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Keep the Beat with Heart Failure Education: A Quality Improvement Project

Brenda L. Peterson
University of San Francisco, markbrendapete@gmail.com

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Abstract

Problem: Heart failure (HF), also known as congestive heart failure (CHF), is the number one diagnosis-related group (DRG) for people 65 years of age and older in the United States. This disease group is complicated and debilitating, requiring frequent hospitalizations with high mortality rates. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has identified CHF as an area for improvement in hospitals.

Context: This was a quality improvement project for an integrated medical center in the Central Valley, California with over 19,000 HF patients. In 2018, for patients 65 years and older, HF is the third-most admitted DRG in the hospital, with an average length of stay of 4.3 days.

Interventions: A multifaceted educational model was developed with many interventions: 1) Patient educational handout for HF, 2) Patient teach-back discharge education, 3) RN staff education for HF, 4) RN checklist for HF, 5) HF web page, and 6) Referral workflow of HF patient to the chronic care department for follow-up after discharge.

Measures: The aim of the project is to reduce HF 30-day post-discharge re-admission rates from 6.8% to 4% by December 2018, by focusing on the discharge education to the patients and caregivers. Using 2017 as a baseline, with 311 discharges and 21 (6.8%) re-admissions, the goal for 2018 would be 12 re-admissions, a reduction of 8.7 patients.

Results: There is consistency by the nursing staff in educating a discharging HF patients. Patients state that the discharge instructions for HF are beneficial. Attendance to the heart failure basic class after patient discharge has improved. Due to time constraints with the project deadlines, the patient re-admission rates have not improved as projected since the implementation of the model. The results are expected to improve over the next few months.

Conclusion: There are some important implications for nursing practice from this HF quality improvement project. Nurses require education to give education. Discharge instructions are imperative. Patients need discharge instructions written at a reading level that is easy to understand. Teach-back is a technique in education that improves the patient's comprehension. Checklists provide consistency in nursing practice to ensure all steps are followed in fast-paced hospital discharges. Follow-up for a patient within a short time from discharge is well received by the patient. The educational model design can be transferable for other commonly admitted chronic conditions.

Patients being readmitted routinely for HF generally have been in the later stages of the disease process. Few patients are not involved with the palliative care team. Many of the patients and their families have not considered end-of-life decisions, including code status for admissions. The next phase of this project will involve palliative care intervening in the plan of care for the chronic HF/CHF patient.

Sustainability is a process and competing priorities make it difficult to achieve improvements as expected in the planned timeline. Quality improvement projects evolve over the process, and new insights are gleaned and can change the focus or aim of the project.

Section II: Introduction

Heart failure (HF) occurs when the ventricles of the heart cannot adequately pump blood to the body. This is a chronic, progressive disease. Congestive heart failure (CHF) is a complex clinical syndrome caused by any functional or structural cardiac disorder that affects the ability of the ventricles to fill with blood or to eject blood (5 Million Lives Campaign, 2008). Eventually, blood and fluids back up into the lungs, abdomen, and lower body. HF takes a significant toll on a patient's ability to perform daily life functions. The estimated prevalence of CHF in the United States is 6 million people (approximately 2% of the population), with 670,000 new cases per year (Sales et al., 2013). CHF is the number one diagnosis-related group (DRG) for people 65 years of age and older in the United States. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has identified CHF as an area for improvement in hospitals. It is the most expensive DRG, costing $31 billion in 2012, with an average hospital stay for CHF of 6.2 days (Knox & Mischke, 1999).

This disease is debilitating and is characterized by high mortality, complex treatment regimen, and frequent hospitalizations. These hospitalizations translate into multiple re-admissions. Hospital 30-day re-admission rates for CHF range between 20% and 27% (Boyde et al., 2017). The Affordable Care Act aims to penalize hospitals with high 30-day re-admission rates for CHF, because it is considered a potentially avoidable hospitalization. Patient self-care and adherence improve with increased education, reducing the need for re-admissions.

A patient's health literacy is the ability of a person to obtain, process, and understand basic health information and services needed to care for themselves. Most health care information is written at a tenth-grade or higher level, even though 80% of adults read at an eighth- or ninth-grade level. Twenty percent of adults read at a fifth-grade or lower level (Safeer

& Keenan, 2005). Limited health literacy, a major determinant of health, affects almost half of

American adults, with an estimated cost of $73 billion annually (Institute of Medicine, as cited

by Griffey et al., 2015). Limited health literacy is a contributing factor in HF re-admissions.

Generally, patients consistently re-admitted for HF have a poor prognosis. Patients admitted

within 30 days post-discharge are considered high-risk patients. There is improved health and

quality of life for HF patients who understand the discharge instructions. Patient compliance

improves when the patient comprehends the health information given.

Hospital discharge is a crucial time for a patient. Patients must follow medical

instructions, and it is essential that they receive concise medication review at discharge.

Scheduling the follow-up appointment at the time of discharge and stressing the importance of

follow-up should be included in the discharge plan. There is improved patient satisfaction when

patients and their families feel they have received adequate information to care for their disease

at the time of their discharge from the hospital. Comprehensive discharge planning and

instruction would reduce re-admission rates and increase patient satisfaction (Hsieh & Kagle,

1991).

Re-hospitalizations are costly to both the patient and the hospital. In evaluating re-

admissions, there is often a gap in follow-up care, such as lack of discharge instructions or lack

of coordination of care after discharge (Jencks, Williams, & Coleman, 2009). Heart failure has

an estimated 5-year mortality rate of 50% (Chaudhry & Stewart, 2017), so finding ways to

reduce re-admissions will improve the quality of life for the patient. Clinical factors that can be

followed to predict 30-day re-admission are the New York Heart Association functional class,

BUN (blood urea nitrogen) levels, increased heart rate, increased respiratory rate, and abnormal

troponin levels (Huynh et al., 2015). Implementing a multi-disciplinary approach to treating,

teaching, and supporting the HF patient can be beneficial to improve quality of life.

Problem Description

In 2018, heart failure re-admission rates at this medical center, a 119-bed hospital part of

a large integrated health care system, located in the Central Valley of California, are the third

highest of all re-admission diseases. The average length of stay is 4.3 days for the initial

admission. Local hospital HF re-admission rates are 24% within 30 days of discharge (Guterman

et al., 2010). There are over 19,000 HF patients within this medical center system. This medical

center, an integrated health system, provides both inpatient and outpatient care. After evaluating

the HF data, it was clear that this project could have an impact on the entire medical center.

Programs to improve systems for heart failure patients have been implemented in both the

inpatient and outpatient settings, yet all were struggling to have an impact on hospital re-

admission rates.

At the beginning of the project, a survey was completed by the inpatient nurses from

medical-surgical, telemetry, and critical care inpatient units, assessing the HF educational needs

of the nursing staff (see Appendix C). It was determined that the nursing staff needed additional

education on HF. The learning needs assessment survey indicated gaps in nursing knowledge

related to the disease process, medications, and lifestyle considerations for the HF patient.

Nurses were not adequately prepared to provide patients with critical information during the

discharge process. Patients need consistent education about their disease, their medication, and

the importance of follow-up with their medical team.

Heart failure patient interviews were conducted. Results of this survey revealed the HF

patients were very uninformed about their disease and the progression they can expect with this

disease (see Appendix D). The discharge packet was an 18-page handout. It was comprehensive, but, unfortunately, patients did not read it. It was too overwhelming and difficult to read. It is important for discharge instructions to be simple enough for teach-back to occur, yet thorough (Agency for Healthcare Research and Quality [AHRQ], 2018).

For years, the outpatient chronic care department has offered an HF class, which was poorly attended. The nursing staff and patient interviews both indicated that few were aware of this educational opportunity. Lack of communication and coordination results in lack of lateral integration of care between the inpatient and outpatient teams. This was identified as another quality gap in the care of the CHF patient population. Based on the high volume of CHF patients in this medical center, the CHF outpatient services are underutilized. The integrated health system of this medical center strives to compliment the care between the inpatient needs and the services provided in the outpatient setting. It was discovered that the lateral integration between the settings did not have a method in place to ensure that a HF hospital admission led to an invitation to attend the HF class. Attending the outpatient HF class provides an additional opportunity for the HF patient to be connected to the resources of the chronic care department. The RN teaching the outpatient class was not notified of the admitted or newly diagnosed HF patient.

PICOT Question

In adult heart failure patients discharged to home (P), what is the effect to the patients who receive discharge instructions from registered nurses trained to educate and using a heart failure educational model (I), compared to patients discharged home without a heart failure educational model being used (C), on the patient's understanding and compliance to medical

treatment of heart failure (O) 30 days after discharge (T), as evidenced by their re-admission within 30 days of discharge?

Available Knowledge

The PICOT question was used to guide the electronic search of the available evidence, which began in CINAHL and was completed in August 2018. The words used for the search were a combination of *congestive heart failure, heart failure, re-admission rates, discharge instructions,* and *patient satisfaction*. The search produced 2,700 articles. By limiting the search to dates of 1991 through 2018, English only, and research articles, it resulted in 337 articles. Eight of the articles are detailed in the evaluation table for this project. To review the literature for this project, the Johns Hopkins Nursing Evidence-Based Practice tool was used (see Appendix A).

The AHRQ (2018) published a health literacy universal precautions toolkit providing evidence-based guidelines to promote improvement for patients to understand and comprehend health information. In this toolkit, four strategies are recommended to improve patient understanding: (a) focus on *need-to-know* and *need-to-do*, (b) use teach-back methods, (c) demonstrate/draw pictures, and (d) use clearly written education material (AHRQ, 2018).

A randomized control study among adults with limited health literacy from an urban academic emergency and Level 1 trauma center in St. Louis, Missouri, found that teach-back or standard discharge instructions do have an impact on patients being successful in a busy clinical setting (Griffey et al., 2015). The teach-back format is recommended as a universal approach to ensure patient understanding of health education by both the AHRQ and the National Quality Forum.

In a non-experimental, quantitative, descriptive study, Jencks et al. (2009) analyzed Medicare claims from 2003 to 2004 to describe patterns and the relationship between re-hospitalizations to demographic characteristics of both patients and hospitals. The authors found that one-fifth of the Medicare beneficiaries were re-hospitalized within 30 days. Re-hospitalizations are prevalent and costly. This report gives evidence that rates for re-hospitalization of HF patients could be reduced by interventions such as the implementation of reliable systems that assure safe transition from the hospital to home (Jencks et al., 2009).

Boyde et al. (2017) conducted a randomized control trial at a tertiary single-center hospital in Queensland, Australia, to investigate the effectiveness of a multimedia educational intervention for patients with HF. This research showed that patients with HF prefer education to be simple, clear, and tailored to their needs. The HF patients also preferred to receive health education that is delivered verbally and reinforced with multimedia resources. It was further demonstrated that written patient education significantly enhanced the knowledge comprehended by the patient. The combination of verbal, written, teach-back, and multimedia educational approaches have a positive impact on patient outcomes (Boyde et al., 2017).

Eastwood, Quan, Howlett, and King-Shier (2017), in a quantitative, matched pair, case-control design, examined patient records for sociodemographic, clinical, and health system factors of patients with the primary diagnosis of HF discharged from an acute care hospital in Calgary, Alberta, from 2004 to 2012. Factors affecting HF hospital re-admissions, such as frailty, age, comorbid conditions, and requiring assistance with daily activities of daily living, do contribute to patient re-admissions (Eastwood et al., 2017).

Patient instructions for follow-up post-discharge may also be used to assess for re-admission risk within 30 days. In a study conducted from 2009 to 2012 in a Tasmanian public

hospital, Huynh et al. (2015) used a descriptive, non-experimental, epidemiological design to determine if the clinical data, such as ejection fraction, BUN, brain natriuretic peptide (BNP), C-reactive protein, creatinine, hematocrit, hemoglobin and troponin, were stronger predictors for re-admission than nonclinical data.

A seminal study is included in this review. In February 1988, Hsieh and Kagle (1991) selected a random sample of 650 from a list of 10,573 faculty and staff members employed by a large Midwestern university. The level of satisfaction with health care was strongly associated with their expectations. Those who have positive experiences express satisfaction with the services. Patient satisfaction appears to affect clients' behavior in three areas: (a) care seeking, (b) adherence to medical advice, and (c) action against a provider. Patients who are satisfied with their care are more likely to seek timely care, follow medical instructions, take prescribed medications, and attend their follow-up appointments (Hsieh & Kagle, 1991).

Chaudry (2007) found that new pharmacologic, hemodynamic monitoring, and device therapies improved outcomes in a patient with HF. Pharmacologic therapies, including angiotensin-converting enzyme inhibitors, beta blockers, and mineralocorticoid receptor antagonists, were shown to decrease mortality in systolic HF. Chaudry evaluated multiple HF drug trials for over 10 years. Heart-assist devices were tested for the advanced stage HF patient for both short-term and long-term use. As the treatment for HF advances, the educational needs for HF failure increases (Chaudry, 2007).

Receiving adequate instructions at discharge improves patient compliance with medical treatment recommendations and overall satisfaction with health care providers. Evidence also indicates that there are interventions, such as considering comorbid conditions and assistance at

home, with HF patients that can affect a patient's re-hospitalization. The interventions in this

project were developed from the best practices identified in this review of the literature.

Rationale

The theory that was chosen to guide the implementation of this project this is John

Kotter's 8-Step Change Model (see Appendix B). The first step is to create a sense of urgency.

This is the foundation of responding quickly and making a change. The second step is to put

together a team. The third step is to develop the vision and strategy to make the change. The

fourth step is to communicate the vision, which allows others to join in with the project. The fifth

step is to remove the barriers and allow the team to move forward with the changes. The sixth

step is to create some short-term wins, making sure there are small successes. The seventh step is

to identify and fight through adversity. The eighth step is to create a new culture by holding on to

the recent changes (AHRQ, 2014).

The Kotter theory works well in a health care setting because it addresses the status quo

and gives steps for change. New practices are introduced after allowing buy-in from as many

participants as possible. The vision and strategy are developed in collaboration with those who

will be making the change. The final steps incorporate a new culture and ensure sustainability.

The steps allow time for implementation and assure that sustainability can occur, which is often

the most difficult part of a change.

The medical center has implemented TeamSTEPPS, which has incorporated the Kotter

eight steps of change. Having many people in the organization who have received the training, or

are at least familiar with the program, will allow the theory for change to be more readily

accepted

Specific Project Aim

The aim of the project is to reduce HF 30-day post-discharge re-admission rates from 6.8% to 4% by December 2018. Using 2017 as a baseline, with 311 discharges and 21 (6.8%) re-admissions, the goal for 2018 would be 12 re-admissions, a reduction of 8.7 patients.

From January 2018 through October 2018, there have been 221 discharges with 16 re-admissions. The medical center has experienced unusually high patient census in 2018. The overall HF/CHF discharges are expected to be lower for 2018, but the HF 30-day post discharge re-admissions are projected to be resemble 2017.

Section III. Methods

Context

In the local medical center, one of the top DRGs for hospital re-admission is HF. This has been an issue for many years, without significant improvement, despite various attempts to reduce hospital re-admissions and to improve the quality of life for the HF patient. In preparation for this project, all the programs related to the HF patient population in place were reviewed. Implementation of best practice interventions, along with improved communication and coordination of services is the focus of this improvement project.

Microsystem Assessment

The microsystem considered for this project is the population of HF patients in the local facility membership. There are 141,000 patients enrolled in the local health care plan. There are 19,000 patients who have HF listed in their diagnoses.

The patients' ethnic backgrounds are varied, which was expected. The Central Valley in California has a very diverse population. Patients diagnosed with HF list their ethnicity as White (25%); Hispanic (15%); Asian, including Chinese, Filipino, Hmong, Japanese, and Vietnamese (12%); and African-American (10%).

The age range for the HF patients was 26 years to 104 years. Two-thirds of the patients are 65 years and older. It appears that age is a more significant factor than gender with those who have HF. Heart failure is evenly distributed between men and women as they get older, but the younger population tends to be more male than female.

Over 80% of the HF patients state that they live at home and have help available to assist them with their disease. Some patients state that their spouse, children, or caregivers are involved to assist with tasks, such as their medication, food purchase or preparation, and follow-up doctor

visits. However, more than 90% state that they do not fully understand their disease, and they cannot explain or follow the basic discharge instructions.

Institute for Healthcare Improvement Assessment

This project was recommended and supported by the local medical center, including support from the utilization director, the performance improvement director, the patient care services director, an administrative assistant, and the data analyst. The leadership committee involves cardiology and hospitalist physician champions, clinical nurse specialist educator, home health manager, transition director, director of care management programs, and chronic care RN.

The 5 Million Lives Campaign how-to-guide: Improved care for congestive heart failure was reviewed for tips to getting started and reviewing best practice elements of care (Institute for Healthcare Improvement, 2008). This information was a good starting point for this project, but it was important to tailor the project to the local medical center.

To begin the project, a survey was given to 120 of the RN staff to determine their understanding of HF and the education they provide to the patients (see Appendix C). The results of the survey were consistent throughout the medical center. The RNs needed additional education about HF. The RNs were not providing concise teach-back education to the patients at discharge. The RNs were unaware of the resources available for the patient after discharge, such as the Heart Failure Basics class.

A second survey was performed with the inpatient HF patients. This survey was designed to evaluate if the patients felt they had the necessary education to manage their disease at home (see Appendix D). Overwhelmingly, the patients stated that they did not have the education/ training they needed to successfully manage their disease.

SWOT Analysis

A strengths, weaknesses, opportunities, and threats (SWOT) matrix was completed and is

included in Appendix E. The SWOT matrix was completed by analyzing the strengths and

weaknesses (of the internal factors) and opportunities and threats (of the external factors).

Internal factors are things like quality or cost. External factors are things like competition,

regulations, or reimbursements. If a factor is positive or beneficial, it is considered a strength or

an opportunity; if a factor is negative or harmful, it is classified as a weakness or a threat

(Penner, 2017).

For HF, the strengths that are in place to assist in this project are an integrated healthcare

model, technology systems in place, and standardized processes. The opportunities are reducing

the re-admissions, patient satisfaction, and increased staff satisfaction. Weaknesses and threats

are primarily focused on time constraints, such as time and costs for education required for the

nursing staff and RN workflow practice changes. Patients may feel the education is too

simplified or may refuse to participate in teach-back education. Nurses may feel the model is too

time-consuming.

Return on Investment Plan

The proposed multi-faceted HF program is expected to result in financial savings for the

hospital. A cost-benefit analysis is a method of evaluating the benefits of the program relative to

the costs of the program (Penner, 2017), and it offers a reliable technique to evaluate the

financial feasibility of this program. The goal is to reduce re-admissions by 8.7 patients for 2018.

Additional benefits are expected in patient satisfaction and patient satisfaction scores (HCAPS

scores). These benefits are difficult to quantify, but with improved patient satisfaction, patients

generally will be more compliant in following medical direction. Reimbursement rates increase with higher patient satisfaction scores.

The return on investment (ROI) using the cost-benefit ratio in our research is 1.39 for 2018. The ROI is smaller for 2018, but has the opportunity to increase every year because the bulk of the initial cost is in the education of the nursing staff. This cost will be reduced in the subsequent years. The burden for re-admission is high and will continue to be high because there will be more patients advancing in the disease progression requiring hospitalization. Any patient re-admission avoided will result in significant savings for the hospital (see Appendix F).

Communication Plan

Patient and family education and understanding the HF disease process and progression is essential. The education needs to include signs and symptoms, home treatment, and medical management follow-up in a format that is concise and easy to understand, with an implementation plan that can be followed by the patient and family. Low literacy educational handouts, simplified patient education material, use of a teach-back approach, and reinforcement with pictures and video are all elements considered as good and effective patient educational materials (Safeer & Keenan, 2005). The nursing staff will be an essential part of the success of this program for the patients. The goal is to equip the RN to competently teach and train the HF patient about their disease, the care required, and the treatment plan, which will result in improving the patient's quality of life.

Interventions

The implementation model for this improvement project is divided into three categories: patient education, RN education, and educational materials (see Appendix G). Meeting the primary objectives required multiple interventions.

The interventions for the patient education was developed in response to the patient surveys. The patient surveys indicated:

1) Discharge instructions were inconsistent at the time of discharge.

2) Discharge material given at the time of discharge was too complicated and difficult to understand.

3) The family or patient caregiver was not present when the discharge instructions were given.

Creating and implementing an easy to understand, standardized patient discharge plan, including a teach-back format with the patient and family, would be essential to meet the needs of the HF patient at discharge. A single-page laminated handout was developed for patients by the RN staff committee, which was written at a fifth-grade reading level and color-coded for understanding and ease of teach-back (see Appendix H). Prior to the time of discharge, a 6-minute video, "Getting Ready to Leave the Hospital," is shown to the patients and the caregivers (see Appendix I). This same material will continue to be available to the patient on their primary care doctor's website to review at home if needed. The goal is to review the information on this patient handout multiple times with both the patient and caregivers during the admission and at discharge to ensure understanding.

The second category, RN education, was a response to the survey completed by 120 nurses from critical care, telemetry, and medical-surgical units. The results of the survey indicated:

1) Only 22% of the nurses surveyed could correctly describe HF.

2) When asked to choose two answers for the symptoms of heart failure, 66 % chose correctly.

3) The responses in deciding when the patient should notify their doctor or contact 911, the correct answers were chosen by 75% of the nurses.

The survey exposed a need for HF education for the nursing staff. The nursing education was designed to meet the needs of the nursing staff.

This nursing educational program included an HF basic PowerPoint taught to every primary RN in the medical center who is responsible for the care of HF patients (see Appendix J). A peer-to-peer educational teaching format was determined to be the best practice for nursing education. Small group (no more than five RNs) or one-on-one education taught by trained peer instructors. The peer instructors are the members of the HF project committee. Each RN received 30 minutes of HF education.

The nursing education included the standardization of the plan of care for the HF patient by use of the HF care plan. Each care plan will include documentation of the educational tool and video being used with the patient. Training in the electronic medical record (EMR) to make a referral to the HF chronic care department nurse was also added. Ensuring that all patients have an opportunity to attend the HF basics class presented by the chronic care department, was essential for timely follow-up after the hospital discharge. This does not require a physician order. The goal is to improve and increase the number of recently discharged HF patients who attend the "heart failure basics" class.

To assist the nursing staff with compliance of the discharge educational plan for the patient, a patient checklist has been developed. This checklist follows each admitted patient until discharge (see Appendix K). A checklist assures that all the components of the HF educational model are completed with every patient, every time.

The third category, educational material, included developing a HF web page on the medical center intranet site. This web page is easily accessible to all and includes the patient and nursing education. There are videos available for the nursing staff to use with the patients (see Appendix L).

Each of the interventions in all three of the categories was evaluated through a plan, do, study, act (PDSA) plan (see Appendix M). Auditing and evaluating the plan after each implementation proved to be valuable for nurse engagement and support.

Study of Intervention

A daily report has been developed in Excel, which includes a list of every patient admitted with an HF diagnosis. Reviewing the charts of patients who are re-admitted within 30 days is important to determine what improvements can be made to help them manage their disease without re-admission to the hospital. This report helps to ensure that patients receive heart failure education. Additional information collected in this daily report is in Appendix N.

A monthly report in a graph format has been developed to characterize the patient re-admission rates. The graph plots the percentage of re-admissions since January 2016 (see Appendix O). The information is collected from the EMR. This helps to determine if interventions are having an impact on the 30-day re-admission rates.

A third report lists the number of HF patients who attend the HF basics class. One of the gaps identified by the surveys was not being able to follow the inpatient to the outpatient setting, which allows the patient to find resources to prevent re-admission. This report is provided by the continuing care department (see Appendix Q).

Measures

The aim of the project is, to reduce HF 30-day post-discharge re-admission rates from 6.8% to 4% by December, 2018. This reduction is from a baseline of 311 discharges in 2017 with 21 (6.8%) re-admissions, to 12 re-admissions (4%), by December 2018, by focusing on the discharge education to the patients and caregivers. The balancing measures will include:

- hospital length of stay,

- patient satisfaction, and

- nurse satisfaction.

Developing Process Measures

The developing process measures in this project are classified into three segments: the RN, the physician, and the follow-up by the project committee (see the Appendix R for a summary). As this project expanded, it became obvious that the developing process measures can have a significant impact on the 30-day re-admission rates.

The process measures for nursing are:

- accurate urine output

- daily weights

- dietary consults

- individualizing teach-back patient education

- use of a checklist

- documentation within the HF care plan

The process measures for physician practice are:

- ordering BNP labs at admission and discharge

- determining the stage of HF by an evidenced-based standard

- utilizing an ECHO to determine the ejection fraction for the patients with

  progressing HF

- timely follow-up on HF patients after discharge

- referrals to support services to meet their individual needs

Project committee follow-up process measures include:

- Extended Care Program (ECP) referral

- track the use of HF order-set by physicians

- discharged patient has a follow-up appointment with their physician within 7 days

  of hospital discharge

- Palliative Care referral

Ethical Considerations

One of the main ethical considerations is the protection of patient health information. In any performance improvement project, it is essential to protect the patient. With HF patients, regular chart review is common. Data are collected from the patients' charts, the patients are interviewed, and the information is posted without any reference to the individual patient. It is important to use a patient identifier that tracks a patient's health care, but does not compromise the patient or the patient's health care information.

This project has been approved as a quality improvement project by faculty using QI review guidelines and does not require IRB approval.

Section IV. Results

Financial Results

The HF project is expected to result in significant financial savings for the hospital. The goal is to reduce re-admissions by 8.7 patients in 2018. Each patient re-admitted for HF stays an average of six days. The cost per day is $4,500. The cost savings per patient is $27,000. The annual cost savings is $234,900. See Appendix S for budget details.

Benefits difficult to quantify are in patient satisfaction and patient satisfaction scores (HCAPS scores). Improved patient satisfaction generally results in increased compliance in following medical instructions, which can have an effect of patients choosing to remain in their homes managing their disease. Reimbursement rates increase with higher patient satisfaction scores.

Outcome Results

The patient educational handout, developed by the RN project committee, has been well received by the patients and their families, who say it is easy to understand and is written to explain what they physically experience with their disease. The handout was written in a stop light format, at a fifth-grade reading level, and includes the phone numbers the patients need to access resources. Printing the handout in color and laminating it gives the impression this is important and something to keep for future reference. This patient education handout has also been a useful tool for teach-back education by the nurses. In addition, the patients and family members watch a video titled, "Getting Ready to Leave the Hospital". This has reinforced the written education.

Currently, 80% of the nursing staff have completed the education. The education for the nursing staff was delayed and is continuing, due to the abnormally high census in this medical center. Nurses have stated that HF education has increased their ability to better communicate the HF discharge information to the patients and their families because they better understand HF and the important points to communicate to the patient.

The purpose of the discharge checklist is to ensure that HF education begins at admission and continues throughout the hospital stay. The checklist includes a daily reminder for the nursing staff to complete the same daily activities the patient would complete at home, such as weigh daily, check feet, ankles, and abdomen for swelling, and mobilize. It also reminds the primary nurse to educate about HF using the patient educational handout and patient medications. The audits, however, have shown that the change in the practice of using the checklist has not been followed by all the nursing staff, but those who do are showing increased compliance with the educational model. The auditing process has given the opportunity to recognize the nurses for completing the checklist, patient education, and documentation. A personal note is sent to their home in appreciation for their commitment to providing quality care for the HF patients.

The current data has not shown a reduction in HF re-admissions as projected. The timeline for this project has been extended due to various competing priorities. Sustainability of this project can be assured with the ease of access to the educational material, the support of the nursing staff, and the encouraging feedback from the patients. The response by both nursing staff and patients has been positive, and patients have been pleased with this improved teach-back educational format. See Appendix T for the original timeline of the project as shown in the Gantt Chart.

Section V: Discussion

Summary

A transformational leadership style has been used for this project. An RN staff project committee was formed with RN staff from medical-surgical, telemetry and critical care. The first step in working with the RN staff project committee was to develop a vision for the project. The nurses committed to developing educational material, teaching their peers, and working with HF patients. The committee had high expectations with a clear purpose to improve the quality of life for the HF patients. As hurdles developed in the project, they worked as a team to problem solve, and each one contributed individually by giving personal attention to details.

As each step of this work evolved, working closely with the RN staff project committee has been essential to understanding the hurdles and needs for both the primary RN and the patient.   A teach-back educational format was a practice change for the nursing staff. The RNs agreed that teach-back education for every HF patient, every time is valuable. Working with the RN project committee helped us implement this new method for patient education.

Once the patient is admitted to the hospital, it is essential to track the urine output, volume intake, and patient weight. Patients must be referred to the outpatient chronic care department for timely follow-up. The discharge checklist can be a useful reminder to complete each valuable step in caring for the HF patient. The use of the checklist by the staff RNs will assist with consistency and sustainability.

The HF web page, discharge checklist, discharge patient handout, and discharge video all make this educational project easily supportable and potentially replicable for other medical centers. These are easily transferable to any facility. Currently, we are spreading this to our outpatient and home health clinics.

Our final step is to focus on memorializing and maintaining this project. The concept to memorialize the work of the project is to track the work that has been done, both currently and in the future. Quality improvement projects evolve over time, often changing and improving or being eliminated, only to be resumed at a later date. Having this work saved for easy retrieval, with an explanation of the responsibilities of each stakeholder, can be valuable.

Conclusions

Finding ways to improve the quality of life for the HF patient, by being able to remain at home and improve their lifestyles, is a priority. At this local medical center, patients can make better life decisions when they are given information they can understand. Families are more supportive when they can give concrete guidance in the care of their loved ones. Nurses are more confident in teaching their patients when the education material is concise and easily accessible. This project has been well supported by the leadership and the nursing staff. The RN project committee has been vital to the success of this project. Having teams that are open and honest about the struggles and are willing to strive for excellence and improvement is necessary for such a comprehensive project.

This project has not had the success in the readmission rates for the HF patients as planned. This is attributed to several factors which have included a delay in providing education for the nursing staff, due to the unexpected high hospital census prohibiting the time to be taken for education. There have been competing priorities with other patient initiatives. The project is ongoing and we expect the results will improve as the model is completely integrated into the work of the RN staff.

The plan is for this project to continue. The successes of patients appreciating the improved discharge education, nurse satisfaction with the discharge education for the patient, the

ease of access to the discharge education through the web page and the increase in the number of

patients attending the heart failure basics class are the inspirations to continue this work.

The additional project plans include working with palliative care to become involved

with heart failure patients at the time of diagnosis and working to find ways to involve their

services to assist the HF patient in improving their quality of life. Thirty-seven percent of the HF

30-day readmitted patients for 2017 and 2018 have died. Most died without palliative care or

hospice involvement.

Continued work proposed is to develop an admission and discharge plan for ordering

BNP labs. Work is underway to improve the plan to have every HF patient discharged from the

hospital to see their doctor within seven days of the discharge.

HF is a complicated disease and every patient situation is unique. However, developing a

model of care to improve the HF quality of life and prevent their need for re-admission is

valuable work. Improving the quality of life for an HF patient may seem overwhelming. The

goal of reducing HF re-admissions may seem even more daunting. In evaluating this project, it is

apparent that an evidence-based educational model can have an impact on the success of

improving care, the quality of life and reducing HF re-admissions, but it is one of many

interventions in the ideal model.

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Section VII. Appendices

Appendix A. Evaluation Table

Study	Design	Sample	Outcome/Feasibility	Evidence Rating
Griffey et al. (2015)	Randomized, controlled study among adults with limited health literacy, randomized to teach-back or standard discharge instructions.	Urban academic ED and Level 1 trauma center with over 95,000 annual visits. Located in St. Louis, MO.	Useful to support that education for nurses and patients is important for patients to be successful when they return home.	RCT High Quality L1A
Jencks et al. (2009)	Non-experimental descriptive study that analyzed data from Medicare Provider Analysis and Review (MEDPAR) file for 15 months (10/1/2003 – 12/31/2004). Also used data from CMS Chronic Condition Data Warehouse for follow-up visits.	Analyzed Medicare claims data from 2003-2004 to describe patterns and relations of re-hospitalization to demographic characteristics of the patients and hospitals.	Gives evidence that suggests the rates of re-hospitalization for HF patients might be reduced. There are interventions that can affect a patient's re-hospitalization.	Quantitative Level III High Quality
Chaudhry & Stewart (2017)	Summarized findings from recent studies examining pharmacologic and technological management strategies. Discussion of new therapeutic pharmacologic, hemodynamic and heart-assist devices.	Study to evaluate the trials for new heart failure therapies.	Review of recent innovations in the management of HF patients.	Mixed Level III High Quality L V
Boyde et al. (2017)	Randomized control trial designed to investigate the effectiveness of the multimedia educational intervention for patients with CHF.	Randomized control trails in a single center tertiary referral hospital, in Queensland, Australia. Sample size was 200 patients who will be followed up for 12 months.	Review of impact of an individualized needs assessment, multimedia education, and teach-back evaluation strategy has on patient outcomes.	RCT Good Quality L1 A
Eastwood et al. (2017)	Matched pair case-control design, examined patient records for sociodemographic, clinical, and health system factors with primary diagnosis of HF discharged from Calgary, Alberta, from 2004 to 2012.	382 patients or 191 matched pairs with 41% of re-admissions due to HF from acute care hospital in Calgary, Alberta from 2004 to 2012.	Value of considering frail, elderly, comorbid conditions and requiring assistance with activities of daily living as contributing to re-admissions.	Quantitative Level III High Quality L111A

Huynh et al. (2015)	Descriptive, non-experimental article – an epidemiological design used to develop prediction models that used statewide data linkage of all patients who survived their 1st HF admission, 2009-2012, in a Tasmanian public hospital.	Clinical data before discharge from 977 patients.	Clinical data, such as ejection fraction, BUN (blood urea nitrogen), etc. are better predictors for readmission than nonclinical data.	Mixed Level III High Quality
Hsieh & Kagle (1991)	Cross-sectional study to examine the relationship between patients' expectations, personal characteristics, health status, and mode of service and their satisfaction with health care. This was a seminal study.	Equally divided between men & women. Minority groups were underrepresented in this study. Education level was high.	Patient satisfaction appears to affect client's behavior in 3 areas: (a) care seeking, (b) adherence to medical advice, and (c) action against a provider.	Cross-sectional study Good Quality L 111
AHRQ (2018)	Toolkit developed to support efforts to improve the communication and comprehension for all patients about their health.	Only 12% of U.S. adults have the health literacy skills needed to manage the demands of the health care system today.	Patients are challenged with health care information today, and it is compromised when they experience stress or illness.	Practical ideas for improving patient health literacy.

Appendix B. Kotter's 8 Steps of Change
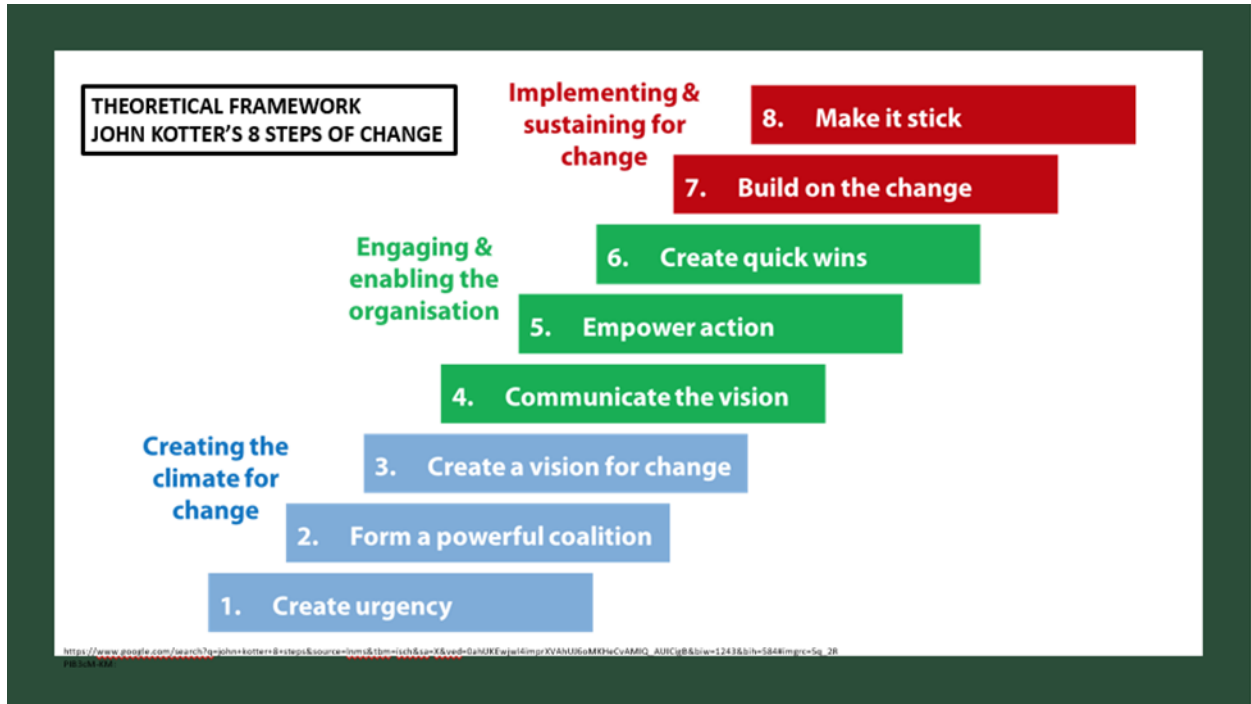
Appendix C. RN Survey and Results

RN HEART FAILURE SURVEY

- Survey was conducted with 119 staff nurses from med/surg, telemetry, and the critical care unit.

- Information questions were asked at the beginning of the survey
  - What shift do you usually work?
  - What unit do you usually work?
  - How many heart failure patients have you admitted in the last 3 months?
  - How many heart failure patients have you discharged in the last 3 months?

  The remaining questions were about the knowledge the RNs had about heart failure.

Heart failure is described in 2 ways. Choose the correct description (2 answers are correct)

Answered: 32   Skipped: 0

22% Correct

What are the common symptoms of heart failure? 2 answers are correct.

Answered: 32   Skipped: 0

31 (96.88%)

Shortness of breath, weakness, swelling in t...

Slow heart rate, wheezing, dizziness

Rapid heart rate, rapid weight loss, you feel you need...

Swelling in the abdomen, rapid weight gain, coughing up...

66% Correct

When do you call 911 or go to the emergency room if you are diagnosed with heart failure? Choose all that are correct

Answered: 32   Skipped: 0

Severe shortness of breath

You become very anxious

Coughing up pink, frothy sputum

Experience chest discomfort, pain or...

You forgot to take your medications

75% Correct

When do you notify your primary MD? Choose all that apply

Answered: 31 Skipped: 1

72% Correct

Which medication would you choose if you wanted to slow your heart rate and lower your blood pressureto decrease your \heart's workload?

Answered: 30 Skipped: 2

84% Correct

Appendix D. IRound Heart Failure Patient Survey

Iround Tool Developed for Patient Survey

- A series of questions are asked to the patient every day they are in the hospital.

- This survey was designed to be used in I rounds, so analyzing the data were simplified.

- Day 1
    - 1) What brought you to the hospital?
    - 2) Do you have the help you need at home to manage your disease?
    - 3) Do you prepare your own meals at home?
    - 4) Do you administer your own medications at home?
    - 5) Do you feel confident you understand your disease?

- Day 2
    - If patient was readmitted within 30 days of last discharge ask the following questions.
        - 1) What do you think is the reason you need to be readmitted so quickly after your last hospital stay?
        - 2) What can we do differently this hospital stay to help you be able to stay at home and improve?
        - 3) Did you receive discharge instructions at the time of your discharge?
        - 4) Did you have someone with you when you received the discharge instructions?
        - 5) Did you understand your discharge instructions?

- Day 2
  - Have you received information about your disease since you have been in the hospital?
  - Have you received information about the medications you need to take because of your disease?
  - Have you received information about the diet you should stay on because of your disease?
  - Have you received written information about your disease?
  - Do you have any questions I can answer for your now about your disease?

- Day 3
  - Do you have a scale at home to weigh yourself?
  - Do you weigh yourself at home?
  - Do you purchase your own food?
  - Do you keep track of your salt intake?
  - Do you have a schedule at home for taking your medications?

- Day 4
  - Do you have any difficulty in getting your medications?
  - Do you have any difficulty sorting your medications?
  - Do you have any difficulty in swallowing your medications?
  - Do you take your medications at the same time of day, every day?
  - Do you understand the side effects of your medications?

- At the time of discharge
  - Do you understand the discharge instructions you have been given?
  - Do you feel you have everything you need to manage your disease at home?
  - Do you understand when you should notify your doctor?
  - Are you able to keep track of your fluid intake and weight daily?
  - Do you have any questions about the heart failure levels?

Appendix E. SWOT Analysis

Strengths
- Integrated model
- Technology systems in place
- Standardized processes

Weaknesses
- Education required for nursing staff
- RN workflow practice change
- Video not able to be viewed on television

Opportunities
- Reduce patient readmissions
- Increase patient satisfaction
- Increase staff satisfaction

Threats
- Patients feel education is to simplified
- Patient refusal to participate in teach back education
- Nurses feel it is to time consuming

Appendix F. Cost-Benefit Analysis

Item	Calculation	Interpretation
Benefits	8.7 x $4,500 x 6 = $234,900	8.7 patients for the year, at a cost per day of $4500. The average length of stay is 6 days for readmitted patients in our facility.
Costs	Total staffing costs including benefits = $169,042 Operational costs = $500 Total expenses = $169,542	Salaries, benefits, supplies and education materials
Net Benefit or ROI (return on investment)	The program cost, including direct and indirect costs, is $169,542. This includes salary benefits of 40%. Net benefit: $234,900 – $169,5442 = $65,358	Total benefit – cost = net benefit This is also known as the ROI.
Cost-Benefit Ratio	$234,900 / $169,542 = $1.39	Cost-benefit ratio is calculated by dividing the total benefits by the total cost. The cost-benefit ratio means that for every day of cost, this program will generate $1.39 in benefits. This is financially a worthwhile project.

Appendix G. Interventions

PATIENT EDUCATION

- Develop and use HF educational tool for each discharged patient
- Show the "Getting Ready to Leave the Hospital" video to every patient prior to dischargeImplement teach-back format for patient educationfor patient education
- Implement teach-back format

RN EDUCATION

- Develop and teach staff RNs HF basics
- Have a checklist available for the primary RN to use to assure nothing is missed when discharging a HF patient
- Standarize the plan of care for the inpatient HF pateint by use of the HF care plan.

EDUCATIONAL MATERIAL

- Develop a web page on the intranet site that will support education for the healthcare staff and patients.
- Improve and increase the number of patients who attend the "heart failure basics class".
- Add the educational material to the clinic doctors web page for access by the patients.

Appendix H. Heart Failure Patient Handout

KAISER PERMANENTE.

♥ **HEART FAILURE**

A chronic condition in which the heart does not pump blood as well as it should.

SIGN UP FOR THE **HEART FAILURE BASIC CLASS**: 559-448-4734

KNOW YOUR ZONE EVERYDAY!		HOW DO I FEEL?
		Remember to: • Weigh daily and write it down. • Take medications every day at the same time of day as prescribed. • Eat a low salt diet. • Be active every day.
	EXCELLENT... KEEP UP THE GREAT WORK!	Breathing is normal. Energy level is normal. No new swelling in legs, feet, or stomach. No weight gain. No chest pain. Heart rate is normal.
	CHECK IN WITH YOUR DOCTOR TODAY: 559-448-4555	Dry, hacking cough. Increased shortness of breath with activity. Increased swelling in legs, feet, or stomach. Weight gain of 2-4 pounds over 1-3 days. Chest pain. Fever over 101°. Waking up in the middle of the night.
	SEEK IMMEDIATE MEDICAL ATTENTION OR CALL 911	Frequent coughing with chest discomfort. Struggling to breathe. Cannot walk because of the swelling. Weight gain of 3 pounds in one day. No appetite; having nausea or vomiting. Unable to sleep; cannot lie down. Dizziness, confusion, or depression.

Appendix I. Patient Video
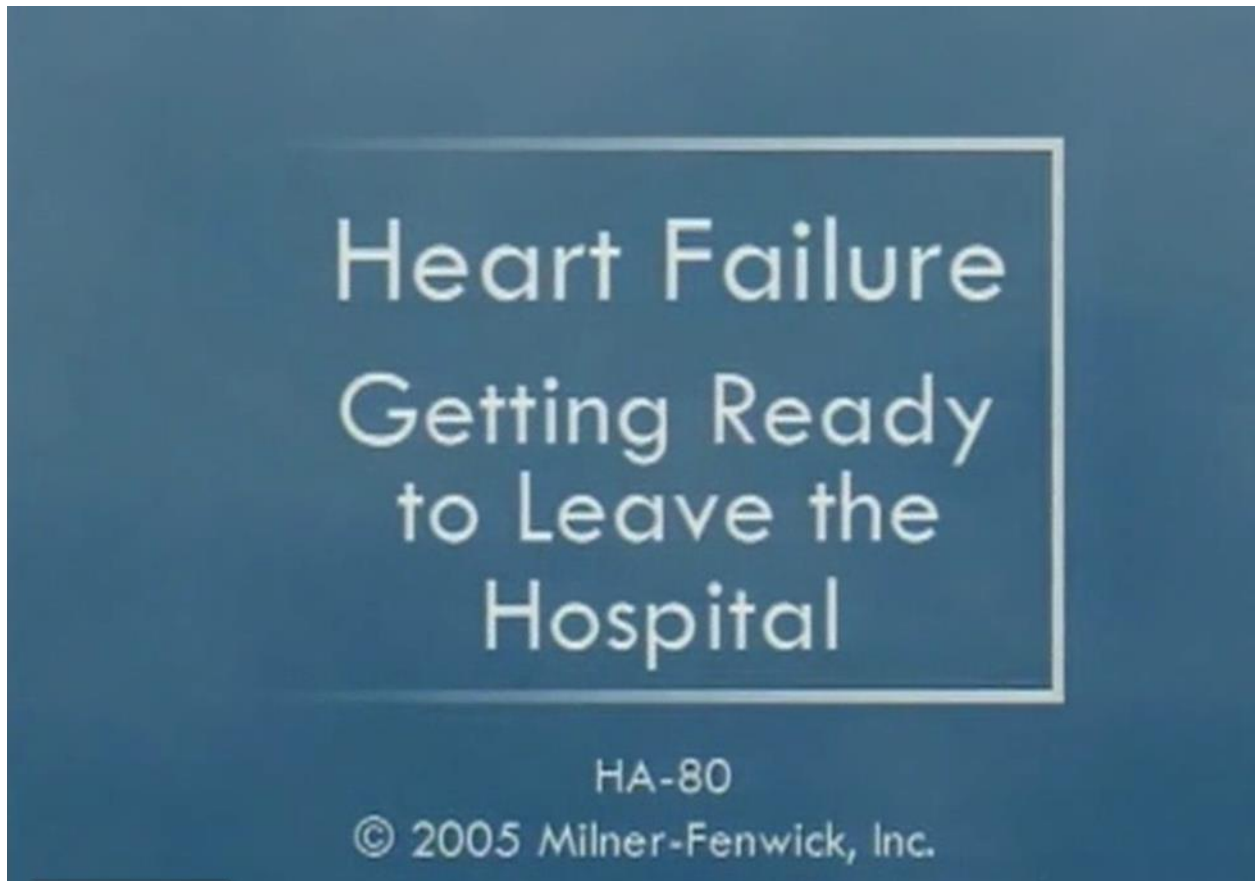
Appendix J. Heart Failure Educational PowerPoint for Nursing Staff

HEART FAILURE

STAFF EDUCATION
2.12.2018
DEVELOPED BY: BRENDA PETERSON, RN, BSN AND TAMARRA BARIGIAN, RN, MSNED

Objectives

Provide standardized education for all RN staff.

To assure the nurse is able to understand key concepts related to heart failure so they are able to demonstrate competency by return demonstration of patient education.

How does the heart work?

https://youtu.be/oHMmtqKgs50

WHAT IS HEART FAILURE?

- Heart failure does not mean that your heart has failed.

- Heart failure means that your heart isn't pumping as strong as it needs to and the result is your body is not getting enough of the oxygen-rich blood it needs to function properly.

- With heart failure, the weakened heart can't supply the cells with enough oxygen rich blood. The results are fatigue and shortness of breath. Daily activities such as walking, climbing stairs or carrying groceries can become very difficult.

What causes Heart Failure?

https://www.youtube.com/watch?v=dJBFCergsuM
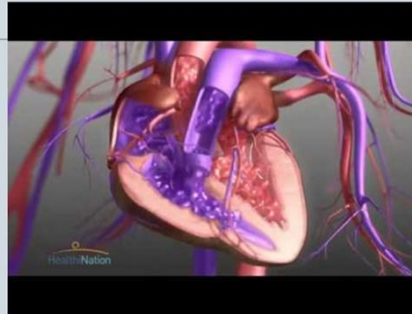
What Does Heart Failure Look Like?

Heart muscle pumps blood out of the left ventricle.

Weakened heart muscle cannot pump enough blood.

Normal Heart   Heart Failure

Types of Heart Failure

A Right-sided heart failure
(Back-ups in the area that collects "used" blood)

B Left-sided heart failure
(Failure to properly pump out blood to the body)

C Congestive heart failure
(Fluid backs up into the lungs and tissues)
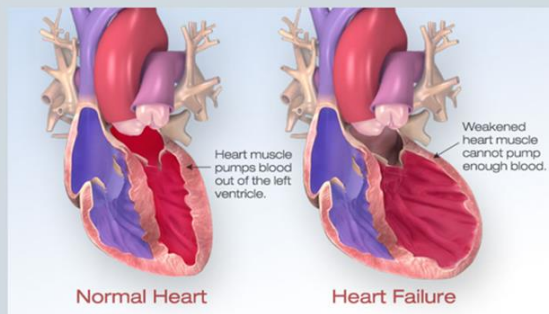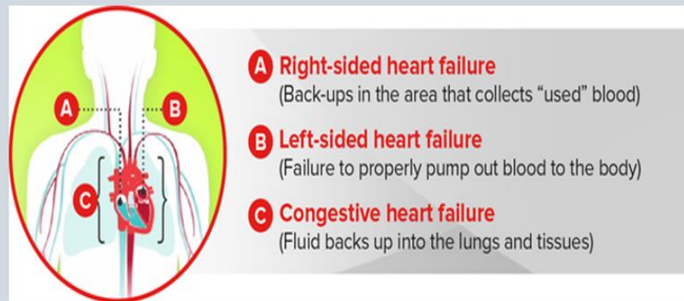
What are the Causes of Heart Failure?

Risk Factors
Coronary Artery Disease
High Blood Pressure
Faulty Heart Valves
Damaged Heart Muscle
History of Heart Attack
Congenital Heart Defects
Smoking
Poor Diet
Lack of Exercise

i'm lovin' it
until my heart
attack™

Heart Failure Symptoms

• Fatigue
• Shortness of Breath
• Swelling
• Sudden Weight Gain
• Cough
• Palpitations

How to Prevent Flare Ups

Low sodium (salt) intake
Weigh daily
Check blood pressure and heart rate daily
Take all your medications as prescribed
Stop smoking
Keep your follow up appointments
Report any significant changes immediately
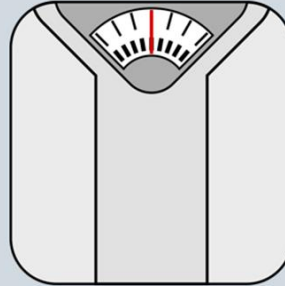
HEART FAILURE MEDICATIONS........A, B, C, D......

A = ACE/ARBS INHIBITORS (angiotensin II receptor blockers)

B = BETA BLOCKERS

C = CALCIUM CHANNEL BLOCKERS

D = DIURETICS

AA = ALDOSTERONE ANTAGONIST

N = NITRATES

I - INOTROPES

Goal of medications in heart failure is to reduce the burden on the heart
- **Decrease blood pressure by either reducing the heart rate or vasoconstriction**
- **Decreasing fluid overload**

ACE INHIBITORS

"Pril" medications – **Captopril, Lisinopril, Enalapril, Ramipril**

Things to Remember

- Lowers blood pressure
- Helps relax your blood vessels
- Makes it easier for the heart to pump

Ace Inhibitors Possible Side Effects

Dizziness

Dry Cough

Problems with potassium levels

Swelling in your lips, tongue or throat(very rare)

Rash

Decreased sense of taste

BETA BLOCKERS

"Lol" medications – **Metoprolol (Lopressor)**, Carvedilol (Coreg) , Atenolol (Tenormin), Bisoprolol (Zebeta)

Things to Remember

Lowers Blood Pressure

Decreases irregular heart beats

Slows down the heart rate

Common Side Effects

Too slow of a heart rate

Tired/Fatigue

Dizziness

CALCIUM CHANNEL BLOCKERS

"Very Nice Drugs" medications – verapamil, nifedipine, diltiazem

Used for diastolic (filling problem) heart failure

Blocks calcium access to the cells which dilate your arteries and this lowers the arterial blood pressure and makes it easier for your heart to pump it out

Also makes the heart contract less therefore lowering the heart rate which give it more time to fill with blood and allows more blood to be pumped out

Decreases contractility and conductivity of the heart. Decreases the demand for oxygen

DIURETICS

Treats congestion – help the body get rid of excess fluid. Makes you urinate more often.

Reduces the amount of blood in the vessels so this reduces blood pressure

Act on the kidney, increase urine output, decrease fluid overload

3 kinds of diuretics – monitor electrolytes/hypotension/serum creatinine (kidney function)
- Thiazide - **Metolazone**
- Loop diuretics – **Furosemide, Bumetanide**
- Potassium sparing diuretics – Amiloride, Eplerenone, **Spironolactone**, Triamterene

Does not reduce mortality – just symptoms

Diuretics

Things to Remember

May need potassium or magnesium supplements

Use sunblock to prevent photosensitivity

Follow a low sodium (salt) diet

Have your blood pressure and kidney function checked regularly by your MD

Possible Side Effects

Dizziness

Severe weakness

Leg cramps (may be from low potassium)

NITRATES/VASODILATORS

Nitroglycerin, **Isosorbide**, Nitroprusside, **Hydralazine (Apresoline)**

Things to Remember

Relaxes blood vessels to improve blood flow

Decreases the workload on the heart

Possible Side Effects

Dizziness

Headaches

Nausea and vomiting

POSITIVE INOTROPES

Digoxin/Dobutamine

Increases the strength of your muscle contraction so it makes the heart pump harder

Slows down the heart rate

ONLY USED FOR SYSTOLIC CHF

Does not reduce mortality – just symptoms

Possible Side Effects

Nausea or vomiting; loss of appetite

Changes in vision

Irregular heartbeat or slow heart rate that may leave to dizziness

Unusually severe tired/weakness

Why So Many Medications?

Medications are extremely important in managing heart failure

Most patients require multiple medicines to manage the disease

Patients should never change or skip doses without talking to their doctor or care manager

Medications need to be taken as directed

Remind patients to use a pillbox or medication chart to help remember to take the medications

Instruct the patient to call their doctor if having any side effects or feeling worse when taking the medications

LABS

BNP – B-Type Natriuretic Peptide

Calcium, serum

Chem 7

Magnesium, serum

Phosphorus

TSH

Troponin 1

Phosphorus

Albumin, serum

STUDIES

12 Lead EKG

X-Ray chest

ECHO – transthoracic echocardiography

CONSULTS

Dietary

Cardiology

DAILY NURSING DUTIES FOR THE ADMITTED HOSPITAL PATIENT

Weigh patient DAILY

Monitor fluid intake/output DAILY

Monitor labs

Mobilize the patient as tolerated

Educate patient about disease of heart failure DAILY

Show the video, "Heart Failure: Getting Ready to Leave the Hospital"

Diet and Heart Failure

What Can a Heart Failure Patient Eat?

Beans, peas, rice, lentils, whole wheat pasta; dried and fresh, cooked without salt

Fruits that are fresh, frozen or canned in own juice

Fresh meats, poultry and fish

Milk/yogurt

Vegetables that are fresh and plain frozen

So What's the Shake on Salt and Heart Failure

Heart failure causes the body to hold on to sodium(salt)

Sodium causes extra fluid to build up in the body

Extra fluid makes the heart work harder

Following a low sodium diet will help keep water from building up in the body

How much Salt Can be in the Diet?

Less than 2000 mg per day

How much is 2000 mg of sodium?

- ¼ teaspoon = 600 mg of sodium
- ½ teaspoon = 1200 mg of sodium
- ¾ teaspoon = 1800 mg of sodium
- 1 teaspoon = 2400 mg of sodium

What are the best ways for a patient to reduce the salt in their diet?

Stop adding salt to food.

Take the salt shaker off the table.

Do not add salt when cooking- Use herbs and spices for flavor

Remember fresh is always best….. fresh fruits, vegetables, meat, chicken and fish, dried beans, rice, canned products labeled as "No Salt Added"

Stay away from prepackaged frozen meals, canned foods, and pickled foods whenever possible.

Look for "No salt added" products instead of "Low Sodium".

Avoid high sodium/salt seasoning- soy sauce, barbeque sauce, ketchup etc..

What Food Should be Avoided?

Ham/Bacon/Sausage

Lunch Meats

Chipped Beef

Hot Dogs

Canned meats/fish/beans/vegetables/soups

Jarred/canned tomato sauce

Sauerkraut

Microwave/theatre popcorn

Weigh, Weigh, Weigh

The best way to watch for fluid build up is to weigh daily

Weigh first thing in the morning, on the same scale, the same type of clothing and after going to the bathroom

Write down your weight everyday; notify your care provider for a weight gain of 2 pounds in 1 day or 5 pounds in 5 days

Remember all scales weigh differently.......

Activity

Activity and exercise helps the heart grow stronger

Walking is good exercise; start slowly and work your way up to 30 minutes each day.

Stop and rest if you feel shortness of breath, chest discomfort, cough, pain, dizziness, fast heartbeat, extreme weakness. If symptoms do not go away after rest, call your doctor or go to the nearest emergency room.

Always check with your doctor before starting an exercise program or increasing your current activity level

Summary of the Important Things to Teach your Patient.

MONITOR Daily Weight, Blood Pressure, Heart Rate

Take medications as prescribed

Eat a healthy low sodium(salt) diet- no more than 2000 mg daily

Check feet, ankles, abdomen for swelling

Balance activity with rest-get regular exercise

Avoid smoking and drinking alcohol

Sign your patient up for the heart failure class offered monthly at Kaiser Fresno

Steps to follow: Open your patient's chart in Heart Connect then:

Go to "In Basket" in health connect

Go to "New Msg

In the "To" field, type, Tamarra Barigian (once you do this one time for one patient her name will show up for you as you begin to type Tamarra.

Under Subject type, "CHF Basics Class"

In the Patient field, you can choose patient lookup and your patient will appear

You can choose "call patient" under flags, but not necessary.

Epic ≡Pt Lists 🖼In Basket 📋Patient Lookup 🖼ED Manager ≡Track Board 🛏Bed Browser 🖼My Dashboards 🗐Non-Patient Transport 📚Lippincott Library 💻What's New ⚡UpToDate

Things to know about the heart failure basic class for your patient

You do not need a physician order to put in a request for your patient.

Tammy Barigian, the program RN, will determine if the patient qualifies and will contact the patient. You are just informing Tammy that this patient was recently admitted to the hospital.

The goal is to make sure the patient is aware of all the resources available to help them manage their disease after they leave the hospital.

References

Kaiser Permanente Health Education Department: 559-448-4415

Kp.org-Heart Failure

www.abouthf.org/- Heart Failure Society of America

Healthwise.org

http://www.heart.org/HEARTORG/Conditions/HeartFailure/Heart-Failure_UCM_002019_SubHomePage.jsp

Appendix K. Heart Failure Checklist

IP HEART FAILURE PATIENT CHECKLIST   KAISER PERMANENTE, PASADO

Name:
MRN:
Date:
(place member label here)

ADMISSION Checklist for Heart Failure Patients

	Action	Yes	No	N/A	Comments
	DAY 1				
1	Is this patient being readmitted within 30 days?				If yes, discuss with the patient what we could do differently so they don't return so quickly.
2	Review patient code status				
3	Open the Cardiac: Heart Failure (adult) in HC patient plan				⊟ ▦ Cardiac: Heart Failure (Adult) ⊞ ▨ Cardiac: Heart Failure (Adult)
4	Customize the plan for the patient				Under patient education, customize for S/S, treatment plan, modifiable risk factors, self-management. ONLY CHOOSE THOSE THAT APPLY
6	Heart Failure hand out given: Education Documented				Under patient education: "When to seek medical attention", choose method as "printed material". Under comments type, "patient handout given".

Daily Nursing Activities for Heart Failure Patients

	Action	Yes	No	N/A	Comments
1	Monitor weight daily				
2	Monitor heart rate and blood pressure				
3	Check feet, ankles & abdomen for swelling				
4	Monitor labs				
5	Mobilize the patient as tolerated				
6	Review patient medications				Document in the care plan
7	Educate the patient daily about heart failure using handout tool				Under patient education: "When to seek medical attention", choose method as "printed material". Under comments type, "patient handout given".
8	Show the video, "Heart Failure: Getting Ready to Leave the Hospital"				Under patient education: "When to seek medical attention", choose method as "printed material". Under comments type, "Video ".
8	Document daily education for the patient				Document to stop smoking if a smoker

Prior to Discharge

	Action	Yes	No	N/A	Comments
1	Make sure patient has had a dietary consult				
2	Ensure patient has a scale at home				
3	Send referral to "Heart Basic Class"				Go to the "in basket", choose "new msg", to field type, "Barigian" for Tamarra Barigian, under patient, choose patient lookup and you should see the patient, enter. In the comment section type, "refer to heart basic class", choose accept.
4	Review the current weight with the patient and ask them to check the weight when they get home to know where they should be.				

Not part of permanent medical record

Appendix L. Heart Failure Web Page

Appendix M. PDSA Cycles

PDSA CYCLES

PDSA #1: RN Educational Plan
PDSA #2: Patient Educational Tool
PDSA #3: RN Checklist
PDSA #4: HF Web Page
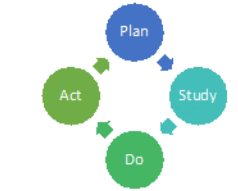
PDSA #1: RN Educational Plan included the HF training, teach-back education.

PDSA #2: Patient Educational Tool included the development and use of the HF patient tool. The implementation of the use of the "Getting Ready to Leave the Hospital" video.

PDSA #3: RN Checklist included education on how to use and document in the HF care plan and the referral of the patient to the outpatient chronic care department to attend the HF basics class.

PSDA #4: HF Web page development and placement on the medical center intranet.

Appendix N. Excel Daily Report

1) CID number, which is a unique patient identifier that is not their medical record number

or name, but embedded in the health record system to allow chart information to be used

without the ability for others to identify the patient.

2) Age of the patient used to categorize patients.

3) Patient code status.

4) Reason for the visit stated by the patient.

5) Principal hospital problem is given by the emergency room staff.

6) The primary diagnosis, which is given when the patient is admitted.

7) Primary care physician name.

8) CHF care management program, this is a yes or no.

9) HF patient, this is yes if the patient is classified as an HF patient.

10) Inpatient stays, this is the number of hospital stays in the last 365 days.

Appendix O. Heart Failure Readmission Graph
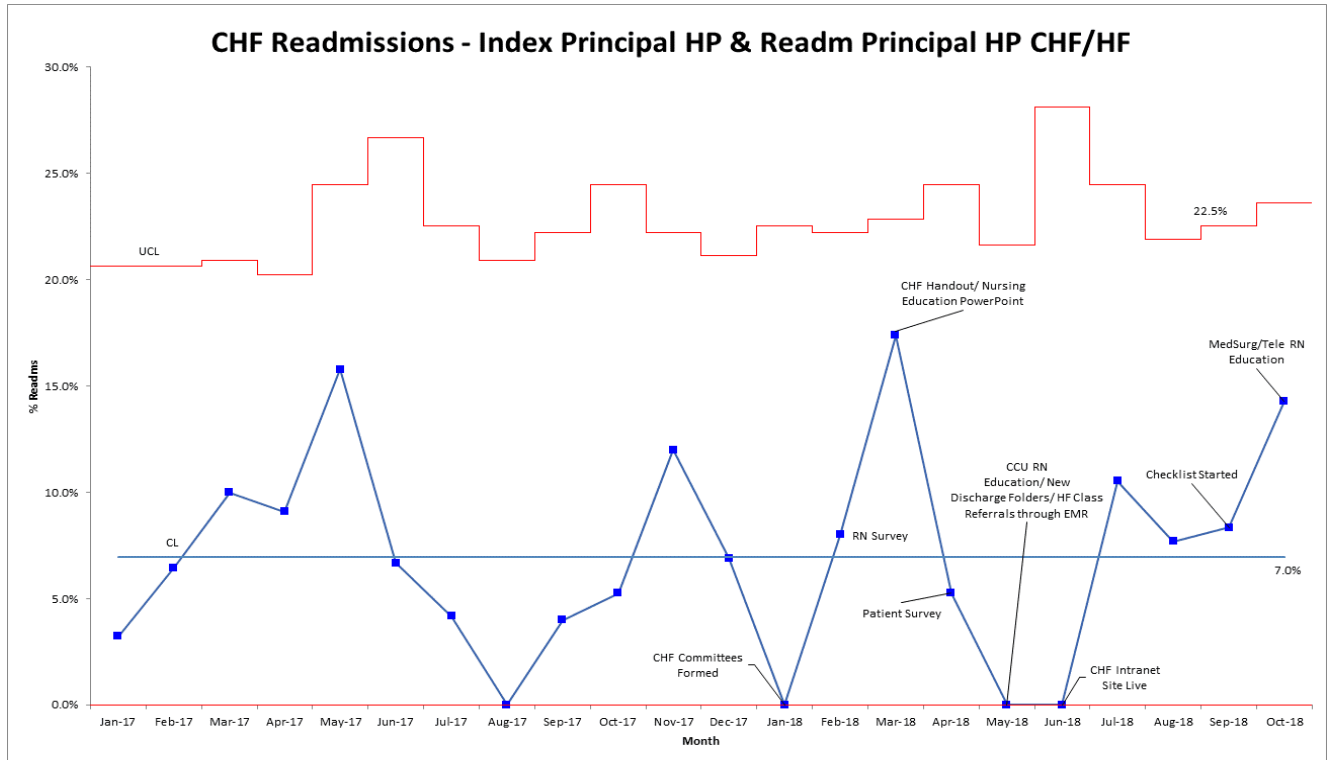
The dates of the implementation of the intervention is included on this graph.

Appendix P. % Re-admissions

Yearly data summary for the % re-admissions for the Heart Failure Re-Admissions Graph

2018

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Readms	0	2	4	1	0	0	2	2	2	3		
Total DCs	24	25	23	19	27	13	19	26	24	21		
% Readm	0.0%	8.0%	17.4%	5.3%	0.0%	0.0%	10.5%	7.7%	8.3%	14.3%		

.

2017

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Readms	1	2	3	3	3	1	1	0	1	1	3	2
Total DCs	31	31	30	33	19	15	24	30	25	19	25	29
% Readm	3.2%	6.5%	10.0%	9.1%	15.8%	6.7%	4.2%	0.0%	4.0%	5.3%	12.0%	6.9%

The aim of the project is, to reduce HF 30-day post-discharge re-admission rates from 6.8% to 4% by December, 2018. This reduction is from a baseline of 311 discharges in 2017 with 21 (6.8%) re-admissions, to 12 re-admissions (4%), by December 2018, by focusing on the discharge education to the patients and caregivers. This goal would be a reduction of 8.7 patients readmitted for 2018. It is clear as of October, 2018, the goal will not be met.

Appendix Q. Heart Failure Basic Class Attendance
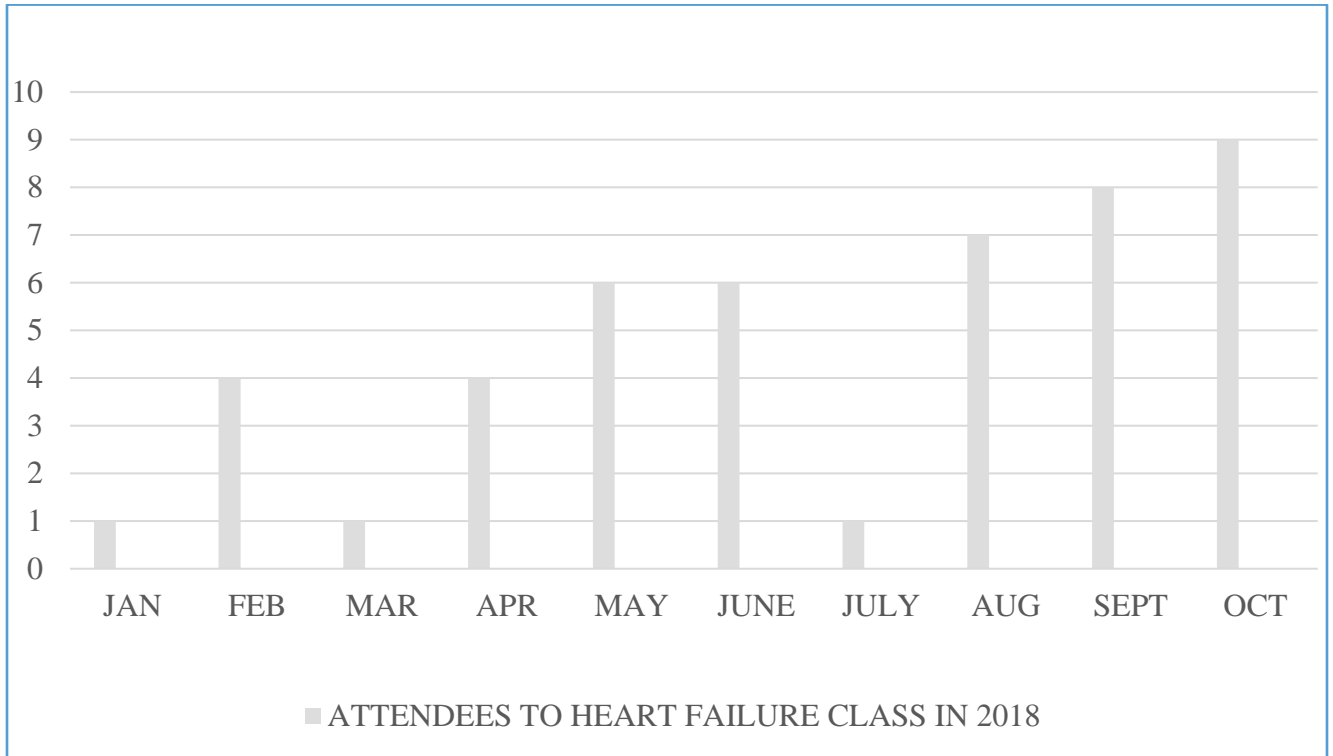
Starting in May, 2018, a referral was made through the EMR, to the chronic care department by

the primary RN of the admitted HF patient. The chronic care department followed up with a call

to the discharge patient inviting them to attend the heart failure basic class. The attendance to the

class has steadily been increasing.

Appendix R. Heart Failure Developing Process Measures

RN

- STRICT URINE OUTPUT TRACKING
- TEACH-BACK EDUCATION
- DAILY WEIGHTS
- DIETARY CONSULT
- REFERRAL TO HEART BASIC CLASS
- IMPROVE THE USE OF THE HF CARE PLANS

PHYSICIAN

- CONSIDER BNP LABS FOR EACH ADMISSION AND DISCHARGE
- DETERMINE THE DISEASE STAGE (A,B,C,D) FOR EACH HR PATIENT
- EACH PATIENT TO HAVE ECHO TO DETERMINE EJECTION FRACTION

FOLLOW-UP BY PROJECT COMMITTEE

- ECP REFERRAL
- TRACK USE OF HF ORDERSET BY PHYSICIANS
- EVERY PATIENT TO HAVE FOLLOW-UP APPOINTMENT WITHIN 7 DAYS AFTER DISCHARGE
- PALLATIVE CARE REFERRAL

Appendix S. Heart Failure Budget

HEART FAILURE PROPOSED BUDGET		
TOTAL COST PER PATIENT DAY SAVINGS	$	234,900
STAFFING	FTE	COST
DIRECTOR	0.05	$ 18,200
ANM	0.38	$ 99,590
STAFF RN	0.14	$ 36,691
STAFF ASSISTANT	0.2	$ 14,560
TOTAL STAFFING COST		$ 169,042
OPERATIONS		
ITEM		COST
SUPPLIES		$ 100
EDUCATION MATERIAL		$ 200
MEALS FOR MEETING		$ 200
TOTAL OPERATIONS		$ 500
TOTAL EXPENSES		$ 169,542
REVENUE LESS EXPENSES		$ 65,358

NUMBER OF DAYS	COST PER DAY	NUMBER OF PATIENTS
6	$ 4,500	8.7

BENEFIT COST			
HOURLY RATE	ANNUAL WAGE	40%	TOTAL COST
$ 125	$ 13,000	$ 5,200	$ 18,200
$ 90	$ 71,136	$ 28,454	$ 99,590
$ 90	$ 26,208	$ 10,483	$ 36,691
$ 25	$ 10,400	$ 4,160	$ 14,560

FTE DETERMINED BY:
DIRECTOR - 100 HRS/2080
   45 HRS MTG WITH ANM+24 HRS MTG COMMITTEE
   +DUE OUT WORK
ANM - 80 HRS/2080
   45 HRS MTG WITH ANM+24 HRS MTG COMMITTEE
   +DUE OUT WORK +EDUCATION+DEVELOPMENT
STAFF RN - 30 HRS X 10 RNS/2080
   12 HRS MTG+18 HRS EDUCATION AND DUE OUT WORK
STAFF ASSISTANT - 40 HRS/2080
   24 HRS MTG+16 HRS DUE OUT WORK

Appendix T. Heart Failure Gantt Chart

Keep the Beat with Heart Failure Education GANTT Chart

ID #	Heart Failure Education Phases and Steps	Responsible Party(ies)	Status
1	**Discovery/Assessment Phase**		
1.1	Identify Heart Failure (HF) Project	CNL student/Director	Completed
1.2	Literature review	CNL student	Ongoing
1.3	Survey staff RNs who care for inpatient HF patients	CNL student	Completed
2	**Dream & Network Phase**		
2.1	Review all programs in place currently for HF	CNL student	Completed
2.2	Interview & connect w/all leaders of current HF programs	CNL student	Completed
3	**Design & Coordination Phase**		
3.1	Planning meeting with preceptor & data analyst	NL/Preceptor/Analyst	Ongoing
3.2	Set up HF project team & meet with team	CNL/project team	Ongoing
3.3	Set up HF nursing team & meet with them	CNL/nursing team	Ongoing
3.4	Develop nursing survey	CNL student	Completed
3.5	Develop data reports needed to track HF project	NL/Preceptor/Analyst	Completed
3.6	Set goals for HF project	NL/Preceptor/Analyst	Completed
3.7	Developed I round tool to interview patients	NL/Preceptor/Analyst	Completed
3.8	Developed education for staff	CNL/nursing team	Completed
3.9	Developed educational tool for patient handout	CNL/nursing team	Completed
3.11	Attended AACN-CNL Research/Symposium	CNL student	Completed
3.12	Attended AACN-NTI- Boston, MA for HF classes	CNL student	Completed
3.13	Developed budget/SWOT/Gantt Chart for project	CNL student	Completed
3.14	Created intranet web page for HF	CNL/web designer	Completed
3.15	Developed plan to refer patients to heart basic class	CNL/CC RN	Completed
3.16	Developed teach-back plan for nurses to use with patients	CNL/nursing team	Completed
4	**Cooperation Phase: Execute the Delivery**		
4.1	Peer to peer teaching for RN staff	CNL/nursing team	Completed
4.2	Patient referral to heart basic class by inpatient RNs	CNL/nursing team	Ongoing
4.3	Intranet website available for use by all	CNL/web designer	Ongoing
4.4	Conduct patient interviews about educational tool	CNL/Preceptor	Pending
4.5	Conduct follow up nursing survey about HF project	CNL student	Pending
4.6	Present project milestone to PELT group	CNL student	Ongoing
4.7	Audit compliance for use of HF care plan	NL/Preceptor/Analyst	Pending
5	**Evaluation & Collaboration Phase: Sustainability**		
5.1	Complete nursing survey evaluations	CNL student	Pending
5.2	Evaluate patient I round interview responses	CNL/Preceptor/Analyst	Pending
5.3	Share semester's evaluation data & analysis	CNL student	Pending
5.4	Monitor and document progress/lessons learned	CNL student	Pending
5.5	Collectively celebrate achievements	Everyone	Pending
5.6	Determine ongoing commitment & sustainability	CNL/Preceptor/Analyst	Pending
5.7	Share CNL QI project w/ partners	CNL student	Pending

Appendix U. IRB Non-Research Determination Form

CNL Project: Statement of Non-Research Determination Form

<u>Student Name:</u>

Brenda Peterson

<div style="border:1px solid black; padding:10px;">

<u>Title of Project:</u> Keep the Beat with Heart Failure Education: A Quality Improvement Project

<u>Brief Description of Project:</u> To develop a sustainable multidimensional heart failure educational model for heart failure patients across the continuum of care at a local medical center in the central valley of California.

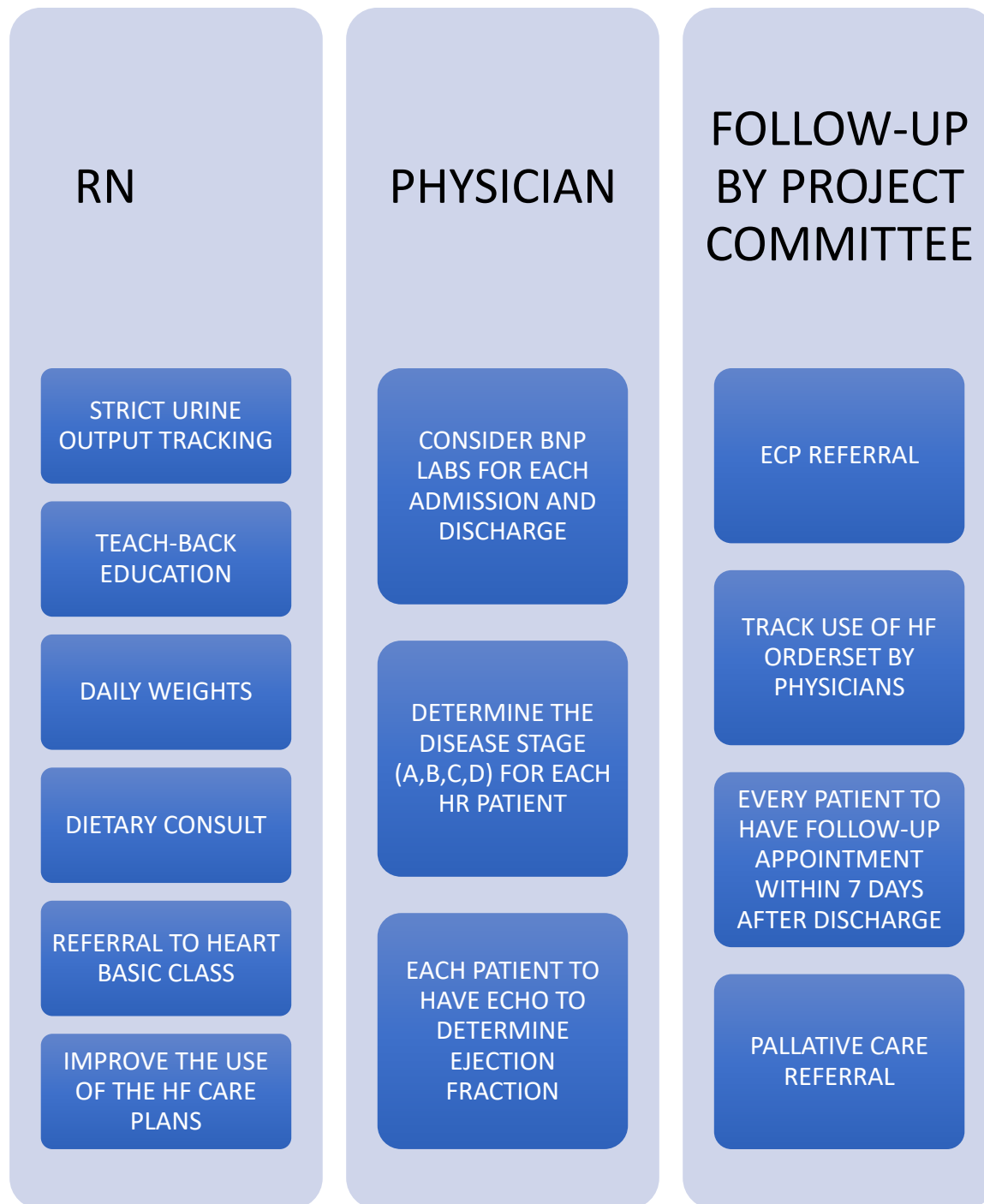 **A) Aim Statement:** The aim of the project is, to reduce HF 30-day post-discharge re-admission rates from 6.8% to 4% by December, 2018. This reduction is from a baseline of 311 discharges in 2017 with 21 (6.8%) re-admissions, to 12 re-admissions (4%), by December 2018, by focusing on the discharge education to the patients and caregivers. This goal would be a reduction of 8.7 patients readmitted for 2018.

  B) Description of Intervention: To provide standardized discharge instructions for HF patients throughout the entire healthcare continuum, including hospital, home health, clinic and chronic care management. The elements of the nursing and patient educational interventions included:
1) Standardize RN education in HF basics,
2) Develop and implement the use of HF educational tool for every discharge HF patient,
3) Show the "Getting Ready to Leave the hospital" video to every patient prior to discharge,
4) Implement teach-back format for the patient education,
5) Develop a web page on the intranet site that will support education for the healthcare staff and patients,
6) Improve and increase the number of members who attend the "Heart Failure Basic Class,"
7) Standardize the plan of care for the impatient HF patient by use of the HF care plan,
8) Provide a checklist for the primary RN to use to ensure all inventions are covered prior to discharging a HF patient.

  C) How will this intervention change practice? Using a standardize educational model and teach-back patient discharge instructions is a change in the current discharge plan. Coordinating care between the in-patient and out-patient services is new.

  D) Outcome measurements: Reduce HF re-admissions by 8.7 patients for 2018 by December 31, 2018 at the Fresno Kaiser Medical Center.

</div>

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: (http://answers.hhs.gov/ohrp/categories/1569)

X This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Student may proceed with implementation.

☐This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

Comments:

EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST *
Instructions: Answer YES or NO to each of the following statements:

Project Title:	YES	NO
The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.	x	
The specific aim is to improve performance on a specific service or program and **is a part of usual care**. ALL participants will receive standard of care.	x	
The project is **NOT** designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does **NOT** follow a protocol that overrides clinical decision-making.	x	
The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does **NOT** develop paradigms or untested methods or new untested standards.	x	
The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does **NOT** seek to test an intervention that is beyond current science and experience.	x	
The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.	x	
The project has **NO** funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.	x	
The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., **not** a personal research project that is dependent upon the voluntary participation of colleagues, students and/ or patients.	x	
If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: *"This project was undertaken as an Evidence-*	x	

based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board.”		

ANSWER KEY: If the answer to **ALL** of these items is yes, the project can be considered an Evidence-based activity that does NOT meet the definition of research. **IRB review is not required. Keep a copy of this checklist in your files.** If the answer to ANY of these questions is **NO**, you must submit for IRB approval.

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.

STUDENT NAME (Please print): Brenda Peterson
Signature of Student: Brenda Peterson

 DATE 5/27/2018

SUPERVISING FACULTY MEMBER NAME (Please print): Dr. Nancy Taquino
Signature of Supervising Faculty Member : Dr. Nancy Taquino

DATE 5/27/2018

Appendix V. Heart Failure Charter

Keep the Beat with Heart Failure Education Charter

Project Charter:
         Heart failure educational model for heart failure patients across the continuum of care at a local medical center in the central valley of California.

Global Aim:
         To develop a sustainable multidimensional heart failure educational model for heart failure patients across the continuum of care at a local medical center in the Central Valley of California.

Specific Aim:
         The aim of the project is, to reduce HF 30-day post-discharge re-admission rates from 6.8% to 4% by December, 2018. This reduction is from a baseline of 311 discharges in 2017 with 21 (6.8%) re-admissions, to 12 re-admissions (4%), by December 2018, by focusing on the discharge education to the patients and caregivers. This goal would be a reduction of 8.7 patients readmitted for 2018.

Background:
         Congestive heart failure (CHF), also known as heart failure (HF), occurs when the ventricles of your heart cannot adequately pump blood to the body. This is a chronic progressive disease. Eventually, blood and fluids back up into the lungs, abdomen, and lower body. The estimated prevalence of CHF in the United States is 6 million people (approximately 2% of the population), with 670,000 new cases per year (Sales et al., 2013). CHF is the number one diagnosis-related group (DRG) for people 65 years of age and older in the United States. It is the most expensive DRG, $31 billion in 2012. The average hospital stay for CHF is 6.2 days (Knox & Mischke, 1999).
         This disease is very debilitating and is characterized by high mortality, complex treatment regimen, and frequent hospitalizations. Frequent hospitalizations translate into multiple re-admissions. Hospital 30-day readmission rates for CHF range between 20% - 27% (Boyde et al., 2017). The Affordable Care Act aims to penalize hospitals with high 30-day readmission rates for CHF, because it is considered a potentially avoidable hospitalization with patient self-care adherence and patient education about their disease.
         Heart failure is a complicated disease. Generally, patients consistently readmitted for HF have a poor prognosis. Patients admitted within 30 days' post-discharge are considered high-risk patients. For patients being able to comprehend the discharge instructions is imperative to improved health. A patient's health literacy is said to be the ability for a person to obtain, process, and understand basic health information and services needed to care for themselves. The Institute of Medicine (IOM) has estimated that it costs $73 billion annually, because patients have limited health literacy, and ultimately, it is a major determinant of health outcomes (Griffey et al., 2015). Limited health literacy is a contributing factor in CHF re-admissions.
         The hospital discharge is a crucial time for a patient. It is essential for a patient's adherence to medical instructions that a patient receive simple, concise medication review at discharge. Scheduling the follow-up appointment at the time of discharge and stressing the importance of

follow-up should be included in the discharge plan. There is improved patient satisfaction when patients and their families feel they have received adequate information to care for their disease at the time of their discharge from the hospital. Comprehensive discharge planning and instruction would reduce the readmission rates and increase patient satisfaction (Hsieh & Kagle, 1991).

Re-hospitalizations are costly to both the patient and the hospital. In evaluating the re-admissions, many times there has been a gap in follow-up care, such as lack of discharge instructions or lack of coordination of care after discharge (Jencks et al., 2009). Heart failure has an estimated 5-year mortality rate of 50% (Chaudhry & Stewart, 2017), so finding ways to reduce the re-admissions will improve the quality of life for the patient. Clinical factors that can be followed to predict 30-day readmission are the New York Heart Association (NYHA) functional class, BUN (blood urea nitrogen) levels, increased heart rate, increased respiratory rate, and abnormal troponin levels (Huynh et al., 2015). Implementing a multi-disciplinary approach to treating, teaching, and supporting the heart failure patient can be beneficial to improve their quality of life.

Heart failure re-admissions rates at the local medical center are the highest of all readmission diseases, 10.8% of the hospital re-admissions are attributed to HF.

Sponsors:

Utilization Director (COCSD)	MW
Performance Improvement Director	NN
Patient Care Services Director	DS

Goals:

To provide standardized discharge instructions for HF patients throughout the entire health care continuum, including hospital, home health, clinic, and chronic care management.

1) Develop and teach staff RNs heart failure basics.
2) Develop and use HF patient educational tool for each discharged patient.
3) Show the "Getting Ready to Leave the Hospital" video to every patient prior to discharge.
4) Improve and increase the number of patients who attend the "Heart Failure Basic Class" taught by the outpatient chronic care department.
5) Develop a web page on the intranet that will support education for the health care staff and the patient.
6) Add the educational material to the clinic doctors' web page, so the patient can access the material from home.
7) Standardize the plan of care for the inpatient HF patient by using the HF plan in the electronic medical record.
8) The primary RN staff will use a checklist to assure nothing is missed when discharging an HF patient.
9) Heart failure patient discharge instructions will include teach-back education.

Measures:

Measure	Data Source	Target
Outcome		
Reduce HF re-admissions by 8.7 patients in 2018	Daily readmission report	4%
Process		
RN staff education for HF with teach-back technique	Education complete report	80%
RN checklist for HF	Audit for use	75%
Teaching tools of patient handout and video prior to discharge	Audit education documentation	90%
% patients with documented HF education in medical record	Infor view report Chart review-Health connect	50%
Increase in the number of patients attending the "HF Basic Class"	Report from continuing care for attendance	25% increase
Develop ease of access HF web page	Audit from RN staff about ease of use	100%
Balancing		
Hospital length of stay	Daily readmission report	Reduction by .5 days
Patient satisfaction	Patient surveys	Increase patient satisfaction
Nurse satisfaction	People pulse survey	Increase in nurse satisfaction
Monitoring of urine output	Chart review – Health connect	Determine correlation between urine output and patient improvement
Number of HF patients expired	Expired report	

Team #1 – Leadership Committee

MD Co Lead	Dr. AS
COCSD Lead	MW
CNS/Educator	KH
Home Health Manager	MS
Chronic Care RN	TB
Transition Director	JS
MD champion	Dr. TL
Patient Care Services Manager	CH
Performance Improvement Director	NM
Data Analyst	EB

Administrative Support	FA
Utilization Manager	KH
Director of the Care Management Programs	LA

Team #2 – Staff RN Committee

PV	CCU RN
MB	CCU RN
AK	CCU RN
MY	CCU RN
GS	Tele RN
CW	Tele RN
NB	Tele RN
KB	Tele RN
IA	M/S RN
LC	M/S RN

Measurement Strategy

Background (Global Aim):

CNL as the team leader: Evaluation of a new heart failure care management patient education model in an integrated delivery system in central California.

Population Criteria:

All HF patients admitted as an inpatient at the integrated medical center in the Central Valley of California with a diagnosis of HF.

Data Collection Method:

Data will be obtained from the daily report of patients admitted, which includes if they have been admitted within the last 30 days and their admitting diagnosis.

Data Definitions

Data Element	Definition
CID Number	Unique patient identifier that is not their medical record number or name, but embedded in the health record system to allow chart information to be used without the ability for others to identify the patient.
Age of the patient	Patient age used to divide patient into age categories.
Code status	Patient chosen code status.
Reason for the visit	Given by the patient as the reason they came to the hospital.
Principal hospital problem	Hospital problem listed by the emergency room staff.

Primary diagnosis	Diagnosis is given to the patient when admitted.
Primary care physician	Yes or no, if the patient has a primary care physician.
CHF care management program	Yes or no, if the patient participates in the CHF care management program.
CHF patient	Yes or no, if the patient is classified as a CHF patient.
CHF problem	States the type of heart failure.
Inpatient stays	This is the number of hospital stays in the last 365 days.

Measure Description

Measure	Measure Definition	Data Collection Source	Goal
CHF re-admissions	Graph of the % of re-admissions from January 2016 to current.	Information pulled from electronic medical record.	Goal is to decrease to 13.9%.
# of patients attending the heart failure basic class	Graph of the number of patients who have attended the class in 2018.	Information provided by the chronic care department	There is not a goal. This is used to determine if the lateral integration of information between the in-patient/out-patient services is effective.

Developing Process Measures

ECP referral	Develop a workflow to refer the high-risk patient to the extended care program (ECP).
Urine output	Improve documentation by hospital staff of patient urine output.
Teach-back	Train RN staff about the importance of teach-back for the patient to confirm understanding of their discharge instructions.
Daily weights	Perform and document daily weights for the inpatient.
Diet consult	Every HF patient to receive a diet consult prior to discharge.
Referral to heart basic class	Every HF patient to be referred to the heart basic class after discharge.
Heart failure order set	Track physician use of the HF order set.
Heart failure care plan	Improve the HF care plan.
BNP tracking	Consider BNP lab order at every admit and discharge for an HF failure.

Heart failure patients to be "staged" for disease state	Determine disease state for each HF patient based on the American College of Cardiology (ACC) and the American Heart Association (AHA) staging system, Stage A, B, C, D.

Changes to Test

1) Standardized patient education tool and discharge video improves patient compliance to discharge instructions and reduces 30-day re-admissions.
2) Nursing staff using the heart failure care plan assures all discharge information is communicated to the patient.
3) Using referral in the electronic medical record by the RN to the outpatient chronic care department is effective to increase the number of patients who go to the Heart Failure Basics Class.
4) RN staff to use the checklist to ensure all aspects of the educational model are completed.