive heart failure (CHF) patients are readmitted to the hospital within 30 days of discharge. There is a gap in practice in the care continuum of patients with CHF within the transition from hospital to home. One of the factors known to increase a patient's risk for readmission is the lack of patient engagement and self-efficacy regarding the treatment plan. The purpose of this project was to implement a transition of care practice guideline that consisted of the use of a risk identification tool, a customized care plan for patients at high risk for readmission, and a discharge checklist crafted specifically for CHF patients who are at risk for readmission. The practice initiative utilized the Iowa model of Evidence Based Practice as a framework and the teach-back method for discharge education. A sample of 193 patients admitted during a 1-month timeframe fit the inclusion criteria and was generated from the electronic health record. Descriptive statistics were used to analyze the data collected during implementation. In fact, of the 106 CHF patients who benefited from the CHF checklist only 2 required readmission within 30 days, a 1.8% 30 day readmission rate. As compared to the 22% readmission rate experienced in 2017, this represented a considerable improvement, albeit preliminary. Efforts to improve the lives of patients and their families will ultimately serve society well, making a significant contribution to positive social change. Providing comprehensive discharge education to patients using the teach-back method to assess the retention of knowledge will help close the gap in the transition of care between hospital and home, ultimately reducing CHF readmissions.

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Dedication

I dedicate this paper to my children Destiney, JeCorey, Kennedy and Kendall. Thank you for being patient with mommy and sacrificing mommy time so I can do my homework. I want you guys to always remember that the sky is the limit! To my loving mother Flora, who has always supported me. Thanks for your prayers and help along this journey. To my beloved dad James, I know you would be so very proud of me. To my boyfriend Roy, thanks for your encouragement and support. And to my sister Kenya, thank you for helping me with the kids and being a listening ear. I love you all for your support and encouragement. To my brother, Ben, thank you for helping me the kids as well. You have been a great help.

To my siblings, namely, Angelia, Ervin, Shalonda, Kenya, Marcus, and Brice, thank you all for your support during this journey. Your prayers were the sources of motivation in continuing my education to this stage. My beloved brother Donta, I know you would have been so proud. To Brice, with God, all things are possible. I love you all.

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Section 1: Reducing Congestive Heart Failure Hospital Readmissions through Discharge

Planning

Introduction

Hospital readmissions are costly, extensive, and in some cases avoidable. Origins of readmissions are multi-factorial and amounts differ significantly by organization. According to Yancy et al. (2013), nearly 50% of all hospital readmissions could have been prevented if discharge teaching had been adequate, patients would have adhered to recommendations from the doctor, and lastly they followed up with their healthcare provider.

Congestive Heart Failure (CHF) is the second leading reason for hospitalization in the United States (Centrella-Nigro et al., 2016). CHF is a chronic progressive condition where the heart fails to pump an adequate amount of blood to the body (American Heart Association [AHA], 2016). CHF is normally secondary to other heart conditions such as coronary artery disease, high blood pressure, or a previous heart attack (AHA, 2016).

Over 1 million people are admitted annually as inpatients with the diagnosis of CHF, and nearly 250,000 patients are readmitted within 30 days of discharge with an estimated annual cost of over \$2 billion for Medicare beneficiaries alone (Centrella-Nigro et al., 2016). This is substantial as the 30-day readmission rate for CHF nationally is 25% and in some organizations greater (Dharmarajan et al., 2013). In this state, the average of readmissions for CHF is 22.9%. The average rate of CHF readmissions for this hospital is 22% (Centers for Medicare & Medicaid Services, 2014).

Using diuretics, beta-blockers, ACE inhibitors, ARBs, and aldosterone

antagonists, obtaining daily weights, following a low sodium diet, exercise, managing weight, and quitting smoking are all essential in managing heart failure (AHA, 2015). Creating a partnership between the patient and members of the health care team assists in developing a relationship that can guide the patient to manage CHF successfully. This will lead to fewer hospitalizations and readmissions and creating cost savings for the patient, payers, and facility.

The key components of this DNP project were to adopt a risk stratification tool, an individualized care plan, and a discharge checklist on a cardiology unit in a suburban medical center. These interventions were utilized by Registered Nurses (RNs) to help to identify high risk patients with a diagnosis of CHF who have a high potential for readmission. These interventions, taken together, helped to avoid unplanned readmissions within 30 days of discharge. The AHA recognized that patient education is connected to an enhancement of learning as evidenced by the retention of the education provided during discharge and a decrease in readmission to the hospital. Providing patients (especially those identified as high risk for readmission) with comprehensive discharge instructions can contribute to keeping heart failure patients out of the hospital and is a valid approach to preventing future readmissions to the hospital (Bialek, 2016).

Problem Statement

There has been much attention regarding hospitals because of the excessive spending on readmissions that could have been avoided and which were due to poor quality of care (Berenson, Paulus, & Kalman, 2012). The Centers for Medicare and Medicaid Services (CMS) is penalizing hospitals for excess readmissions. One of the

diagnoses that CMS is particularly focused on is CHF (Berenson et al., 2012).

According to the Centers for Disease Control and Prevention (CDC, 2012), close to six million people in the U.S. have heart failure and it is the main cause of more than 55,000 deaths annually. Treating CHF is expensive, costing the United States \$34.4 billion yearly (CDC, 2012). These expenses, coupled with the penalties imposed by the Affordable Care Act (ACA) for 30 day readmissions, have caused many organizations to assess the CHF modifiable risk factors that influence costs.

This project concentrated on the frequency of CHF readmissions in this acute care setting, as evidenced by the number of patients being readmitted to this hospital for exacerbation of CHF within 30 days of discharge. One of the factors acknowledged as increasing a patient's risk for readmission was the lack of patient engagement and self-efficacy. Providing patients with comprehensive discharge instructions can contribute to keeping heart failure patients out of the hospital and is a valid approach to preventing future readmissions to the hospital (Bialek, 2016).

The problem was lack of care offered in the hospital setting as the patient transitions from discharge to home. Formerly, nurses at the hospital that was the subject of this DNP project completed the discharge paperwork, making sure that all signatures were secured. However, there was a lack of depth and the discharge process was perfunctory. There was no teach-back process, transportation to the pharmacy for medication pick up, transportation to the physician's office, or even basics regarding when the next primary care appointment was were not attended to in the former discharge process.

When there is a breakdown in the transition between the hospital and home, the effects are negative as they relate to quality of care and self-care management of patients, inadvertently causing avoidable hospital readmissions. That prompted a need to adopt a risk stratification tool, individualized care plan, and discharge checklist. These interventions were used by RNs to help to identify high risk patients with a diagnosis of CHF who had a high potential for readmission. These interventions, taken together, helped to avoid unplanned readmissions within 30 days of discharge.

Purpose Statement

There was a gap in practice in the transition of care. The purpose of this project was to implement a transition of care practice guideline that consists of the use of a risk identification tool, a customized care plan for patients at high risk for readmission, and a discharge checklist crafted specifically for CHF patients at risk for readmission. Gaps of sufficient experience in hospitals to manage patients with CHF leads to hospital readmissions. This was a chief quality concern that emphasized a need for this organization to improve healthcare. Baseline data from the quality department indicated that the nurses at the hospital that was the subject of this DNP project repeatedly failed to ensure that the patients being discharged could comprehend medical jargon with a teach-back, had follow-up appointments, had transportation to the pharmacy and/or follow up visits scheduled, and the medication reconciliation was completed correctly and effectively. Quality improvement (QI) baseline data shows two reasons why patients were readmitted. One reason is that patients return to the hospital because they were still taking medications that were discontinued upon discharge because no one told them to stop

taking the medications; that is, medication reconciliation did not occur correctly and effectively. The second reason is that some patients return dateand are readmitted because they failed to pick up their medications either because they were not told to do so or they did not have transportation to the pharmacy.

Long Term Organizational Practice Focused Question

In patients with CHF admitted to a rural acute care facility in the middle-south region of the United States, how does the implementation of CHF-specific practice guidelines impact the number of CHF-related hospital 30 day readmission as measured one year post-implementation when compared to the current approach to care (no CHF-specific practice guidelines)?

Short Term DNP Scope Practice Focused Question

In patients with CHF within a rural acute care facility in the middle-south region of the United States, how does development and implementation of CHF-specific practice guidelines impact progress toward improved care of CHF patients as measured by the use of CHF-specific practice guideline?

The purpose of this project was to reduce CHF hospital readmissions through use of an evidence-based practice (EBP) CHF clinical guideline for care coordination, with an objective to improve discharge planning. This project denoted patterns in readmissions and identified risk factors in CHF patients who could be potentially readmitted to the hospital 30 days post discharge and offered solutions to the nursing staff to bridge the gap between the hospital and home.

Nature of the Doctoral Project

Hospital readmissions are caused by several factors. Some factors include race, socioeconomic status, literacy, and access to healthcare. The project setting was a 471 bed hospital. It is in a rural area and serves 11 counties. The population served is predominately African American. Most of the patients in the area are lower-middle class. On average, three patients age 65 years and older are admitted daily to the hospital. Other influences on CHF hospital readmission are comorbid conditions. Conditions such as diabetes, hypertension, chronic kidney disease, and pulmonary disease predispose patients to readmissions (Tsuchihashi et al., 2001).

The DNP project took place on a step-down cardiology unit with 34 beds. Typically, most CHF patients are discharged from this unit and it provides a rich venue for the project. There were 13 RNs who work on the unit across two shifts. This DNP project was led by the DNP student, and the organization had a readmission strategy already underway. This project was consistent with the organization's overall readmission reduction strategy.

As a provider, I am responsible for ensuring that patients receive quality care. In the U.S., healthcare professionals play an important role in restoring and transforming healthcare. In healthcare across the nation, unexpected CHF readmissions illustrate a progressively sizable problem (Snyderman et al., 2014). Readmission rates of less than 30 days are an important criterion for hospitals because of penalization according to the CMS.

The rising cost of health care and changes in healthcare delivery have prompted a

need for hospitals to improve continuity from the inpatient setting to home. Even with various strategies to improve outcomes by maximizing treatments and making strides to encourage adherence to self-care management, hospital readmissions rates are at a steady incline (Yancy et al., 2013). When patients do not receive complete discharge instructions, then they are subjected to incomplete treatment regimens and failure to follow-up. These are the most frequently recognized causes for acute CHF exacerbations and readmissions (Manning, 2011). Patients with CHF may receive discharge instructions to read prior to or post discharge. This approach of patient education presumes that the patient is able to read and understand the instructions (Manning, 2011). To increase quality of care, it is imperative that hospitals implement a new health model that integrates delivery of rigorous one on one teaching to high-risk CHF patients while they are in the hospital with ongoing assistance, supervision, and training throughout the shift from hospital to home (Manning, 2011). Nurses are at the frontline of conveying changes in healthcare directly to the patient (Lewis, 2012).

As well as supplying the necessary care after a patient is admitted, the caregiver supplies the link to the resources that allows a patient to stay stabilized after being discharged (Case, Haynes, Holaday, & Parker, 2010). Improvement of 30-day readmission rates has been accomplished by having improved management of chronic diseases incorporated with follow-up via home visits and telephone call from the nurse (Case et al., 2010). It is essential that patients receive detailed instructions in order to be successful at home.

This project will help to better understand why patients with CHF in the setting

are so frequently readmitted. This project characteristically adopts a risk stratification instrument that will distinguish high-risk patients for readmission. After a patient is classified as high-risk, nursing interventions with specific education needs at discharge including medications reconciliation, follow up appointments, and indications of exacerbation will be implemented. Taken together, these steps will emerge from the EBP guideline for management of the acutely ill inpatient with CHF who is at risk for readmission to the hospital within 30 days of discharge.

In summary, this DNP project aims at reducing 30 day readmissions for CHF through the evaluation and implementation of practice guidelines that include the following components: (a) a risk stratification tool, (b) development of an EBP guideline for CHF transition of care including an algorithm, which will also include a customized care planning template that can be individualized based on the patient's needs, (c) a revised discharge checklist including a teach-back plan, and (d) an educational plan for nursing staff the nursing unit.

Significance

Heart disease is a leading cause of death in the United States and a potential precipitating factor for CHF. The rising cost of health care and changes in healthcare delivery have prompted a need to improve continuity from the hospital to home. Approximately 5.7 million Americans had a diagnosis of CHF in 2009 (CDC, 2013). The annual cost of treating CHF is about 34 million dollars (CDC, 2013). These include recommendations for medical therapy, lifestyle changes, hospital follow up ongoing monitoring, and palliative care (AHA, 2013; Lainscak, 2004; Mant, Al-Mohammad,

Swan, & Laramée, 2011; National Clinical Guideline Centre, 2010; Whitlock, 2010).

Although these guidelines and recommendations are available to providers, CHF hospital readmissions persist; hence, in order to prevent symptom exacerbation, hospitalizations, and rehospitalizations, a precise acknowledgment of care deficiency areas and patient care needs should be constituted.

A large portion of the costs associated with treating CHF is derived from the cost of hospitalization (Yancy et al., 2013). Even with endeavors to improve outcomes by maximizing treatments and making strides to encourage adherence to self-care management, hospital readmissions rates are at a steady incline (Yancy et al., 2013). According to Yancy et al. (2013), nearly 50% of all hospital readmissions could have been prevented if discharge teaching had been adequate, the patient would have adhered to recommendations from the doctor, and patients followed up with their healthcare provider. The American College of Cardiology (ACC) Foundation/American Heart Association (AHA) guidelines point out that avoidable readmissions almost always derive from not adhering to medical advice, modification of diet, and self-care practices (Yancy et al., 2013). The ACC and AHA also recommend teaching in the following areas: Diet, lifestyle modifications, discharge medications, daily weights, strategic plan for worsening manifestations, and follow-up appointments (Yancy et al., 2013).

Summary

CHF is a chronic progressive condition where the heart fails to pump an adequate amount of blood to the body (AHA, 2016). CHF is normally secondary to another heart condition such as coronary artery disease, high blood pressure, or a previous heart attack

(AHA, 2016). It is the second leading reason for hospitalization in the United States.

Heart disease is a leading cause of death in the United States and a potential precipitating factor for HF. The rising cost of health care and changes in healthcare delivery have prompted a need to improve continuity from the inpatient setting to home.

Section 2: Background and Context

Introduction

Avoidable readmission due to the quality of care has brought much attention to hospitals because of excessive spending (Berenson et al., 2012). Hospitals are being penalized by CMS for each readmission. Patients with CHF are often subject to readmission within 30 days of an acute care stay (Kripalani, Theobald, Anctil, & Vasilevskis, 2014). There was a gap in practice in the transition of care. Baseline data from the quality department in the hospital that was the subject of this DNP project indicated that the nurses repeatedly failed to ensure that the patients being discharged could comprehend medical jargon with a teach-back, had follow-up appointments, had transportation to the pharmacy and/or follow up visits scheduled, as well as that the medication reconciliation was completed correctly and effectively. In patients with CHF within a rural acute care facility in the middle-south region of the United States, how does development and implementation of CHF-specific practice guideline impact progress toward improved care of CHF patients as measured 3 months post-planning compared to the current approach to care (no CHF-specific practice guideline)? The purpose of this project is to reduce CHF hospital readmissions through use of an EBP CHF clinical guideline for care coordination, with an objective to improve discharge planning. This project will denote patterns in readmissions and identify risk factors in CHF patients who could be potentially readmitted to the hospital 30 days post discharge and offer solutions to the nursing staff to bridge the gap between the hospital and home. This section will review concepts, models, and theories and provide relevance to nursing

practice and the local background as well as my role in the project.

Concepts, Models, and Theories

Congestive Health Failure

HF is a chronic, progressive, and costly disease that affects about 5.8 million Americans, with 670,000 more people diagnosed annually. It is the leading indication for hospitalization in older adults, and discharge rates are constantly increasing. In 2012, the CMS launched the Hospital Readmissions Reduction Program (HRRP), which began to penalize hospitals with high rates of readmissions for acute myocardial infarction, heart failure, and pneumonia. Due to the readmission rates of patients with CHF, interventions to improve transitions of care has been a concentration of hospitals nationwide. In about three weeks post discharge, approximately 20% of patients suffered an adverse event and about 75% of the events could have been avoided (Agency for Healthcare Research and Quality [AHRQ], 2012).

Ross et al. (2010) conducted a cohort study to identify contingencies to improve quality of care through interventions. According to Ross et al. (2010), several interventions have been confirmed to reduce rates of readmissions post discharge to improve quality of care. Interventions included enhanced inpatient and outpatient care, pre-discharge arrangements, follow up, and patient education. Although the study could not determine if all patients had follow up appointments, patients were provided medications or advised on self-management. These activities signify a previously acknowledged strategy to curtail hospital readmissions post CHF hospitalization that ideally would be commonly used and are likely to reduce readmission rates within 30

days of discharge. This present project fills a gap in practice by applying multiple strategies to the discharge process. As explained by Bradley et al. (2013), It was concluded that the hospitals that executed more methods had a substantial decrease in readmissions.

Project RED

Project Re-Engineered Discharge (Project RED) was developed by a group of researchers at Boston University Medical Center. Their aim is to create and try out strategies to reduce hospital readmissions and improve quality of care by improving the discharge procedures. A reduction in hospital readmission and an increase patient satisfaction rates was demonstrated using project RED's interventions. A 30% decrease in readmissions has been shown in an acute setting using Project RED (Berkowitz et al., 2013).

Mitchell et al. (2016) used the RED program. They used 10 hospitals all over the United States to pilot the program. The Red team providing training using the RED toolkit followed by telephone technical help to troubleshoot issues for up to one year. The data was collected by comparing pre and post RED program admission rates. Interviews were also conducted on hospital employees before implementation and one year after. Several hospitals, involved in this study, attested that implementing RED stimulated the culture in their organizations. Mitchell et al. (2016) also determined that some of the difficulties patients experienced included getting follow up appointments in a timely manner, sending the discharge synopsis to their primary care provider (PCP), and investing in information technology. Eight of the ten hospitals in the RED project

showed a decrease of 0.5 % or greater in readmission rates after implementation of RED.

The Iowa Model

The Iowa model was the theoretical and conceptual framework that applied best to this program initiative. The model uses an integrated and multidisciplinary approach that places emphasis on the significance of considering the entire healthcare system, from the organization to the practitioner to the patient, using best practices to direct clinical decisions (Doody & Doody, 2011).

As healthcare evolves, nurses are expected to comprehend and perform research, and the research is expected to be evidence-based according to their professional practice (Polit & Beck, 2012). EBP is defined as “a clinical problem-solving strategy that emphasizes the integration of best available evidence from disciplined research with clinical expertise and patient preferences” (Polit & Beck, 2012, p. 727). Revisions to nursing practice now occur regularly because of EBP endeavors.

I selected the Iowa model of EPB for the project initiative to assist in exploring the problem of CHF hospital readmissions. Generally speaking, the overall principle of research in nursing is to respond to inquiries or resolve issues significant to nursing (Polit & Beck, 2012). Nursing research is systematic analysis to improve understanding about subjects of importance to nurses; nurses are incorporating EBP into their daily practices (Polit & Beck, 2012).

The Iowa model was a good fit for this project initiative because it aligns with the goals and outcomes. The Iowa model consists of seven steps to follow. The steps are selecting a topic, forming a team, evidence retrieval, grading the evidence, developing an

EBP standard, implement EBP and evaluation (Doody & Doody, 2011).

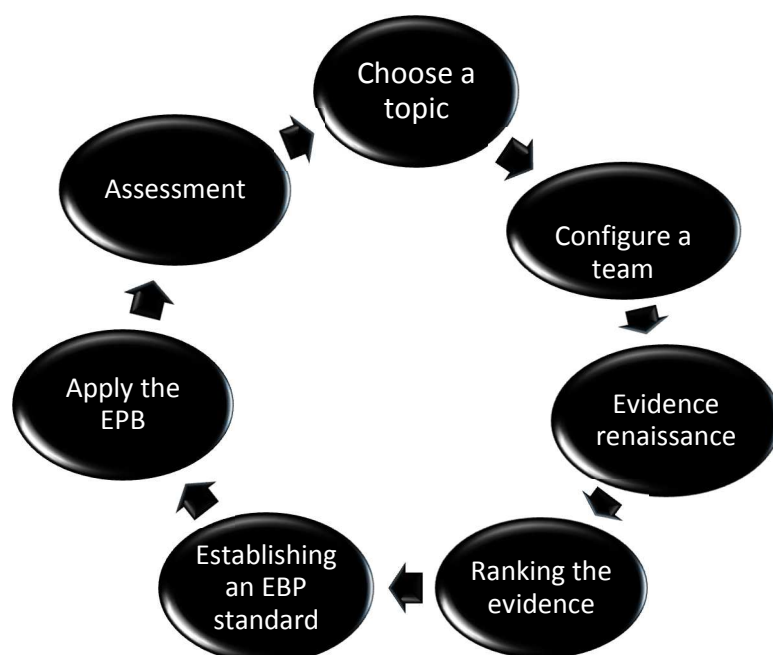


Figure 1. The Iowa Model Applied to CHF Discharge Planning

The Iowa model was established by Marita Titler in 1994 to describe knowledge transformation and to assist in implementation of research into clinical practice. According to LoBiondo-Wood & Haber (2006), since its development, it has been used extensively in clinical research programmes and continues to be cited in nursing journals. The Iowa model permits healthcare professionals to put emphasis on evidence and problem-focused triggers, causing staff to examine existing nursing practice regarding whether it can be enhanced using up-to-date research discoveries (Titler, 2006). The Iowa model concentrates on infrastructure and teamwork, assimilating behavior and use of research, and other forms of evidence (Titler et al., 2001). It also places emphasis on the magnitude of considering the healthcare system as a whole for the healthcare provider, patient, and organization using research within these frameworks to direct practice decisions (Doody

& Doody, 2011).

Clarification of terms

Teach-back methodology: a communication method in which the teacher uses simple language and asks the learner to repeat, in their words, how they understood the learned concept or material. The educator repeats the process until they are convinced that comprehension has been reached (Society of Hospital Medicine, 2008).

Relevance to Nursing Practice

Previous researchers have outlined the seriousness of CHF and found that although high risk patients have been identified, risk admission rates are still increasing. The latest guidelines for management of heart failure from the Heart Failure Society of America recognize the importance of education and recommends that patients receive educational materials as part of the patients' complete discharge instructions (White, Garbez, Carroll, Bronker & Howie-Esquivel, 2013). White, Garbez, Carroll, Brinker & Howie-Esquivel (2013), conducted a prospective cohort study to conclude rather or not patients admitted with CHF educated using the teackback method could recall the self care information and if it was linked to lower rates of readmissions. 276 patients over the age of 65 years admitted with CHF were included in the study over a 13-month period. Data on capability to restate the information given while admitted and within seven days of discharge were collected. While hospitalized, patients could answer 75% of the teach back questions 84.4% of the time and 77.1% of time after discharge via telephone follow up. Correct answers were related to more time spent teaching ($p = .001$). They found that

the teach-back method is an effective method used to educate and assess learning

Recent randomized reports have shown that disease management programs can reduce hospitalizations. Atienza et al., (2004), conducted a randomized multicenter study at three referral hospitals. The aim of this study was to assess the effectiveness of a comprehensive discharge planning and outpatient management program at a heart failure clinic in a non-selected cohort of patients discharge with a diagnosis of CHF. The study investigated whether these interventions would prolong time to first event and reduce hospital readmissions. A total of 338 patients were included in the study with a mean of 509 days. The subjects of the study were randomized into two groups. Group one, controlled group (n=174) and group two, received proposed interventions (n=164). Succeeding a mean 509 days, the intervention group had less events (readmission or mortality) in comparison to the control group (156 vs. 250), which serve as 47% (95%CI: 29-65; $P < 0.001$) incident curtailment for every surveillance year. At 12 months, time to first incident, time to first all-cause and CHF readmission, and time to demise were increased in the intervention group ($p < 0.001$) The study concluded that these interventions lengthened time to first incident, reduced hospital readmissions, ameliorated the mortality rate and improved the general well-being of patients admitted for CHF, while lowering costs.

CMS has assessed a penalty to hospitals with high readmission rates (Rau, 2012). Accordingly, it has become a national priority to reduce hospital readmissions. Strategies that are being used by hospitals to reduce readmission rates are limited. Bradley et al., (2013), analyzed hospital procedures that were correlated with reducing readmission rates

for CHF patients. Bradley et al., (2013), conducted a cross-sectional survey of hospitals to explore their reported use of precise methods designed to lower readmissions of CHF patients. The 599 hospitals who participated in this study were also participants in the national quality initiative to lower readmission rates. This study was conducted within a year-long period of time. Six strategies hypothesized to reduce hospital readmissions were analyzed in the study. Those hospital strategies to lower readmissions included: (a) establishing partnerships with community physicians or physician groups (0.33% percentage point lower RSRRs; $p=0.017$) (b) hospitals networking locally (0.34 percentage point; $p=0.020$), (c) medication reconciliations by nurses (0.18 percentage point; $p=0.002$), (d) scheduling follow-up appointments prior to discharge (0.19 percentage point; $p=0.037$), (e) transmitting discharge summaries electronically to PCP (0.21 percentage point; $p=0.004$), and (f) designating staff to follow up on pending lab results (0.26 percentage point; $p=0.049$). It was concluded that the hospitals which executed more methods had a substantial decrease in readmissions (reduction of 0.34 percentage point for each additional strategy). The hospitals with individual methods showed no significant change in readmission rates, less than half a percentage point reduction in RSRRs. Therefore, the findings accentuated the need for improvement in adopting multiple strategies cumulatively recommended by the hospitals to lower readmissions rate for patients with CHF 30 days post discharge. Hence, adding a set of discharge instructions specific to CHF patients in those who are at high risk for readmission, has a better chance of improving the readmission rate in CHF patients better than either strategy taken alone.

Local Background and Context

Over 1 million people are admitted annually as inpatients with the diagnosis of CHF, and nearly 250,000 patients are readmitted within 30 days of discharge with an estimated annual cost of over \$2 billion for Medicare beneficiaries alone (Centrella-Nigro et al., 2016). This is substantial as the 30-day readmission rate for CHF nationally is 25% and in some organizations, greater (Dharmarajan et al., 2013). In this state, the average of readmissions for CHF is 22.9%. The average rate of CHF readmissions for this hospital is 22%. Because of this, reducing CHF related hospital readmissions has a priority.

Hospital readmissions are caused by several factors. Some factors include race, socioeconomic status, literacy, and access to healthcare. The project setting was a 471 bed hospital. It is in a rural area and serves 11 counties. The population served is predominately African American. Most of the patients in the area are lower-middle class. On average, three patients age 65 years and older, are admitted daily to the hospital. Other influences of CHF hospital readmission are co-morbid conditions. Conditions such as diabetes, hypertension, chronic kidney disease, and pulmonary disease predispose patients to readmissions (Tsuchihashi et al., 2001).

Constructing a productive and efficacious program requires the utilization of assets and evaluation of needs associated with the target population and their surroundings (Hodges & Videto, 2011). In this practice setting, there was a gap in practice in the transition of care from hospital to home. Baseline data from the quality department indicated that the nurses at the hospital that was the subject of this DNP project repeatedly failed to ensure that the patients being discharged could comprehend

medical jargon with a “teach-back”, had follow-up appointments, had transportation to the pharmacy and/or follow up visits scheduled and that the medication reconciliation was completed correctly and effectively. Risk stratification tools and discharge checklist were not apart the plan of care for patients at this practice setting even though there was a high rate of readmissions within 30 days of discharge.

Role of the DNP Student

As a nurse practitioner, I have a duty to be an advocate for patients and promote social change. Identifying effective interventions to help deliver safe and quality healthcare and to improve patient outcomes was an interest for myself. My role in the project was to implement a practice guideline to aid in reducing CHF readmissions 30 day post discharge. The topic for my program was chosen because financial burden of readmissions to health care systems coupled with the efforts of this acute care setting to reduce hospital readmissions.

One of my inspirations for this doctoral project began when I was a staff nurse at the project site. I worked on one of the observations units and I would see the same patients very often. This became a concern for me and I felt the need to identify the cause of the frequent readmissions. I wanted to see how one readmission compared to the prevalence of the other readmissions. I wanted to know if there was a need to change the transition from hospital to home.

A potential bias could stem from the sampling being in a location where I am in direct contact with staff in a different role. The DNP student is an employee of the organization but does not work at the project site. I ensured that the collection of data was

in an impartial setting and collected in a professional manner. This project initiative is consistent with the organizational goals of the project site.

Summary

Implemented multiple strategies for CHF patients being discharge could assist in reducing readmission rates. Strategies that are being used by hospitals to reduce readmission rates is limited. The Iowa model for EBP aligns well with this project. The Iowa model consist of seven steps to follow. The steps include: selecting a topic, forming a team, evidence retrieval, grading the evidence, developing an EBP standard, implement EBP and evaluation. CMS is imposing penalties on hospitals with a high rate of readmissions. Therefore, this DNP student has proposed to implement a EBP standard for discharges patient admitted for CHF.

Section 3: Collection and Analysis of Evidence

Introduction

The purpose of this DNP project was to determine if the risk stratification tool implemented by the organization and discharge planning checklist used in the DNP project when applied to CHF patients in the acute care setting results in a reduction in 30-day readmissions. Developing an intervention based on EBP and determining the impact on patient outcomes is crucial to improving population health. This section recapped the practice-focused question and sources of evidence relevant to the project as well as the analytic methods proposed to evaluate the impact of the DNP project on readmissions within 30 days.

Practice Focused Question

The problem was lack of care offered in the hospital setting as the patient transitions from discharge to home. Formerly, nurses at the hospital that was the subject of this DNP project completed the discharge paperwork, making sure that all patient signatures are secured to attest the discharge paperwork was received. However, there was a lack of depth in discharge education and the discharge process was perfunctory. There was no teach-back process, pharmacy pick up, or transportation to the physician's office, and even the basics of when the next primary care appointment is were not attended to in the present discharge process.

There was a gap in practice regarding care continuum of patients with CHF during the transition from hospital to home. One of the factors acknowledged as increasing a patient's risk for readmission was the lack of patient engagement and self-

efficacy. Providing patients with comprehensive discharge instructions can contribute to keeping HF patients out of the hospital and is a valid approach to preventing future readmissions to the hospital (Bialek, 2016).

In patients with CHF within a rural acute care facility in the middle-south region of the United States, how does development and implementation of CHF-specific practice guideline impact progress toward improved care of CHF patients as measured 3 months post-planning compared to current approach to care (no CHF-specific practice guideline)?

The purpose of this project was to reduce CHF hospital readmissions through use of an EBP CHF clinical guideline for care coordination, with an objective to improve discharge planning. This project denoted patterns in readmissions and identified risk factors in CHF patients who could be potentially readmitted to the hospital 30 days post discharge. It also offered solutions to the nursing staff to bridge the gap between the hospital and home.

Most of the terms used in this DNP project are in common usage. However, unique to this setting is the job role described as the Licensed order entry nurse (LOEN). This is a licensed practical nurse (LPN) who enters orders into the computer. The LOEN has other job similarities with an acute care facility unit-based administrative assistant. The clinical background of the LPN, who also has familiarity with the organization's electronic health record (EHR) process, makes this a useful role.

Sources of Evidence

Published Outcomes and Research

To perform the literature review, the following databases and search engines were assessed: CINAHL Medline, AHRQ, Walden University library, Institute of Medicine (IOM). Key search terms used were the following: *hospital readmissions for CHF patients, CHF readmissions within 30-days of discharge, CHF readmissions, causes of CHF readmissions, and reducing CHF readmissions.*

The initial search using CINAHL with full text and Medline with full text simultaneous search with no other filters using the key words yielded more than 5,000 articles. The search was then filtered. Limitations on all searched articles were that they were full-text articles, published within the last 10 years, written in the English language, and conducted in the United States. This search produced 93 articles. Articles were eliminated based on the relevance of the information and some were duplicates. Nine articles were used in the literature review.

Evidence Generated for the Doctoral Project

Participants

A convenience sample of staff nurses on a cardiac step down unit in an acute care hospital setting was included in the project. The unit is a 34 bed telemetry unit. The unit discharge hospitalized patients with a diagnosis of CHF to their homes. The nurses at this facility are scheduled to work in two 12-hours shifts. The morning shift on the telemetry unit is staffed with seven RNs and a LOEN or secretary. The evening shift on the telemetry unit is staffed with six RNs and a LOEN or secretary. There were no financial

incentives for participation in the project; however, the participants had the opportunity to improve their quality of care. This notwithstanding, the nurses were mandated to attend the training and were paid for their time as the education was provided during their work hours. Inclusion criteria for this project was that the participants had to be staff nurses on the unit who participate in discharging patients.

Procedures

Educational plan.

I educated the staff nurses by scheduling an in-service regarding the use of the risk stratification tool to initiate the discharge checklist for patients with a diagnosis of CHF who are at high risk for readmission within 30 days of discharge (see Appendix A). The discharge checklist is a modified version of the checklist advocated by the AHA. The training sessions took place in the meeting area of the unit. The nurses at this facility are scheduled to work 12 hour shifts from 7:00 to 7:00 on track shifts. Each nurse on the unit was required to attend the in-service. To ensure all nurses were able to attend the in services, I scheduled an in-service at the change of both shifts and tracks for a total of two 45 minute in-service sessions. The staff nurses on the unit consisted of RNs and LPNs. The RNs are in direct patient care. LPNs have the role of LOEN. The LPN/LOENs were included in the training session because they can discharge patients. I emphasized how the information provided by the risk stratification tool and discharge checklist can help tailor interventions to avoid future readmissions.

The material was followed by role-play using patient scenarios presented to the nursing staff to demonstrate teach back skills. Strategic conceptions of the program

included the use of a teach-back method where the nurses explained back in their own words the content of the education. I assessed the participants on the use of the teach-back method and offered immediate remediation of skills if it was needed. The nurses who took care of heart failure patients in the telemetry unit were taught how to use the components of the discharge checklist as well as the Teach-Back method to utilize in their discharge process. The training was a regular nursing educational program like the ones offered in this hospital. The training was supported by the unit nurse manager, quality improvement, and the VP of nursing affairs.

After the presentation, we had an open discussion. There were a few nursing in the beginning of the discussion that showed resistance. They felt like it would be more work for them. Others felt like it was an opportunity to better serve their patients. I explained to the staff that as care takers, we have the duty to provide patients and their families with the tools necessary to take care of themselves once they are discharge from the facilities. At the end of the discussion, there was less resistance and everyone was willing to participate in the discharge process. The staff showed support verbally and nonverbally.

Educational content.

The educational dissemination was done using a PowerPoint presentation with handouts. I explained to the nurses in detail how the risk stratification tool performed by case managers connected with the discharge checklist. The risk assessment tool categorizes the patient using a score to identify them as being low, moderate, or at risk for hospital readmission within 30 days of discharge. After the patient is identified as at risk,

an alert will be generated through EHR prompting the nurse to implement the specific CHF discharge checklist on the patient. The discharge checklist (See Appendix A) consists of questions to ensure that the medication reconciliation was completed and accurate, patient has a follow up visit scheduled with transportation, scale to obtain daily weights, access to medications and more.

Patient education and discharge procedures.

Data were collected on one unit in this acute care setting. The unit used in the project is a 34 bed telemetry unit. At this acute care setting, the case managers are already using a risk assessment tool to identify high risk for readmission patients. The staff on these units used the discharge checklist (specific for CHF, in Appendix A) for patients with a discharge diagnoses of CHF at risk for readmission based on the score assessed by the case managers over a four-week period of time to evaluate the impact of my project. An alert was generated on patients who are at a high risk for readmission with a diagnosis of CHF through the organization's EHR. These patients had the CHF discharge checklist implemented. At the end of a four-week period of time, data was collected from the EHR. I anticipated that the data would show whether or not the nurses used the correct discharge checklist based on the risk assessment score and discharge diagnosis. In addition, the CHF patient at high risk for readmission received a customized care plan also documented in the EHR. This was the subject of an EHR report. The impact on readmission within will not be seen in the scope of the project, this will be seen much later.

The risk assessment tool and discharge checklist were accessible through the

EHR. The discharge checklist was only accessible to the unit involved in this project as a pilot. It was mandated by the nurse managers of the unit that every patient with a diagnosis of CHF would have to have a discharge checklist implemented based on their risk score. At the end of a four-week period of time, the EHR generated data from all patients used in this project in the form of an excel file. The data was provided to the DNP student in a de-identified form by the QI department, which was responsible for the primary data collection.

Protections

Approvals from the Vice President of Nursing Affairs at the organization and Walden University's Institutional Review Board (IRB), approval number is 11-21-17-0419700, were obtained prior to beginning the project. In addition, the project was submitted to the organization's IRB for consideration and waiver from full review. This documentation was provided to the Walden IRB. I kept a professional rapport between myself and the participants in this project. This was to avoid any bias in the end results of the project. The participants were informed of the purposes of this project and allowed to seek clarity.

All primary data collection was done by the QI department. No patient identifiers were revealed during data collection process, analysis, and publication of results. No proprietary, sensitive, or confidential information was disclosed in the doctoral project document to ensure the anonymity and confidentiality of the research data. The identification of the project site was not disclosed in the doctoral project document to ensure the anonymity and confidentiality of the project site. All data obtained was kept on

a password-protected computer only accessible by the project leader.

Analysis and Synthesis

Descriptive statistics were used to analyze the data. Descriptive statistics describe and summarize data using numbers (Grove, Burns & Gray, 2013). The following subgroups were included: (a) patients discharged from the unit with a diagnosis of CHF and a high risk for readmission, (b) the number of patients discharged from the unit with CHF who do not have a high risk for readmission and (c) patients discharged from the unit without of diagnosis of CHF or a high risk for readmission. In addition, the results of high risk CHF patients' discharge processes were analyzed using the elements of the discharge checklist as a guide. The results of the project were presented to the VP of nursing affairs at the acute hospital setting in hopes that the findings will prompt development of practice guidelines for conditions other than CHF and expanded to other units.

Summary

The project explored the implementation of a transition of care practice guideline for the CHF patient at high risk for readmission, and included the use of a risk stratification tool, customized care plan with patient education package and discharge checklist. The expectation is that the practice guideline will have positive impact on reducing hospital readmissions for patients diagnosed with CHF within 30 days of discharge. An analysis using descriptive statistics was used to collect data on the implementation of the readmission predictive model, the customized care plan and discharge checklist. Sources of evidence were described in this section for this QI project.

Strategies to protect human subjects will be used throughout the project. In section 4, I will report the findings and results of the analyzed data. It addresses the implications, recommendations, strengths and limitations of the QI project.

Section 4: Findings and Recommendations

Introduction

Hospital readmissions are caused by several factors, including race, socioeconomic status, literacy, and access to healthcare. The project setting is a 471 bed hospital. It is in a rural area and serves 11 counties. The population served is predominately African American. Most of the patients in the area are lower-middle class. On average, three patients aged 65 years and older are admitted daily to the hospital. Other influences on CHF hospital readmission are comorbid conditions. Conditions such as diabetes, hypertension, chronic kidney disease, and pulmonary disease predispose patients to readmissions (Tsuchihashi et al., 2001).

There was a gap in practice in care continuum of patients with CHF between the transition from hospital to home. One of the factors acknowledged as increasing a patient's risk for readmission was the lack of patient engagement and self-efficacy. The problem was lack of care offered in the hospital setting as the patient transitioned from discharge to home. Nurses at the hospital that were the subject of this DNP project completed the discharge paperwork, making sure that all signatures were secured. However, there was a lack of depth in the discharge education and the discharge process is perfunctory. There was no teach-back process, pharmacy pick up, or transportation to the physician's office, and even the basics of when the next primary care appointment is were not attended to in the discharge process prior to the implementation of this DNP project.

The purpose of this DNP project was to determine if the risk stratification tool

implemented by the organization and discharge planning checklist used in the DNP project when applied to CHF patients in the acute care setting resulted in a reduction in 30-day readmissions, though an actual change in the readmission rate will not be reflected in this project. Developing an intervention based on EBP and determining the impact on patient outcomes is crucial to improving population health.

Findings and Implications

Descriptive statistics were used to analyze the data. A sample of 193 patients who fit the inclusion criteria was generated from the EHR of patients who were admitted to the unit during a one month period of time. Of these patients, 23 (12%) were discharged from the unit with a diagnosis of CHF and had a high risk for readmission, 83 (43%) patients did not have a high risk for readmission, and 87 (45%) were discharged from the unit without diagnosis of CHF or a high risk for readmission. All of the patients discharged to home during the project month had provisions for transportation, an outpatient doctor's appointment, diet teaching, and medication processes in place, and all experienced a teach back procedure by the discharging nurse.

Of the 23 high risk patients who were discharged after the educational processes were put in place with the staff members, 14 had some kind of contact with the facility. There were four patients who had an ED visit. Two were admitted to observation and eight were readmitted. Of the eight patients who were readmitted, only two of these readmissions were related to CHF. The rest of the readmissions were for pneumonia, sepsis, and end stage renal disease (ESRD). Similarly, two of the observation admissions were for health failure, perhaps indicating that the patients clearly understood what to do

if symptoms worsen which was one element of the discharge checklist and part of the teach back procedure. When the low risk patient profile was examined, 17 of these patients also had an ED visit (5), an observation stay (2), or another inpatient admission (10). However, only two of these were for heart failure, the rest were for other comorbid conditions, including urinary track infection (UTI) and other conditions.

There were 106 patients in the dataset with a diagnosis of CHF. Of these, only two were readmitted to the inpatient setting within 30 days of discharge, after having had the benefit of a teach-back on the discharge plan. This results in a 1.8% 30 day readmission rate. In addition, of the 106 patients who had a diagnosis of CHF there were 23 who were identified as high risk. Of the high risk patients who were readmitted within 30 days, only two had a diagnosis of congestive heart failure resulting in an 8.6% readmission rate among the high risk heart failure patients. Though these results are very preliminary and only one month after the conclusion of the project, they seem to indicate that the educational program and the CHF discharge checklist may have contributed to a substantial reduction in the CHF 30 day readmission rate from 22% in all CHF patients to 1.8%. Furthermore, the identification of the high risk patient in this organization also contributed, as the 30 day readmission rate in this patient population for the one-month period following the implementation of the CHF checklist and the teach-back was 8.6%, also considerably lower than the 2017 level of 22%. As hospitals are not reimbursed for the full amount, this not only improves the patients' quality of life, it reduces the overall cost of care.

I educated the staff nurses by scheduling an in-service regarding the use of the

risk stratification tool to initiate the discharge checklist on patients with a diagnosis of CHF who are at high risk for readmission within 30 days of discharge. The material was followed by role play using patient scenarios presented to the nursing staff to demonstrate teach back skills. Strategic conceptions of the program included the use of a teach back method where the nurses explained back in their own words the content of the education. I assessed the participants regarding the use of the teach back method and offered immediate remediation of skills if it was needed. The nurses who took care of HF patients in the telemetry unit were taught how to use the components of the discharge checklist as well as the teach back method to use in their discharge process. The training was a regular nursing educational program similar to other educational offerings provided at the DNP project hospital. The training was supported by the unit nurse manager, QI, and the VP of nursing affairs.

After the presentation, an open discussion was held. There were a few nurses in the beginning of the discussion who showed resistance. They expressed that the discharge checklist and teach back process would increase their workload. Others provided feedback to the effect that the discharge checklist and teach back would be an opportunity to better serve their patients. I explained to the staff that caretakers have the duty to provide patients and their families with the tools necessary to take care of themselves once they are discharged from the facilities. At the end of the discussion, there was less resistance and everyone was willing to participate in the discharge process. The staff showed support verbally and nonverbally.

The results of this doctoral project demonstrate that for persons with HF,

additional strategies to improve self-care/self-management through education for this patient population are possible within the acute care hospital environment. This doctoral project allows room for further research on HF readmission within 30 days of discharge from an acute care facility. This project may be transferable to similar inpatient acute care settings. It is also transferable when planning acute care discharges for patients with other chronic diseases.

Recommendations

A recommendation for expanding this DNP project is to gather the equivalent data for other high risk patients without a diagnosis of CHF at this facility. It would be thought-provoking to see how the discharge checklist used on other patients would affect the results indicating that the findings will prompt development of practice guidelines for conditions other than CHF. The discharge checklist could also be expanded to other units.

Strengths and Limitations of the Project

One of the strengths of this QI project has been the collaboration of multiple disciplines in carrying out the interventions based on the risk assessment tool. The risk assessment tool proved beneficial in not only identifying the CHF patients who were high risk, but also determining which interventions should be used. Additionally, the discharge checklist tool created a standard to follow the patients after discharge, forming connections between the inpatient and the outpatient venues and closing the gap in care during the transition from hospital to home.

A limitation in the QI project is that the project only focused on CHF high risk cases. Hospital readmissions pose a problem nationwide. Assessing other medical

conditions could potentially provide better insight into screening patients at risk for readmissions.

Another limitation of the QI project was the project will not demonstrate the impact on the 30 day readmission rate until much later. An evaluation will be needed in another 6 months. Tracking the performance and consistent data collection is essential for breakthrough and continuous levels of improvement (Maynard & Stein, 2010).

Section 5: Dissemination Plan

To improve the quality of patient care, it is vital for healthcare professionals to advance skills and knowledge and direct teams that have an interest in pursuing best practices to improve the care patients receive (Dearholt & Dang, 2012). It is my plan to disseminate my project via a poster presentation. The poster will be displayed during the organization's annual skills competency training. This will ensure that every employee involved in patient care will be required to review the poster. My goal is for the recommendations from my project for reducing readmissions for patients with CHF be used hospital-wide, anticipating the impact on hospital readmissions in other high-risk populations.

Analysis of Self

As a Practitioner

I have always wanted better care for my patients. As a staff nurse, I did not always feel that our voices were always heard or appreciated. Now that I have a platform, I will use it to improve the quality of care my patients receive. During the development of my project, I became more aware of the perception of patient care from an administrative view. I learned that there is a lot involved and one must remain engaged and evaluate the processes. I understand that every idea that is presented must be evaluated and may not be a good fit for the organization. I also learned that key stakeholders were not always aware of best practices recommended from the literature or aware that some of the recommendations were not being used at this organization. Partly, my view is that because there are so many people are involved, often ideas are not fully implemented as

the evidence dictates.

As a Scholar

This project helped me to develop the skills to execute an in-depth literature review. It has also helped me to present the information in a clear and precise way. The organization's health care system is complex but now I have mastered the skill of navigating through the system.

As Project Manager

When I initially started the development of my project, I worked as a nurse practitioner at a walk-in clinic. I am now working in administration as the Chief Compliance Officer. I feel this project facilitated my growth and prepared me for this position. I have been able to form good relationships with many at my practicum site; this has helped with the process of change. I was able use the Iowa Model of EBP to develop my project. Developing projects that involve EBP can be very thought-provoking with the diverse authorities and traits involved. I was able to function in a leadership role during development and implementing the project. I learned that multiple stakeholder involvement required a lot of patience and negotiation. Project members had other deadlines and requirements to meet and my project added to their many tasks. My communication skills have been enhanced. I had to communicate frequently with stakeholders and keep them updated on the status of the project. With the assistance of my mentor, I was able to efficaciously complete this task.

Summary

The purpose of this project was to implement a transition of care practice

guideline that consists of a risk identification tool, a customized care plan for patients at high risk for readmission, and a discharge checklist crafted specifically for CHF patients at risk for readmission. Gaps of sufficient experience to manage patients with CHF leads to hospital readmissions. The ACC Foundation/AHA guidelines pointed out that avoidable readmissions almost always derive from not adhering to medical advice, modification of diet, and self-care practices. The ACC and AHA also recommended teaching in the following distinctive areas: Diet, lifestyle modifications, discharge medications, daily weights, strategic plan for worsening manifestations, and follow-up appointments (Yancy et al., 2013). The risk stratification tool did work as it was intended in identifying patients at high risk for readmission related to CHF. The impact on readmission within will not be seen in the scope of the project, this will be seen much later.

This DNP project highlighted the importance of adopting multiple strategies cumulatively to lower readmissions rate for patients with CHF 30 days post discharge. Multiple strategies for CHF patients being discharged could assist in reducing readmission rates. Efforts to improve the lives of patients and their families will ultimately serve society well, making a significant contribution to positive social change. The nurses will provide comprehensive discharge education to patients using the teach-back method to assess the retention of knowledge of care. This will help close the gap in the transition of care between hospital and home, ultimately reducing CHF readmissions.

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Appendix A: Discharge Checklist for Heart Failure Patient

Heart Failure Discharge Checklist

Please complete all boxes for each HF indicator:

Admit Date: _____ Admit Unit: _____ Discharge Date: _____

Discharge Unit: _____ Attending Physician: _____

HF Etiology: _____

Follow-up appointment

(date/time/location): _____

| Answer the following questions of all patients discharge with CHF | Yes | No | N/A | Date Scheduled | Comments |
|---|-----|----|-----|----------------|----------|
| Discharge Education using teach back | | | | | |
| Discharge Medication Reconcile Completed | | | | | |
| Scheduled follow-up appointment cardiology | | | | | |
| Scheduled follow-up Appointment | | | | | |

| | | | | | |
|---|--|--|--|--|--|
| with PCP | | | | | |
| Care Plan Completed | | | | | |
| Patient has transportation to pharmacy and/or follow-up appointment | | | | | |
| Patient has means to obtain prescription | | | | | |
| Does patient have access to scale to obtain daily weight | | | | | |
| Diet counseling (salt/fluid restriction) | | | | | |
| Clinical summary and patient education record faxed to appropriate physicians | | | | | |
| Does patient qualify for home medication check | | | | | |

This is a general algorithm to assist in the management of patients. This clinical tool is not intended to replace individual medical judgment or individual patient needs.