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# Evaluation of a Nurse Navigator Program on the 30-day Readmission Rate in Heart Failure Patients

Katie A. Winiger
*University of Kentucky*, kawi249@uky.edu

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Evaluation of a Nurse Navigator Program on the 30-day Readmission Rate

in Heart Failure Patients

Katie A. Winiger

University of Kentucky

College of Nursing

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Lynne Jensen PhD, APRN-Committee Chair

Julie Ossege, PhD, FNP-BC, FNAP-Committee Member

Jo Singleton, DNP, RN-BC-Committee Member/Clinical Mentor

## Dedication

This project is dedicated to my husband whose love and support made this journey possible. We did it!  I love you.  This project is dedicated to my sweet baby girl who has yet to know her mom not in school.  I love you.  This project is dedicated to my family who have always been supportive and encouraging of everything I have done in life.  I love you.  Last, but certainly not least, this project is dedicated to those living with heart failure.

## Acknowledgements

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**Abstract**

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METHODS:   This study involved two phases.  Phase I was a retrospective descriptive design

utilizing a medical record review of 159 patient charts.  Group 1, 54 charts, included patients with

heart failure who were discharged from NHC for heart failure related illnesses and were seen in a

primary care clinic that utilized a NN after discharge from the hospital.  Group 2, 105 charts,

included patients with heart failure who were discharged from NHC for heart failure related

illnesses who were seen in a primary care practice that did not utilize a Nurse Navigator after

discharge from the hospital.  The medical records reviewed included heart failure discharges from

NHC facilities that took place between June 1, 2015 to May 31, 2017.

Phase II was a focused interview with seven Norton Community Medical Associate

(NCMA) Nurse Navigators.  The interviews were used to gain, from a Registered Nurse Navigator,

perspective into why 30-day readmissions are occurring and effective strategies to prevent 30-day

readmissions.

RESULTS:  There was no statistically significant decrease in hospital readmission among those

who were called by a NN and those who were not called by a NN (p=.22, see Table 2).  There

was no statistically significant difference in rehospitalization between patients followed by a NN

versus no NN involvement.  There was a trend in decreased rehospitalization rates in patients

followed by a NN.

CONCLUSION:  The Nurse Navigator program demonstrated a trend toward decreased 30-day

hospital readmission.  The Nurse Navigator identified interventions such as NHC's Heart Failure

clinic, daily weight management, primary care provider (PCP) follow-up, and home health to improve patient self-management of heart failure. The NN program did not show statistically significant results, but the trends in hospital readmission for the group that received a NN call versus the group that did not receive a NN call show improvement.

*Key Words: Registered Nurse Navigator Program(s), nurse-led transitional care, patient navigator, readmissions, rehospitalization, heart failure, transition of care, care coordination*

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in Heart Failure Patients

**Introduction**

Heart failure in the United States is a major cause of morbidity and mortality rates and is currently on the rise. An update from the American Heart Association (AHA) estimates approximately 960,000 new cases of heart failure are diagnosed annually in the United States (Benjamin et al., 2017). It has been reported that one in eight deaths have heart failure as a contributing cause and half of all heart failure patients die within five years of diagnosis (American Heart Association, 2017). With such a high incidence of disease burden, comes financial burden. The estimated yearly cost of heart failure management is approximately $30.7 billion (Centers for Disease Control and Prevention, 2016).

Heart failure is the number one cause, reported by Medicare, for 30-day hospital readmissions, with a total estimated cost of $1.7 billion annually (Hines, Barrett, Jiang, & Steiner, 2014). This has become a major financial burden to healthcare systems because many health insurance providers are denying coverage for 30-day readmissions. According to Naylor et al., a major reason for hospital readmissions is lack of or poor implementation of transitional care interventions (Naylor, Aiken, Kurtzman, Olds, and Hirschman, 2011). The authors point out that these interventions strive to provide a comprehensive, coordinated plan of care and education for the patient transitioning from one care setting to another. Under the Affordable Care Act (ACA), incentives are being provided to communities and health care systems that provide transitional care services (Naylor et al., 2011). A Registered Nurse Navigator Program is one type of transitional care intervention provided to patients after discharge from the hospital

that has been shown to improve outcomes, such as reducing 30-day hospital readmissions (Monza, Harris, & Shaw, 2015).

## Background

According to the AHA, approximately 6.5 million adults age 20 or older have heart failure in the United States. Moreover, the AHA is expecting the prevalence of heart failure to increase by 46% from 2012 to 2030 (Benjamin et al., 2017). Heart failure is estimated to be responsible for 11 million provider visits yearly and more hospitalizations than all forms of cancers combined (American Heart Association, 2017).

Benchmarking is used to measure and compare specific indicators of quality in healthcare to an external standard in order to implement the best practices and reduce costs. According to the Agency for Healthcare Research and Quality (AHRQ) in 2015, the national benchmark for heart failure admissions is 181.7 admissions per 100,000 people. In 2014, approximately 425.8 per 100,000 people were admitted to the hospital for heart failure in Kentucky (Agency for Healthcare Research and Quality, 2015). Compared to the national benchmark, Kentucky has more than double the national benchmark of heart failure admissions per 100,000 people.

The state of Kentucky spends an estimated $375 million a year on hospitalizations for heart failure-related diagnoses (Kentucky Cabinet for Health and Family Services [KCHFS], 2007). In addition, recent reports suggest that up to 25% of patients hospitalized with heart failure are readmitted within 30 days of discharge (Feltner et al., 2014). Readmission rates are high for heart failure patients due to comorbid conditions and psychosocial and/or socioeconomic factors that limit compliance with medications, self-monitoring, and follow-up with outpatient providers (Desai & Stevenson, 2012). A quality report released by the Norton Healthcare System states that 21.1 out of 100 inpatients with a diagnosis of heart failure were

readmitted within 30 days (Norton Healthcare, 2017a).  Norton Healthcare is slightly better than

the United States average of 21.9 per 100 patients readmitted with heart failure, but has had a

slight increase compared to the previous report (Norton Healthcare, 2017a).

In 2012, The Centers for Medicare and Medicaid Services (CMS) initiated a program

mandated by The Affordable Care Act (ACA) that would penalize healthcare systems for 30-day

hospital readmissions.  The Hospital Readmissions Reduction Program (HRRP) is aimed at

health conditions that account for frequent hospital admissions and readmissions, such as heart

failure (CMS, 2016).  Healthcare systems were strongly encouraged to develop strategies to

lower the hospital readmission rate.  During the 2016 fiscal year, Norton Healthcare paid

$664,156 in CMS readmission penalties (Advisory Board, 2016).  In addition to penalties, NHC

also accrued costs associated with avoidable readmissions.  The literature states that the average

30-day heart failure readmission costs $13,000 per admission, which is 118% the cost of an

initial heart failure admission (Rizzo, 2013).  A hospital readmission occurs when a patient is

admitted to any hospital within 30 days of discharge regardless of the reason for readmission

(Boccuti, 2017).  One of the goals of heart failure management is to provide the patient with the

education that allows them to recognize and address symptoms before hospitalization is required

(American Heart Association, 2017).  It is within a registered nurse's scope of practice to

educate and support patients living with heart failure after hospital discharge.  In 2011, Norton

Healthcare initiated its response to HRRP through a registered NN program.

The role of the NN is to work in close partnership with patients and families to achieve

optimal health outcomes through various transitions of care.  According to The Joint

Commission, transitions of care refer to the "movement of patients between health care

providers, settings, and home as their condition and care needs change" (The Joint Commission,

2012, p. 3).  The use of a NN program has been shown to reduce 30-day hospital readmissions and increase patient compliance with follow-up care and self-management (Monza, Harris, & Shaw, 2015).

Norton Healthcare currently has 30 primary care locations, and 26 of those locations utilized a Nurse Navigator at the time of this study.  NHC's primary care services, Norton Community Medical Associates (NCMA), are in Louisville, Kentucky and Southern Indiana and are staffed with physicians, nurse practitioners, physician assistants, and other medical personnel to meet primary care needs.  According to a report by NHC's Clinical Information Analysis team, between September 2015 and August 2016 there were 6,391 patients with a diagnosis of heart failure being seen at one of the 30 NCMA locations (J. Singleton, personal communication, November 2, 2016).

The responsibilities of a NN at NHC involve a continued focus on reviewing hospital admissions and discharges to avoid hospital readmissions.  The NN uses the LACE (length of stay, acuity of the admission, co-morbidities, and Emergency Department visits) predictive tool and Humana's Readmission Predictive Model (RPM) to identify patients that are high-risk for readmission and initiates interventions to help manage those high-risk patients.  The interventions used include:  making outreach calls, assessing needs, closing health maintenance gaps, connecting them with NHC, community and payer resources, collaborating with inpatient care managers and payer personnel, establishing frequency of follow-up and monitoring, and scheduling primary care provider (PCP) appointments as needed (J. Singleton, personal communication, November 2, 2016).

## Purpose Statement

The purpose of this project was to evaluate the impact of a registered NN on hospital 30-day readmissions for patients with heart failure at Norton Healthcare (NHC).  The goals were to determine if the use of NNs in a primary care clinic decreases 30-day readmission rates for patients with heart failure and to determine the overall readmission rate for the clinics with Nurse Navigators.

## Methods

This study involved two phases.  Phase I was a retrospective descriptive design utilizing a medical record review of 159 patient charts.  Group 1 (54) included patients with heart failure who were discharged from NHC for heart failure related illnesses and were seen in a primary care clinic that utilized a NN after discharge from the hospital.  Group 2 (105) included patients with heart failure who were discharged from NHC for heart failure related illnesses and who were seen in a primary care practice that did not utilize a NN after discharge from the hospital.  The medical records reviewed included heart failure discharges from NHC facilities that took place between June 1, 2015 to May 31, 2017.  Between June 1, 2015 and May 31, 2017, the Nurse Navigator program had grown from 13 NCMA locations to 26 NCMA locations with a Nurse Navigator.

Phase II was a focused interview with seven NCMA Nurse Navigators.  The goal of the interview was to understand and identify, from the NNs' perspective, strategies they are using to prevent hospital readmissions for heart failure patients and other strategies that may be used to prevent readmission.

### Setting

Norton Healthcare is a not-for-profit healthcare system located in Louisville, Kentucky and Southern Indiana.  It includes four adult hospitals, a children's hospital, 13 immediate care

centers, and 190 providers practice locations (Norton Healthcare, 2017c).  Norton Healthcare's primary care services, Norton Community Medical Associates (NCMA), has 30 locations and is staffed with physicians, nurse practitioners, physician assistants, and other medical personnel to meet primary care needs.  This study focused on patients discharged from any of the four adult hospitals that have a primary care provider in any of the 30 NCMA locations.

**Sample**

Phase I was a sample of 159 patient charts that were randomly selected from a NHC provided data set of 1,980 patient charts.  The goal was to review 100 patient charts that received a NN call and 100 patient charts that did not receive a NN call.  Only 54 patient charts met the inclusion criteria for those that received a NN phone call and 105 patient charts for those that did not receive a NN phone call.  Inclusion criteria included English speaking males and females, ages 18-85, and a diagnosis of heart failure, who were discharged from any of the four Norton Healthcare adult hospitals:  Norton Hospital, Norton Audubon, Norton Brownsboro, and Norton Women's and Children's between June 1, 2015 to May 31, 2017.  The patients also had to have a PCP within one of the 30 NCMA locations.

Phase II was a focused interview with NNs within NCMA.  A total of 10 NNs were sent an email with information about the interview.  The goal was to interview 10 NNs.  There were seven NNs that responded and agreed to participate in the interview.   Inclusion criteria included any Nurse Navigator that was involved with heart failure patients after discharge from NHC and consented to participate in the interview.  Exclusion criteria includes any NN that was not involved with heart failure patients after discharge from NHC and was not willing to participate in the interview.

**Data Collection**

The proposed descriptive, retrospective study commenced after securing approval from the University of Kentucky Institutional Review Board (IRB) and the Norton Healthcare Office of Research and Administration (NHORA).  Phase I was a retrospective study based on a patient chart review.  The patient charts were reviewed at the Norton Healthcare Learning Center using Norton Healthcare's electronic health record system, EPIC.  The data collected included:  NN call or no NN call, follow-up appointment or  no follow-up appointment, 30-day readmission or no 30-day readmission, age, race, gender, vital signs at discharge (blood pressure, heart rate, oxygen saturation, body mass index, and weight), number of co-morbid conditions, New York Heart Association (NYHA) heart failure class, number of medications being taken, smoking status, and laboratory results (lipid panel, hemoglobin A1c, brain natriuretic peptide, creatinine, glucose, potassium, and sodium).

Phase II was a focused interview with seven NHC Nurse Navigators.  The interviews took place in a private office at the NCMA clinic of each individual NN.  A consent form was obtained, and five standardized questions were asked of each NN (see Appendix A).  Responses from the NNs were hand recorded on note paper.

**Data Analysis**

Phase I data utilized descriptive statistics, including frequency distributions, means, and standard deviations to summarize the study sample.  The chi-square test of associations was used to test for differences in demographics, clinical characteristics, readmissions, and PCP follow-up between those who received a call from a NN and those who did not receive a call from a NN.  Data analysis was conducted using SPSS, version 23 with and alpha level of .05 to determine

statistical significance.  Phase II utilized a summary of common themes from the responses given by the NN.

## Results

### Sample Characteristics

The study sample consisted of 159 randomly analyzed charts of patients that met inclusion criteria.  The mean age of the study sample (n=159) was 68.  The majority of patients were Caucasian, and over half were female (56.6%).  The mean body mass index (BMI) of all patients assessed was 32.8 (SD 9.7).  More than half of the patients had either a history of smoking or were current smokers (65.4%).  The New York Heart Association (NYHA) heart failure class was reviewed, and it was found that almost half of the time the class was not documented (48.4%).

The number of comorbid conditions were reviewed for each patient and just over half had 10 or more concurrent illnesses along with heart failure (50.3%).  The top comorbidities found were hypertension, hyperlipidemia, and diabetes mellitus type 2.  The number of medications each patient was taking was also assessed with 93% taking six or more daily medications concurrently (see Table 1).

There was no statistically significant difference between group 1 (NN call) and group 2 (no NN call) in age, BMI, gender, race, number of comorbidities, number of medications taken, smoking status, and NYHA heart failure class (see Table 2).

### Nurse Navigator Call and 30-Day Readmission Rate

There was no significant decrease in hospital readmission among those who were called by a NN and those who were not called by a NN (p=.22, see Table 3).  Of those who received a

NN call, 22% were readmitted to the hospital within 30 days of discharge. Of those who did not receive a NN call, 31% were readmitted to the hospital within 30 days of discharge.

**Follow-Up Appointment and 30-Day Readmission Rate**

There was no significant decrease in hospital readmissions among those who attended a follow-up appointment with their primary care provider (p=.16, see Table 3). Of those who attended a PCP follow-up appointment, 19% were readmitted within 30 days of discharge. Of those who did not attend a PCP follow-up appointment, 31.5% were readmitted. The most common reasons for readmission were: pulmonary dysfunction, infection, and renal disease.

**Nurse Navigator Focused Interview**

**Perceptions or perceived barriers.** All participants identified medication adherence as a barrier to the management of heart failure. Reasons stated for medication non-adherence include cost and lack of understanding of the reason for taking the medication. "Patients cannot afford their medications or just do not take their medications." Another barrier to the management of heart failure identified by the majority of the NNs interviewed was the lack of education while the patient is in the hospital. Many patients are being discharged with little understanding of their illness, medications, and necessary lifestyle changes.

**Topics discussed with heart failure patients.** All participants stated that they discussed medications with heart failure patients. This includes providing an understanding of what the medication does, why they are taking the medication, and how to take the medication. The participants also stated that they discuss the importance of daily weights with the patients. This included when to weigh themselves and when to call their provider based on their daily weight. Finally, most of the participants stated that they discussed diet with the patient. This included sodium and fluid restrictions.

**Resources used with heart failure patients.** Common resources used by the participants in the outpatient management of heart failure patients include: daily heart care checklist (see Appendix C), NHC's Heart Failure Clinic, home health, and other health professionals (pharmacists, social workers, providers, etc.). "Home health is a great resource because someone is able to lay eyes on the patient after discharge."

**Successes with the NN program.** All participants identified the additional education they provide as a success with the NN program. "I believe providing patients education about medications, weighing themselves daily, symptoms to monitor, and diet helps keep patients out of the hospital." Attendance of PCP appointments was also identified by the majority of the NNs interviewed as a success of the program. "Patients who are seeing their PCP within two weeks of discharge can address problems, questions, and symptoms with their PCP which can help prevent them from returning to the hospital."

**Opportunities.** The majority of the NNs interviewed identified the opportunity of more education before being discharged to keep patients out of the hospital. "Patients would benefit from more education, on the inpatient side, that addresses weights, symptoms, and diet." Other common themes that emerged as opportunities that could keep heart failure patients out of the hospital include: follow-up appointments made before hospital discharge, better medication assistance for those who cannot afford medications, and better medical record documentation by the inpatient and outpatient care team.

## Discussion

**Role of the Nurse Navigator as defined by NHC**

The first patient navigation program was developed in 1990 by Dr. Harold Freeman, a surgical oncologist, along with funding from the American Cancer Society (ACS) which focused

on screening, diagnosing, treating, and providing accommodating care to breast cancer patients

Dr. Freeman developed nine principles of patient navigation that have been used to mold

navigator programs across the country (The George Washington Cancer Institute, 2011):

1) Navigation is patient centered.

2) Navigation incorporates a system of health care based on an individual patient's

   needs.

3) Navigation ultimately serves to eradicate barriers to care.

4) Patient navigator roles and responsibilities should be defined.

5) Navigation services should be cost-effective and patient navigators should have the

   skills and training needed to guide a patient through various phases in the continuum

   of care.

6) Patient navigation services should be determined by the skills needed to navigate

   through a particular aspect of care.

7) There must be a definitive point where navigation services end.

8) Navigator is necessary to properly guide the patient between care sites (primary vs.

   tertiary care).

9) Coordination is critical to the success of patient navigation programs.

The literature did not yield a standardized role definition for a NN, but NHC has defined

the roles and responsibilities of the NN within their system.  The roles and responsibilities of the

NHC NN exemplify the principles set forth by Dr. Freeman as mentioned above.  The NNs at

NHC are focused on outpatient transitional care and aim to improve patient self-care and prevent

hospital admissions and readmissions by using multicomponent interventions such as telephone

calls, timely follow-up, timely PCP communication, and collaboration with other healthcare

professionals (see Appendix B).

A role of the NN is to manage patients on chronic condition registries. According to the

National Institutes of Health (NIH), a registry is a "collection of information about individuals,

usually focused around a specific diagnosis or condition." Healthcare systems are using disease

registries to create patient reports for use at the point-of-care, identify patients who are not

meeting management goals, examine provider and staff performance in following recommended

health care guidelines, and produce population reports to monitor and stratify patients (National

Institutes of Health, 2017). The current registries reviewed by the NN at NHC include: diabetes

mellitus, hypertension, and Medicare Advantage. A heart failure registry will be reviewed in the

future, but the NNs are currently involved in a heart failure pilot with Humana which allows

them to identify and review heart failure patients. The NN's responsibility is to assess heart

failure patients in selected clinics and enroll them in the program (see Appendix C). The

program uses nurse practitioners to monitor patients that were given digital scales. The

information from the scale can be transmitted for review.

Another role of the NN at NHC is to review hospital readmissions and discharges. These

patients are prioritized, and follow-up is based on risk for readmission. They review all

discharge diagnoses, not just heart failure. Humana's RPM (Readmission Predictive Model) tool

and the LACE (length of stay, acuity of the admission, co-morbidities, and Emergency

Department visits) tool are used to identify and engage the patients at risk for readmission. The

NN is responsible for understanding the patient population and utilizing their critical thinking

skills to manage patients post-discharge to keep them out of the hospital. Limited research is

found that addresses the impact of a nurse-led transitional care program on the 30-day

readmission rate in heart failure patients.  However, a systematic review looking at transitional care interventions for heart failure patients found that registered nurse or APRN led interventions had positive effects on 30-day readmissions (Garcia, 2017).

A third role of the NN is to focus on reviewing patient Emergency Department (ED) utilization.  The NN reviews a list of patients that have had more than three ED visits in the past year.   The interventions used for the previously mentioned NN goals include:  performing outreach calls, assessing needs, closing health maintenance gaps, connecting them with NHC, community, and payer resources, collaboration with inpatient care managers and payer personnel, establishing frequency of follow-up and monitoring, and scheduling primary care provider appointments as needed.  The multicomponent transitional care interventions used at NHC are like interventions identified through a systematic review.  The review found that many programs used remote monitoring of vital signs, remote videophone and messaging, and telephone calls to assess needs and educate patients about self-management of their illness (Garcia, 2017).

**Reasons for Readmission**

The patient charts reviewed from Group 1 and from Group 2 had similar clinical characteristics.  There was no statistical difference between the groups in age, gender, race, number of comorbidities, number of medications, NYHA heart failure class, or smoking status (see Table 2).  The study also found that there were no differences between Group 1 and Group 2 for the number of readmissions for the primary diagnosis of heart failure.  Approximately one-third of patients from Group 1 and from Group 2 were readmitted within 30 days of hospital discharge specifically for heart failure.  The majority of 30-day readmissions for both groups (66.7%) were for non-heart failure diagnoses.  The study found that the top reasons other than

heart failure for 30-day readmissions from Group 1 and Group 2 are:  pulmonary dysfunction

(33.3%, 15%), infection (16.7%, 12.1%), and renal disease (8.3%, 9.1%).  An analysis by Davis

et al. of all-payer 30-day readmissions after hospital discharge for heart failure showed

comparable results for the top reasons for readmission other than heart failure:  non-heart failure

cardiovascular (14.9%), pulmonary (8.5%), infection (7.7%), hematologic/oncologic (6.7%), and

renal disease (5.5%; Davis et al., 2017).

**Nurse Navigator Discussion**

Phase II of the study involved a focused interview with seven current NHC Nurse

Navigators.  The Nurse Navigator is responsible for reaching out to patients with all different

conditions and illnesses.  The goal of the Nurse Navigator is to keep the patient out of the

hospital.  They are required to prioritize the patients that they contact after hospital discharge to

maximize their impact.  The Nurse Navigator is only one piece of the healthcare puzzle.  For this

study, the Nurse Navigators were interviewed about how they interact with heart failure patients

specifically.

**Resources available to Nurse Navigators to better serve patients.**  There are several

resources that are utilized by the NNs in the outpatient management of heart failure patients.

Norton Healthcare's Heart Failure Clinic is used by both NN and provider to assist management

of their patient's heart failure.  The Heart Failure Clinic utilizes a multidisciplinary team

involving a cardiologist, nurse practitioner, nutritionist, care manager, and pharmacist.  Services

provided by the Heart Failure Clinic include:  education on nutrition, exercise, and medication,

office-based infusion treatments, smoking cessation classes, referrals to cardiac rehabilitation

and physical therapy services, and provides the patient's primary care provider with a summary

of treatment and care (Norton Healthcare, 2017b).  Currently, referrals for the Heart Failure

Clinic are made by the patient's provider, whether that be inpatient or outpatient. The NN is required to consult with the provider to obtain an order if they believe that the patient could benefit from the Heart Failure Clinic. A meta-analysis looking at the impact of heart failure intervention programs found a significant reduction in admissions, clinic visits, and cost and improved quality of life and satisfaction for heart failure patients utilizing these services (Wakefield, Boren, Groves, & Conn, 2013). The literature is limited, but one study showed that only one-seventh of the heart failure patients reviewed were referred to and used a heart failure clinic (Gravely, Ginsburg, Stewart, Mak, & Grace, 2012). One way that NHC could increase referrals by providers to the Heart Failure Clinic would be to have a prompt built in to the electronic health record system that suggests to the provider that a referral to the Heart Failure Clinic may be warranted for a patient. This could be based on certain elements in the chart such as the patient's NYHA heart failure class, the patient's ejection fraction, and/or the number of hospitalizations the patient has had.

Home health is also a resource utilized by the NN. Referrals must be made by the provider and the patient must qualify and be willing to receive home health. According to CMS, a patient qualifies for home health if: they are under the care of a doctor with a plan care that is reviewed regularly, the doctor certifies the need for intermittent skilled nursing care, physical therapy, speech-language pathology, or continued occupational therapy services, and the patient is homebound (CMS, n.d.). Like the Heart Failure Clinic, if the NN believes that the patient would benefit from home health services, they must obtain an order from the provider. This service provides a way for NNs to have medical professionals lay eyes on the patient and report their findings to optimize outcomes. Norton Healthcare has started a program that utilizes a home healthcare model called the Transitions in Care Continuum (TICC) program. The TICC

program helps patients move from the hospital, to a rehabilitation facility, and back home. Once

the patient gets back home, a nurse practitioner and social worker visit the patient at home. They

help coordinate home health nursing, transportation, meal delivery and/or other community-

based programs. The NN can communicate with the nurse practitioner to ensure that the patient

has all their self-care needs met.

Another resource utilized by the NNs in the outpatient management of heart failure

patients is a daily heart care checklist (see Appendix B). This resource lists signs and symptoms

that a typical heart failure patient should we watching for. Based on the symptoms that the

patient is experiencing; an action plan is listed with the goal of keeping the patient out of the

hospital. Along with the last-mentioned resource, a daily weight chart is also used (see

Appendix C). The NN can use these tools to assist the patient in self-management of their heart

failure.

Finally, other healthcare professionals are utilized as a resource by the NN. These

professionals include pharmacists, dieticians, physicians, registered nurses, social workers, and

therapy services. The NN collaborates with these professionals as needed to create a care plan

that is tailored to each individual patient. According to Bosch and Mansell (2015),

"collaboration in health care has been shown to improve patient outcomes such as reducing

preventable adverse drug reactions, decreasing morbidity and mortality rates, and optimizing

medication dosages" (p. 176). The authors also point out that collaboration benefits the

healthcare team by decreasing workload and increasing job satisfaction (Bosch & Mansell,

2015).

**Topics discussed with patients.** There are several topics that could be discussed with

heart failure patients to assist in self-management of their illness. A topic that all seven of the

NNs said they discussed with heart failure patients is that of weight management. A study by Wang et al. (2014) found that proper weight management had a positive impact on the patient's NYHA class and reduced heart failure related hospital readmissions (Wang et al., 2014). Daily weighing is a key component for heart failure patients to adequately monitor the build-up of fluids that are caused by a heart muscle that is not pumping as it should. According to the American Heart Association, sudden weight gain or loss can indicate worsening of heart failure (American Heart Association, 2011). A daily weight log is one tool that can be used by the patient to self-manage their heart failure (see Appendix D).

Another topic that all NNs said that they discussed with heart failure patients was that of medications. Interventions to improve adherence to medications have been shown to reduce the risk for both hospitalization and death (Ruppar, Cooper, Mehr, Delgado, & Dunbar-Jacob, 2016). Medication education is the primary intervention that the NHC NN uses when talking to a patient. This education includes medication changes, current medications and why they are being taken, and how each medication should be taken. Much of the literature reviewed shows interventions that are based around patient education. A systematic review and meta-analysis found several effective interventions that improve medication adherence: maintaining contact with patients over an extended period of time independent of medical doctors (nurses, medical assistants, or pharmacists), bundled interventions such as simplified dosing regimen, education, brochures, and heart failure diary or telephone monitoring, smoking cessation courses, home visits in instability, and an advisory hotline (Unverzagt et al., 2016).

Diet was also a common topic discussed with patients among the NNs, specifically the importance of a low sodium diet. The Cleveland Clinic recommends high-fiber foods, use of fresh ingredients, avoiding convenience foods (canned soups, entrees, vegetables, pasta, and rice

mixes, frozen dinners, and gravy sauce mixes), checking food labels, keeping a record of the amount of sodium that is being consumed, and making sensible choices when dining away from home (The Cleveland Clinic, 2016). Consulting with a dietician may be beneficial for inpatients and outpatients living with heart failure. Dieticians can teach patients and families heart-healthy guidelines and can help them develop meal plans.

**The perceived barriers by the Nurse Navigator for patients to manage their heart failure.** Medication adherence was a barrier that all NNs believed hindered self-management of heart failure. According to Ruppar et al., medication noncompliance "leads to increased heart failure exacerbations, reduced physical function, and higher risk for hospital admission and death" (p. 1). The authors also suggest that medications should be discussed at all regular follow-up visits and improving medication compliance should be a key component of heart failure self-management programs (Ruppar et al., 2016). Treatment of heart failure typically requires several medications. Similar to NHC NNs, Browne, Macdonald, May, Macleod, and Mair (2014) pointed out that polypharmacy is a barrier to the self-management of heart failure. The authors describe medication management as a "challenge for patients" due to the time and effort it takes to develop routines that keep them in accordance with provider advice (Browne et al., 2014). The NNs also pointed out that the cost of medication is a major reason for medication non-adherence. They suggested an inpatient program that would help patients obtain their medications before they leave the hospital. Rxassist.org is a website that can be used by care management, chronic disease educators, staff nurses, pharmacists and/or providers to find medication assistance programs that may help patients afford the necessary medications to manage their illness. This tool could be used in conjunction with more extensive medication education to help patients with medication adherence.

The NNs also said that lack of education is a barrier to self-management of heart failure. Education is a key component of healthcare, but finding the time and resources to deliver the amount of education needed for each patient is often difficult. Cowie et al. (2014) suggests that disease management programs should include pre-discharge education, post-discharge treatment optimization, and long-term patient monitoring. The authors also suggest using technology, such as telemedicine, to provide continuing education to patients (Cowie et al., 2014). One way that NHC could potentially improve inpatient communication is by gaining referral to the Heart Failure Clinic early in admission. The education could start at the hospital by a representative from the clinic. This could be trialed at Norton Audubon Hospital since this is where the Heart Failure Clinic is located.

Other barriers mentioned include: patients not attending follow-up appointments with PCPs or cardiologists, patients not willing to change their lifestyle, and patients not "buying in" to the fact that they have an illness. These barriers can be attributed to poor understanding by the patient of their illness. Targeted education could help with these barriers. According to Browne et al., poor understanding of heart failure is common and negatively affects self-care. The authors suggest the need for multiple conversations during multiple contacts with the patient. This will require better communication among health care professionals (Browne et al., 2014).

**What is working with the Nurse Navigator program.** The NNs identified several elements that they believe is working with the NN program: more education, more follow-up appointments being attended, they can reach out to family to provide further education and caregiver advice, they can be better advocates for the patient, and they can follow patients more closely. All of the NNs said that the reinforcement of education that they are able to provide for the patient is a success of the program. Many of the transitional care interventions found in the

literature include some form of patient education. Ross, Ohlsson, Blomberg, and Gustafsson (2015), suggests that patients write down their learning needs before education takes place to ensure that the education is individualized.

The NNs also all said that they are able get more patients in for follow-up appointments within two weeks of hospital discharge. According to McAlister, Youngson, Kaul, & Ezekowitz (2016), outpatient follow-up within 14 days of hospital discharge is associated with better outcomes after an acute heart failure exacerbation. The authors also found that follow-up with a provider that the patient is familiar with is best (McAlister et al., 2016).

**Recommendations**

A NN should frequently calculate their own 30-day readmission rates for the office(s) they are covering. This will provide better feedback to the NN and clinic on the effectiveness of the program in reducing the 30-day readmissions. This would allow the NN to determine what is working well for them in decreasing readmissions and trial other strategies to decrease hospital admissions.

An opportunity that most of the NNs identified as a need, was increased patient education before discharge. This education could be done by a chronic disease educator, nurse practitioner, pharmacist, and/or dietician. As mentioned before, those with a Heart Failure Clinic referral could receive pre-discharge education from a representative of the clinic. The representative could ensure proper documentation about the patient's heart failure status in the electronic health record, assess learning needs of the patient, and reach out to other members of the health care team to better streamline care. This would give the NN more focused education topics when they contact the patient post-discharge. They would also be able to share this information with the provider to discuss at the follow-up visit.

For the patients that have access to a computer, the NNs could direct them to the Heart Failure Society of America's (HFSA) website at HFSA.org for patient resources. The HFSA's patient resources are free and include modules that cover topics such as how to follow a low sodium diet, heart failure medication, and self-care: following your treatment plan and dealing with your symptoms. The website also has an app that can be used on a personal computer or a mobile phone. This app allows patients to track medications, daily moods, daily vital signs, symptoms, appointments, and physical activity. The app also allows the patient to journal about their illness. The HFSA also has provider resources that the NN could use free of charge to enhance patient education. Future studies could focus on implementation of the HFSA programs These programs are patient friendly and empower the patient to self-manage their illness.

Finally, as budget allows, every clinic should have a NN. The study showed a trend toward decreased 30-day readmissions for the heart failure population within NHC. All patients, not just those with heart failure, would be better served if more time was able to be given for post-discharge education. A dedicated NN for heart failure patients across NHC is a suggestion that would allow for closer monitoring of the patients' illness as an outpatient.

**Limitations**

Study limitations include a sample size of (N=159) 54 that received a NN call and 105 that did not receive a NN call. The small sample size contributed to the lack of statistical significance. This study was limited to heart failure patients that had a primary care provider from NHC; therefore, these findings cannot be generalized to a larger population. Another limitation was the small number of NNs that were interviewed. This limited the suggestions for program improvement from those that are performing in the role of a NN. Finally, NNs have

many other illnesses that they are responsible for tracking other than heart failure that limited the results of the study.

## Conclusion

Heart failure is the number one cause for 30-day readmissions, reported by Medicare (Hines, Barrett, Jiang, & Steiner, 2014). A 30-day readmission for heart failure is an adverse outcome that is often preventable. The NN program uses evidence based practices to help prevent these patients from be readmitted. According to this study, the NN program demonstrated a trend toward decreased 30-day hospital readmission. During the focused interview, the NN identified interventions such as NHC's Heart Failure clinic, daily weight management, PCP follow-up, and home health to improve patient self-management of heart failure. The NN program did not show statistically significant results, but the trends in hospital readmission for the group that received a NN call versus the group that did not receive a NN call show improvement.

References

Advisory Board (2016).  The 2,597 hospitals facing readmissions penalties this year. Retrieved

from https://www.advisory.com/daily-briefing/2016/08/04/hospitals-facing-readmission-

penalties

Agency for Healthcare Research and Quality (2015).  National healthcare quality and disparities

report.  Retrieved from

https://nhqrnet.ahrq.gov/inhqrdr/Kentucky/benchmark/table/All_Measures/All_Topics#ac

hieved

American Heart Association (2011).  Get with the guidelines-heart failure enhanced heart failure

patient education prior to hospital discharge.  Retrieved from

https://www.heart.org/idc/groups/heart-

public/@private/@wcm/@hcm/@gwtg/documents/downloadable/ucm_428949.pdf

American Heart Association (2017).  Heart failure guidelines toolkit.  Retrieved from

http://www.ksw-gtg.com/hfguidelines/#/1

Benjamin, E.J., Blaha, M.J., Chiuve, S.E., Cushman, M., Das, S.R., Deo, R…, &

Muntner, P. (2017).  Heart disease and stroke statistics-2017 update:  a report from the

American Heart Association.  *Circulation, 135*(10), e146-e603.  Retrieved from

https://doi.org/10.1161/CIR.0000000000000485

Boccuti, C. (2017).  Aiming for fewer hospital u-turns:  the Medicare hospital readmission

reduction program.  *Kaiser Family Foundation.*  Retrieved from

https://www.kff.org/medicare/issue-brief/aiming-for-fewer-hospital-u-turns-the-

medicare-hospital-readmission-reduction-program

Bosch, B. & Mansell, H. (2015).  Interprofessional collaboration in health care.  *Canadian*

*Pharmacists Journal, 148*(4), 176-179.  doi: 10.1177/1715163515588106

Centers for Disease Control and Prevention (n.d).  Home health services.  Retrieved from

      https://www.medicare.gov/coverage/home-health-services.html

Centers for Disease Control and Prevention (2016).  Heart failure fact sheet.  Retrieved from

      http://www.cdc.gov/dhdsp/data_statistics/fact_sheets/fs_heart_failure.htm

Centers for Medicare and Medicaid Services (2016).  Readmissions reduction program (HRRP).

      Retrieved from https://www.cms.gov/Medicare/Medicare-Fee-for-Service-

      Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html

Cowie, M.R., Anker, S.D., Cleland, J.G.F., Felker, G.M., Filippatos, G., Jaarsma, T., … &

      Lopez-Sendon, J. (2014).  Improving care for patients with acute heart failure:  before,

      during and after hospitalization.  *The Heart Failure Association of the European Society*

      *of Cardiology, 1*(2), 110-145.  doi:10.1002/ehf2.12021

Davis, J.D., Olsen, M.A., Bommarito, K., LaRue, S.J., Saeed, M., Rich, M.W., & Vader, J.M.

      (2017).  All-payer analysis of heart failure readmission:  comorbidities matter.  *The*

      *American Journal of Medicine, 130*(1), e9-e27.  Retrieved from

      http://dx.doi.org/10.1016/j.amjmed.2016.07.030

Desai, A.S. & Stevenson, L.W. (2012).  Rehospitalization for heart failure predict or prevent?

      *Circulation, 126,* 501-506.  Retrieved from

      https://doi.org/10.1161/CIRCULATIONAHA.112.125435

Feltner, C., Jones, C.D., Cenè, C.W., Zheng, Z., Sueta, C.A., Coker-Schwimmer, E.J.L., …

      Jonas, D.E. (2014).  Transitional care interventions to prevent readmissions for persons

      with heart failure:  a systematic review and meta-analysis.  *Annals of Internal Medicine,*

      *160* (11), 774-784.  doi:10.7326/M14-0083

Garcia, C.G. (2017).  A literature review of heart failure transitional care interventions.  The

American Journal of Accountable Care, 5(3), 21-25.  Retrieved from

http://www.ajmc.com/journals/ajac/2017/2017-vol5-n3/a-literature-review-of-heart-

failure-transitional-care-interventions?p=2

Gravely, S., Ginsburg, L., Stewart, D.E., Mak, S., & Grace, S.L. (2012).  Referral and use

of heart failure clinics:  what factors are related to utilization.  *Canadian Journal of

Cardiology, 28*(4), 483-489.  doi:10.1016/j.cjca.2011.11.020

Hines, A.L., Barrett, M.L., Jiang, H.J., & Steiner, C.A. (2014).  Conditions with the largest

number of adult hospital readmissions by payer, 2011.  *Agency for Healthcare Research

and Quality.*  Retrieved from http://www.hcup-us.ahrq.gov/reports/statbriefs/sb172-

Conditions-Readmissions-Payer.pdf

Kentucky Cabinet for Health and Family Services (2007).  *Kentucky heart failure fact sheet.*

Retrieved from http://chfs.ky.gov/NR/rdonlyres/35BE13CC-ADB4-4ED0-945D-

73FBB626C82F/0/KyHeartFailureFactSheet_Oct2007.pdf

McAlister, F.A., Youngson, E., Kaul, P., & Ezekowitz, J.A. (2016).  Early follow-up

after a heart failure exacerbation.  Early follow-up after a heart failure exacerbation.

*Ciculation:  Heart Failure, 9*(9), 1-9.  Retrieved from

https://doi.org/10.1161/CIRCHEARTFAILURE.116.003194

Monza, K., Harris, D., & Shaw, C. (2015).  The role of the nurse navigator in the management of

the heart failure patient.  *Critical Care Nursing Clinics of North America, 27*(4), 537-549.

http://dx.doi.org/10.1016/j.cnc.2015.07.010

National Institutes of Health (2017).  List of registries.  Retrieved from

https://www.nih.gov/health-information/nih-clinical-research-trials-you/list-registries

Naylor, M.D., Aiken, L.H., Kurtzman, E.T., Olds, D.M., & Hirschman, K.B. (2011). The

importance of transitional care in achieving health reform. *Health Affairs, 30*(4), 746-

754. doi:10.1377/hlthaff.2011.0041

Norton Healthcare (2017a). *Heart failure.* Retrieved from

https://nortonhealthcare.com/Pages/qualityreport.aspx

Norton Healthcare (2017b). Heart failure clinic. Retrieved from

https://nortonhealthcare.com/pages/heart-failure-clinic.aspx

Norton Healthcare (2017c). *The Norton story.* Retrieved from

https://nortonhealthcare.com/Pages/thenortonstory.aspx

Rizzo, E. (2013). Stats on the cost of readmission for CMS-tracked conditions. Retrieved from

http://www.beckershospitalreview.com/quality/6-stats-on-the-cost-of-readmission-for-

cms-tracked-conditions.html

Ruppar, T.M., Cooper, P.S., Mehr, D.R., Delgado, J.M., & Dunbar-Jacob, J.M. (2016).

Medication adherence interventions improve heart failure mortality and readmission

rates: systematic review and meta-analysis of controlled trials. *Journal of the American

Heart Association, 5*(60), 1-18. Retrieved from

http://jaha.ahajournals.org/content/5/6/e002606

The Cleveland Clinic (2016). Heart failure diet: low sodium nutrition guidelines. Retrieved

from https://my.clevelandclinic.org/health/articles/heart-failure-diet-low-

sodium/nutrition-guidelines

The George Washington Cancer Institute. (2011). National patient navigation inaugural meeting

summary. Retrieved from

http://smhs.gwu.edu/gwci/sites/gwci/files/NPNCSummary2012.pdf.

The Joint Commission (2012).  Transitions of care:  the need for a more effective approach to

continuing patient care.  Retrieved from

https://www.jointcommission.org/assets/1/18/Hot_Topics_Transitions_of_Care.pdf

Wakefield, B., Boren, S.A., Groves, P.S., & Conn, V. (2013).  Heart failure care

management programs:  a review of study interventions and meta-analysis of outcomes.

*The Journal of Cardiovascular Nursing, 28*(1), 8-19.

doi:10.1097/JCN.0b013e318239f9e1

Wang, X., Qui, J., Ju, Y., Chen, G., Yang, J., Pang, J., & Zhao, X. (2014).  Reduction of heart

failure rehospitalization using a weight management education intervention.  *The Journal

of Cardiovascular Nursing, 29*(6), 528-534.  doi:10.1097/JCN.0000000000000092

Table 1. Demographic and clinical characteristics of the study sample (N=159)

| | Total sample (N=159)<br><br>Mean (SD) or n (%) |
|---|---|
| Age | 68.1 (11.7) |
| BMI (Body Mass Index) | 32.8 (9.7) |
| Gender | |
| Male | 69 (43.4%) |
| Female | 90 (56.6%) |
| Race | |
| White | 119 (74.8%) |
| African American | 39 (24.5%) |
| Asian | 1 (0.6%) |
| Number of comorbidities | |
| 1-3 | 8 (5%) |
| 4-6 | 27 (17%) |
| 7-9 | 44 (27.7%) |
| 10+ | 80 (50.3%) |
| Number of medications | |
| None | 0 (0%) |
| 1-5 | 11 (6.9%) |
| 6-10 | 60 (37.7%) |
| 11-15 | 60 (37.7%) |
| More than 15 | 28 (17.6%) |
| Smoker | |
| Never smoker | 55 (34.6%) |
| History of smoking | 75 (47.2%) |
| Current smoker | 29 (18.2%) |
| Nurse navigator call | |
| Yes | 54 (34%) |
| No | 105 (66%) |
| NYHA Heart Failure Class | |
| Not specified | 77 (48.4%) |
| 1 | 16 (10.1%) |
| 2 | 24 (15.1%) |
| 3 | 39 (24.5%) |
| 4 | 3 (1.9%) |
| Follow-up appointment attended | |
| Yes | 78 (49.1%) |
| No | 54 (34%) |
| Transferred to skilled facility | 27 (17%) |
| Readmitted within 30 days | |
| Yes | 45 (28.3%) |
| No | 114 (71.7%) |

*Notes: Standard deviation (SD), Body mass index (BMI),*
*New York Heart Association (NYHA)*

Table 2.  Demographic and clinical characteristics of Group 1 vs. Group 2

| | NN call (N=54) Mean (SD) or n (%) | No NN call (N=105) Mean (SD) or n (%) | P |
|---|---|---|---|
| Age | 69.4 (10) | 67.4 (12.4) | .24 |
| BMI | 33.1 (10.9) | 32.7 (9.1) | .25 |
| Gender | | | |
|   Male | 24 (44%) | 45 (43%) | .85 |
|   Female | 30 (56%) | 60 (57%) | |
| Race | | | |
|   White | 43 (80%) | 76 (72%) | .18 |
|   African American | 10 (19%) | 29 (28%) | |
|   Asian | 1 (2%) | 0 (0%) | |
| Number of comorbidities | | | |
|   1-3 | 2 (4%) | 6 (6%) | |
|   4-6 | 7 (13%) | 20 (19%) | .28 |
|   7-9 | 12 (22%) | 32 (30%) | |
|   10+ | 33 (61%) | 47 (45%) | |
| Number of medications | | | |
|   None | 0 (0%) | 1 (1%) | |
|   1-5 | 3 (6%) | 8 (8%) | .61 |
|   6-10 | 17 (31%) | 43 (41%) | |
|   11-15 | 24 (44%) | 36 (34%) | |
|   More than 15 | 10 (19%) | 17 (16%) | |
| Smoker | | | |
|   Never smoker | 21 (39%) | 34 (32%) | .43 |
|   History of smoking | 26 (48%) | 49 (47%) | |
|   Current smoker | 7 (13%) | 22 (21%) | |
| NYHA Heart Failure Class | | | |
|   Not specified | 25 (46%) | 52 (50%) | |
|   1 | 5 (9%) | 11 (10%) | .71 |
|   2 | 7 (13%) | 17 (16%) | |
|   3 | 15 (28%) | 24 (23%) | |
|   4 | 2 (4%) | 1 (1%) | |

Table 3. Comparison of NN call vs. no NN call in follow-up appointment attendance and 30-day readmission rate

|  | NN call (N=54) n (%) | No NN call (N=105) n (%) | P |
|---|---|---|---|
| Follow-up appointment attended[*] | | | |
|   Yes | 31 (67.4%) | 47 (54.7%) | .16 |
|   No | 15 (32.6%) | 39 (45.3%) | |
| Readmitted within 30 days | | | |
|   Yes | 12 (22.2%) | 33 (31.4%) | .22 |
|   No | 42 (77.8%) | 72 (68.6%) | |

*Patients transferred to skilled facility not included
*Notes: Nurse Navigator (NN)*

**Appendix A**

**Focused Interview Questions**

| | |
|---|---|
| **Question 1** | **What are the perceptions or perceived barriers of the Nurse Navigators in the management of heart failure patients shortly after hospital discharge?** |
| **Question 2** | **What do you typically discuss with heart failure patients that were recently discharged from the hospital?** |
| **Question 3** | **What resources are utilized in the management of heart failure patients post-discharge?** |
| **Question 4** | **What do you think is working with the Nurse Navigator program in regard to keeping heart failure patients out of the hospital?** |
| **Question 5** | **What more do you think could be done to keep heart failure patients out of the hospital?** |

**Appendix B**

**Responsibilities of NN at NHC**



Standard Workflow Instructions:
**Primary Care RN Nurse Navigator**

| ACTION / DESCRIPTION |
|---|
| Daily and PRN: Patient education, (e.g. initial teaching, follow up, training and monitoring for trends).<br><br>Daily and PRN: Review and address any open encounters and/or in-basket messages.<br><br>Daily and PRN: Review any requests for patient assistance. Identify and address any social needs and refer to community resources as appropriate.<br><br>Daily and PRN: Rounding in the practice as patient/provider dictates (this is fluid).<br><br>Daily and PRN: Attend scheduled/required meetings and trainings. |
| Daily: Run hospital admissions/discharge/ED visit lists from Epic. Review and triage calls to be delegated as appropriate per practice protocol. Address any/all attribution discrepancies as they arise.<br><br>Daily and PRN: Assess and prioritize all TCM calls. (Initiate 1st attempt at patient contact within 2 business days of facility discharge. Continue repeated attempts daily, until 3 attempts are made or follow up appointment is completed within 7-14 calendar days). If patient is discharged to a Skilled Nursing Facility (SNF) or Long Term Acute Care (LTAC), contact the facility's social worker, care manager or discharge planner to request notification of patient discharge, so a follow up visit with the PCP can be secured and discharge records can be obtained. If a patient is discharged to a Transition in Care Continuum facility (TICC) a Norton Geriatrics APRN will see patient in the home within 48 hours and will bill the TCM code. Navigator will collaborate with Norton Geriatric APRN for continuity of care as needed. Navigator will also ensure a follow is made with the individual's PCP within 2 weeks.<br><br>Daily: Prioritize all Humana Medicare Advantage patients. Initiate 1st encounter within 48 business hours, if clinically appropriate. (Complete Medication Reconciliation within 30 days and add to Electronic Attribution Form–EAF). Communicate any and all attribution discrepancies as they are identified to Humana via the Humana Attribution spreadsheet and/or Humana PCP change request form.<br><br>Daily and PRN: Contact Humana Level 1 Readmissions Risks- (High Risk for Readmissions identified by Humana's criteria.) Includes 7-day and 30-day follow up calls. |

Daily: Run Medicare Advantage list and identify open Hierarchical Condition Categories (HCCs). Notify provider of specific HCCs requiring additional documentation or resolution. (CDI Nurses to determine standardized method of communication with provider).

Daily and PRN: Prioritize Humana Medicare Advantage patients to identify any Practitioner Assessment Forms (PAF) and /or close any/all Healthcare Effectiveness Data and Information Set (HEDIS) and Heath Maintenance gaps in care (diabetes tests, eye exam referral, foot exam, etc.). Document all gaps to be addressed in patient appointment notes.

Monthly and PRN: Identify high ED utilizers from reports provided by Humana and research root cause of overutilization and implement interventions as needed (e.g. medication assistance, transportation assistance, Humana in home or telephonic case management programs, etc.). Also utilize outside community resources as appropriate (e.g. TARC3, system social worker, system counselor, etc.).

Every 6 months and PRN: Together to Goal- Report within Epic to be run every 6 months or PRN to help close diabetes gaps. Provide information to providers on gaps needing to be addressed.

PRN: Run Healthy Planet Report Registries: DM, HTN, CHF, COPD, and Obesity. Correct attribution as applicable by updating the listed provider in EPIC after verifying patient's PCP. Manage specific registry patients utilizing established interventions. (Workflow to be determined once RN to Provider ratio is established and implemented for manageable workload).

PRN: Review all other payer individual reports via Nsite to address any and all gaps in care. Access through Norton Medical Group application and select NMG Medicare gaps. (Workflow to be determined once RN to Provider ratio is established and implemented for manageable workload).

**Appendix C**

**Humana HF Pilot NN Role**



Standard Work Instructions: **Nurse Navigator: CHF Remote Monitoring:**
**Evaluation of Inclusion Criteria in Pilot**

| | ACTION / DESCRIPTION | PICTURE / SCRIPT / DETAILS |
|---|---|---|
| 1 | Humana CHF Patient List | The Nurse Navigator receives the initial paper Humana CHF Pilot Patient List. The Nurse Navigator will then review the list and discuss the patients with the providers to assess which patients they want included in the pilot. |
| 2 | Chart Review | The Nurse Navigator reviews the patient's chart and then determines whether the patient can be included in the program based on the following parameters:<br>• Inclusion:<br>　○ Is the patient physically able to stand on a scale?<br>　○ Is the patient on a diuretic? (the eligible diuretics are being determined)<br>　○ Is the patient cognitively able to perform the program instructions?  If not, does the patient have a caregiver that can assist them through the program?<br>　○ Does the patient weigh less than 350 lbs.? If the patient weighs more than 350lbs, you can enroll them but the scale might not hold up to the higher weight.<br>• Automatic Exclusions:<br>　○ Is the patient currently receiving care from the Norton Audubon Heart Failure Clinic? To view, check the encounters tab in chart review.  Heart Failure Clinic visits show up as "With column" Cardiology and if you hover, the bubble pops up showing as "Cardiology NPS Heart Fail CL AUD".<br>　○ Is the patient on dialysis?<br>　○ Is the patient in hospice care? |
| 3 | Update Humana CHF Pilot Patient List | The Nurse Navigator updates the electronic Humana CHF Pilot Patient List in K: Drive-> Primary Care Nurse Navigators-> Humana Spreadsheets-> CHF Remote Monitoring Pilot-> pick your office folder. |

| 4 | Telephone Patient | The Nurse Navigator makes telephonic outreach to the patient and provides a high-level overview of the Remote Monitoring Program. Assess if the patient wants to be included in the program. <ul><li>Patient Refusal?<ul><li>Document as a telephone encounter in Epic, update Humana Pilot Patient List, END Process</li></ul></li></ul> |
|---|---|---|
| 5 | Patient Enrollment | Schedule the patient as a General Education Encounter in Epic with the Nurse Navigator.  If the patient has an upcoming primary care appointment, try to schedule on the same day. <ul><li>If the patient accepts, document as a telephone encounter in Epic and update Humana CHF Pilot Patient List.</li></ul> |

**Appendix D**

**Daily Heart Care Checklist**



**NORTON HEART CARE**

**Daily Heart Care Checklist**

**Every day be sure to:**
- First thing in the morning, before eating or drinking, weigh yourself on the same scale in the same type of clothing.
- Check for swelling in your feet, ankles, legs and abdomen.
- Take all medication as prescribed.
- Eat a low-salt diet and, if required, keep track of fluid intake.
- Stay active and exercise at your comfort level.

**How do you feel today?**
**Check your symptoms and act as needed.**

**I have:**
- No weight gain, or less than 2 pounds from previous day
- No swelling in feet, ankles, legs or abdomen
- No shortness of breath
- No chest pain or cough

**Action:**
- None required – you're in your target zone.
- Stay active and rest as needed.

**I have:**
- Weight gain of 2 to 3 pounds in 1 to 2 days
- Swelling in feet, ankles, legs or abdomen
- Shortness of breath
- Fatigue and little or no energy
- Trouble breathing when lying down flat or feel the need to sleep in a chair
- Dry cough
- Loss of appetite or feeling of fullness

**Action:**
- Call your primary care doctor.

**I have:**
- Worsening symptoms
- Out of breath and resting does not help
- Chest pain
- Confusion or not able to think clearly

**Action:**
**Go to the emergency room or call 911.**

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**Appendix E**

**Daily Weight Chart**

## Daily Weight Chart

Patient Name: _____ Date of Birth:_____

### Instructions

Every morning:

1. Weigh yourself
   a. Use the same scale every day
   b. Urinate/pee before you weigh yourself
   c. Wear the same amount of clothing each time you weigh yourself.
2. Fill in the information on the chart for the specific day
   ➢ Date
   ➢ Weight
   ➢ Up/Down—Is that day's weight up or down from the previous measurement?
   ➢ Comments/Symptoms—How am I feeling?  Is there anything new or unusual (good or bad) that I have noticed? For example:
      • Swelling in feet/ankles/lower legs—is it present, absent, better, or worse?
      • Difficulty breathing—is it present, absent, better or worse? Do you need to sleep with extra pillows, or in a more upright position?
      • Urination/peeing—are you urinating more or less than usual? Is your urine lighter or darker than usual?
      • Heart palpitations—are they present, absent, or more/less frequent?
      • Mood—how are you feeling? Do you feel anxious, depressed, overwhelmed?
      • Energy—do you have enough energy to get through your normal day?
      • Appetite/Nutrition—are you eating regular, nutritious meals? Are you drinking the recommended amount of water? Are you following your salt restriction?
3. Take this chart to each of your appointments.
4. Make additional copies of the Daily Weight Chart, as needed. Or, feel free to create your own chart in a spiral notebook, calendar, or binder.
5. Make a habit to keep track of your progress! You will be much healthier as a result!

**Call your doctor/Nurse Practitioner if you gain 2-3 pounds in 1-2 days, or more than 5 pounds in a week.**

| Date | Weight | Up/Down | Comments/Feelings/Symptoms |
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