Chronic Heart Failure Management in Rural Primary Care

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Abstract:

Background: Heart failure has been identified as a diagnosis associated with significant morbidity and mortality with inconsistent outcomes. As of October 1st, 2012 the Centers for Medicare and Medicaid Services (CMS) began reducing payments to penalize hospitals for excessive heart failure readmissions and publicly reporting readmission rates. The rationale for the reduction in payments is that many heart failure related admissions could have been prevented through improved outpatient management. In 2013, Medicare reimbursement cuts were applied to critical access hospitals. This most recent decrease in reimbursement to critical access hospitals paired with lack of reimbursement for heart failure related 30-day hospital readmissions provided the basis for implementing a heart failure management program.

Participants: Thirteen adult patients, over the age of 19, voluntarily participated in the heart failure management program in a rural primary care clinic located in the Midwest.

Methods: The project was a quality improvement design. A chronic heart failure management program was implemented utilizing the American Heart Association and the Institute for Health Care Improvement guidelines for heart failure management. Educational resources with monitoring logs for weights and symptoms were provided to each patient at the initial visit. Nursing staff filled out a heart failure flow sheet at each heart failure related visit, and each patient who presented was then contacted one month from his/her initial visit date to discuss patient concerns.

Results: Of the 13 individuals who presented for the initial visit, 11 had the flow record completed. One patient came in for subsequent visits due to changes in medications and follow-up. The flow record was filled out entirely on these 2 subsequent visits. There were two heart failure admissions during the 12-week implementation period and neither were readmissions. Both patients followed up within one week of hospital discharge. There were no heart failure readmissions during the 12-week implementation period.

Discussion: The findings of this project support the long-term feasibility of a chronic heart failure management program.

Key words: heart failure, chronic heart failure management, heart failure management programs, heart failure management in primary care.

Introduction

Background Knowledge: Heart failure is a multifaceted syndrome that is often

associated with exacerbation of symptoms leading to increased incidence of

hospitalization. The current rate of heart failure related hospitalizations is at its highest—1

million per year (Roger et al., 2011). The current 30-day readmission rate is also at an all

time high and a major contributor to Medicare reimbursement concerns (Jencks, Williams,

& Coleman, 2009). Moreover, 50 percent of patients age 65 years and older experience

readmission within six months and further research has identified that half of heart failure readmissions could have been prevented (DeBusk, et al, 2004). Between July 1, 2008 and June 30, 2011, the national average for heart failure readmissions within 30 days in the United States was 24.7% (Centers for Medicare and Medicaid Services [CMS], n.d.).

There are 86 hospitals in the state of Nebraska that qualify for reporting. Of these 86 hospitals, 47 hospitals showed no variance in readmission rates in comparison with the national average. Two hospitals had a higher percentage of readmission rates, and, no hospitals had lower percentage rates. Thirty-seven hospitals in the state of Nebraska did not have sufficient cases to accurately calculate heart failure readmissions (CMS, n.d.).

Medicare reimbursement rates are being cut for heart failure related readmissions that occur within 30 days. This reduced rate is contributing to the urgency to reduce rehospitalizations in order to decrease costs. An effort to improve chronic heart failure management and subsequently reduce heart failure related costs, will also have a positive effect on heart failure related outcomes and patients' quality of life. Current heart failure research supports the necessity of chronic care management programs as a successful, cost-efficient method of reducing heart failure rehospitalizations and as a method to improve patient outcomes.

Appropriate management of heart failure can lead to reduced 30-day readmission rates and improved patient outcomes. The process of implementing an evidence-based, disease monitoring plan, and the ability to modify the monitoring regimen is key to implementing any chronic care management program (Williams, 2013).

The Institute for Healthcare Improvement supports chronic management programs for heart failure and concludes that appropriate management of heart failure in the

ambulatory care setting increases care quality and decreases readmission rates (Amoah et al, 2008). Furthermore, current research supports that chronic heart failure management programs are efficient, feasible, and cost-effective methods of managing chronic heart failure.

A prospective, controlled study assessed outcomes related to chronic heart failure management over a two year time period. This study found that hospital and home based care including education, communication, sign and symptom recognition, and intensive follow up regimen resulted in a decreased death rate of over 35 percent, decreased heart failure related hospital admissions, and reduced hospital length of stay, increased functional ability, improved quality of life, in comparison with pre-intervention status (Del Sindaco et al., 2007). Further supporting the necessity of improving quality of life in heart failure management, a study published in 2010 demonstrated that an increase in patients' emotional and physical aspects of quality of life were "…independent predictors of long-term mortality and morbidity"(O'Loughlin et al., 2010, p. 65). However, this effect seemed to decrease in patients 80 years or older (O'Loughlin et al., 2010).

Local problem. The rural facility in the Midwest had no prior monitoring program for patients with heart failure. With successful implementation of diabetes and anti-coagulation management programs, the idea of heart failure management was well received.

The clinic where the heart failure management program was implemented is a part of a qualified critical access hospital in the Midwest. Critical access hospitals were receiving 101% of Medicare related reimbursement costs. In August 2013, Federal legislation suggested decertification of critical access hospitals located less than 25 miles

from the nearest hospital where definitive care can be obtained, thus cutting

reimbursement percentages (Carlson, 2013). Due to a high percentage of Medicare

patients in this area, even a 1% cut in Medicare reimbursement placed the facility in a

financial strain. This issue, paired with the aforementioned lack of reimbursement for

heart failure related 30-day hospital readmissions by Medicare, provided the basis for

implementing a heart failure management program.

Intended Improvement. This heart failure management program was a quality

improvement project. The purpose of this project was to implement a chronic management

program in a rural primary care clinic with patients aged 19 and older who have a

diagnosis of heart failure. Specifically the aims were:

1. Implement a heart failure flow sheet for patient records

2. Provide standard educational material to patients about heart failure treatment,

symptom recognition, and when to notify health care provider regarding change in

condition.

3. Provide monitoring logs for daily weights and symptom recognition for every patient

4. Develop an evaluation plan to measure outcomes, process, quality, and cost.

Study question. Primary question: Is a chronic heart failure management program

feasible in a rural primary care setting? Secondary questions: Will clinic staff adhere to

program objectives? Will patients be adherent to program objectives? Will the chronic

heart failure management program have long-term viability?

Methods

Ethical issues. A review of this project was conducted by the Institutional Review Board and approval was deemed not to be necessary as it is a quality improvement project. Healthcare providers at the two medical centers approved the project.

Setting. Data were collected in a rural community in the Midwest. The facility is an 18-bed, critical access hospital with an attached clinic and a second clinic in a neighboring rural community. Resources located within the facility include: cardiac rehabilitation, diabetic education, cardiopulmonary services, diagnostic imaging, emergency services, extended care services, laboratory, lifeline, nursing, nutritional services, occupational and speech therapy, inpatient and outpatient services, pain clinic, pharmacy, physical therapy, specialty clinics, surgery, swing bed, and wellness lab. The administrative staff, paired with providers at both clinic locations, collectively, focus on improving and maintaining patient outcomes. Due to this focus and the clinic staff's willingness to change, an environment was created that was susceptible to successful intervention implementation. The target population includes both male and female subjects who are at least 19 years of age with a diagnosis of heart failure.

Planning the intervention. Data collection occurred from September 9, 2013 through December 2, 2013, for a 12-week time frame. Data was initially collected via electronic medial record search using ICD-9 codes to identify patients within the clinic population with a diagnosis of heart failure. The identified patients were contacted via letter from the clinic operations manager describing the heart failure management program. Front office personnel were provided with a list of patients with a diagnosis of heart failure and placed the heart failure flow record and educational resource in each patient's paper medical

record. Two, 1-hour educational sessions were completed with the nursing staff. The heart

failure program was explained, methods of evaluation discussed, and staff questions were

answered. Nurses were instructed to track patient phone calls, recommended alterations in

treatment, and, if one of the recommendations was for the patient to be evaluated by his or

her primary care provider. If the patient was advised to come in for evaluation, the nurse

was to document whether the patient presented for the visit.

Once the implementation period began, patients were instructed to present for their

initial visit. During the first visit the educational resource was provided, along with

education about the importance of daily weights and symptom monitoring. At the initial

and subsequent visits, the heart failure flow record (discussed later) was filled out by

nursing staff.

The new process included a plan for patients who were admitted for an acute

exacerbation of heart failure. A follow-up appointment was scheduled for discharged

patients prior to dismissal from the hospital. This appointment was scheduled within 72

hours and 7 days of hospital discharge. Physicians in charge of dismissal were educated to

write the specific follow up date in the discharge orders to ensure that successful

completion of the recommended follow-up time was achieved.

Planning the study of the intervention. Patient data were collected at every three-

month routine visit and this information was placed on the Heart Failure flow record,

developed by CalOptima (Appendix A). Specifics addressed on this flow record include,

blood pressure, weight, body mass index, and symptom's assessments. Medications the

patient is currently on are addressed within the flow record, including ACE inhibitors,

angiotensin II receptor blockers, hydralazine, nitrates, diuretics, aldosterone antagonists,

beta-blockers, digoxin, coumadin, and statins. Review of action plan, all other medications, daily weight logs, nutrition, fluid management, physical activity, smoking, alcohol and illicit drug use, importance of follow-up visits, and discussion of advance directives are also aspects of the flow record. Based on best practice recommendations, annual measures are included on the flow record. These annual measures include cholesterol, triglycerides, high density lipoprotein, low density lipoprotein, blood urea nitrogen, serum creatinine, sodium, potassium, liver function panel, fasting plasma glucose, ejection fraction, depression screen, quality of life, social support, influenza and pneumococcal vaccines.

The educational resource with weight monitoring and symptom tracking was also discussed at the initial visit. The Living Well with Heart Failure booklet is an educational resource supported by the American Heart Association and was provided to each patient. Nursing staff discussed the resource with each patient and then explained the weight monitoring and symptom tracking logs within the educational resource.

Clinic staff adherence to the program was measured utilizing a program adherence log (Appendix B). A data collection tool was created to track each patient that presented for heart failure follow up and also used to ascertain whether all aspects of the flow record were addressed (Appendices B & C). Another adherence measure that was addressed was the tracking of patient phone calls received by the nursing staff (Appendix D). The heart failure tracking record highlights the patient's adherence to the recommended treatment for his/her symptoms, specifically if a face-to-face visit was advised.

Patients were instructed to weigh themselves at the same time each day. A two-pound weight gain in one day or a five-pound weight gain in one week should result in notification of his or her primary care provider. In addition to weight gain, other

symptoms the patients were advised to monitor and document include swelling in feet/ankles, increased shortness of breath, inability to lie flat or inability to breathe comfortably in bed, decreased urination, and increased fatigue. If any of the aforementioned symptoms were documented, the patient was advised to notify his or her primary care provider. Patients were also asked to schedule the next three-month follow-up visit with their primary care provider before completing the appointment.

Patient adherence to daily weight and symptom monitoring was measured (Appendix B). However, this was difficult to assess due to the limited implementation period. Most patients could only be assessed at the initial visit. If the patient was unable to weigh themselves daily due to physical or cognitive limitations, documentation of this occurred by the clinical staff.

Patient's follow-up visits after an acute exacerbation of heart failure were also measured (Appendix C). Adherence to the recommended follow up within 72 hours for high-risk patients and within one week for all other heart failure patients was measured. The utilization review nurse continued to track inpatient heart failure admissions (Appendix E) and ensured collaboration with patients prior to their discharge home.

Methods of evaluation. A comprehensive evaluation plan was developed and implemented to ensure sustainability beyond the 12-week project implementation period. The clinic nurse coordinator is responsible for monitoring staff adherence to the paper flow records and phone-monitoring logs. The clinic operations manager will monitor the overall adherence as well as outcomes and costs in relation to the chronic heart failure management program. The utilization review nurse will continue tracking emergency- and hospital-related admissions and readmissions. Quality improvement measures are

reported at quarterly meetings. At the quarterly quality improvement meetings, the clinic operations manager will report outcomes related to costs and adherence measures, the utilization review nurse will report heart failure related emergency visits, hospital admissions and readmissions.

Results

Outcomes. The population of the primary community is 1,942; the median age is 45.5 years and the population is predominantly Caucasian (United States Census Bureau, 2010). In total, the organization has five providers. The providers include two family practice physicians, one nurse practitioner and two physician's assistants. There are two registered nurses, two licensed practical nurses, two medical assistants, and three front office personnel/receptionists employed in the primary clinic location. The nurse practitioner is responsible for patient care at the second clinic location; there is also one licensed practical nurse, one medical assistant, and one front office receptionist employed at this clinic. The average number of visits per year is 11,697 and the average number of monthly heart failure related visits is six.

Previous changes, such as diabetic follow up program with flow record and anticoagulation monitoring program have been implemented in the past with ease and success. Current clinic and hospital staffing models created an atmosphere for implementation success; the clinical operations manager is in charge of daily operations and leads evidence based changes and implementations, the clinic nurse manager oversees the changes and monitors effectiveness and staffing adherence. Also, having adequate front office and nursing personnel provided an essential framework that prevented staff

burnout. The providers within both clinics were agreeable to the heart failure management program.

   The initial plan evolved in two areas. First, two weeks into the implementation process, it was noted that certain components of the bottom section of the flow record were taking an extensive amount of time to complete. This section of the flow record includes cholesterol, triglycerides, high density lipoprotein, low density lipoprotein, serum creatinine, blood urea nitrogen, sodium, potassium, fasting blood glucose, ejection fraction, liver function tests, depression screening, quality of life discussion, social and family support, influenza vaccination, and pneumococcal vaccination. This portion of the flow record only needs to be filled out an annual basis, but initially required research into each patient's medical record. At this time, the process changed, and the primary investigator began to fill out this bottom section to improve the timing concern.

   Secondly, the initial process for ensuring follow up after heart failure exacerbation was changed during the first heart failure related admission. Initially, nursing staff were in charge of documenting and setting up a follow-up appointment for each patient at time of discharge, within the 72 hour and 7 day recommendation. However, after further discussion with the nursing manager it was decided to educate both physicians on the recommended follow up time frame and ask them to write a specific follow up date in discharge orders. Several factors played a role into this change. Due to several levels of nursing staffing: full time, part time, and as needed, adequate education for those nurses who did not work frequently brought up the concern of consistency between nursing staff. Secondly, there are only two physicians who are in charge of dismissal of patients. It was

determined that in order to ensure consistent adherence to follow up recommendations it would be more beneficial to educate these two staff members.

A total of 52 patients were identified during the ICD-9 diagnosis search. Letters were sent to each of the 52 patients. Six of the 52 patients' primary practice clinic was the secondary clinic in the neighboring community, no patients presented for their initial visit at the secondary clinic. Thirteen individuals presented for an initial heart failure visit at the primary clinic. Of the 13 individuals who presented for the initial visit, 11 had the flow record completed entirely. One patient came in for subsequent visits due to changes in medications and monitoring. The flow record was filled out entirely on these 2 subsequent visits. Two of the 13 patients that presented for their initial visit had a secondary diagnosis of dementia and were unable to follow daily weight and symptom monitoring recommendations. There were two heart failure admissions during the 12-week implementation period and neither were readmissions. Both patients followed up within one week of hospital discharge. There were no heart failure readmissions during the 12-week implementation period.

Although patient and staff satisfaction was not specifically measured, each patient who presented for his or her initial visit was contacted by telephone to discuss any questions regarding the heart failure management program. Most patients felt the educational resource would be a good tool for reference, reminders, and tracking logs. Two patients discussed the potential benefit of a formal heart failure educational session, as this has not yet been offered in the community.

After completion of the 12-week implementation period, the clinic nursing staff reported no patient phone calls related to their heart failure diagnosis. Also, no patients presented to the secondary outreach clinic.

Discussion

Summary. The most important successes during implementation of the intervention components were (1) providing the educational resource to patients for reference outside of the clinic setting, (2) education of patients about symptom recognition and weight monitoring, and lastly, (3) staff adherence to the program objective. One of the difficulties experienced during the implementation period was the amount of time required to complete the bottom portion of the flow record. Once this process was modified, improved efficiency was achieved. This project set the basis for the initiation of a chronic heart failure management program.

Relation to other evidence. The intervention described by Del Sindaco and colleagues has many similarities to the heart failure management program implemented for this project, these similarities include: an educational brochure, weight monitoring, symptom tracking, and follow-up process. With these intervention similarities and continued implementation of the heart failure management program, there is rationale to expect similar outcomes such as a decrease in the current death rate, decreased hospital admissions, and reduced hospital length of stay.

A qualitative study concluded that beyond wanting a management program that provides positive outcomes related to their heart failure, patients also desire a care management plan that is open to patient preferences about home or office based care—or combination of both (Whitty et al., 2012). Also an important aspect to the heart failure

management program is the ability for patients to utilize the educational brochure, weight monitoring, and symptom tracking in the home setting while continuing to have the guidance from their health care provider. Having the resources to perform portions of disease monitoring at home provides empowerment for patients to be active in their health care.

Limitations. There were several limitations to the project.   First, the sample size was a small, convenience sample. Due to the nature of the research completed and that the data was collected in a small rural health care clinic, the needs of this population may be entirely different from a larger population; thus limiting the applicability and generalizability.

Interpretation. Differences in each staff member's approach to completing the initial visit likely had an effect on the observed process. This is due to certain staff preferences; some staff members waited until the end of the day to fill out the bottom portion of the flow record while others completed it prior to the patient visit or worked on it throughout the day. The potential to add the flow record as a component of the electronic medical record system along with a heart failure assessment tool for provider use will streamline the process and ensure continuity of care between nursing staff and providers at both clinic sites.

Initial costs included postage for patient letters and purchase of educational resources. In an effort to successfully implement a heart failure management program, these costs are minimal in comparison to potential cost savings to the facility secondary to improved heart failure management.

Conclusions. The implementation of the heart failure management program provides benefit to both patients and clinic staff. First, patients are able to identify symptoms and track their weights to identify signs and symptoms of exacerbation prior to the need for hospitalization. Utilization of the flow record provides a quick reference for clinic staff to monitor weights, symptoms, medications, and vaccines, as well as previous pertinent labs and diagnostics.

There are several implications for further quality improvement interventions in heart failure management in primary care. In addition to the focus of this heart failure management program, the IHI best practices also recommends the following: heart failure notification on the patient's chart, documented reasons for deviation from current recommendations, feedback to providers regarding patient care outcomes, ensure good relationships between primary and specialty care providers, medication reconciliation at every visit, and employ a multidisciplinary team approach (Amoah et al., 2008).

This project successfully implemented a new heart failure management program in a rural primary care clinic in the Midwest. The project implemented a heart failure flow sheet that was utilized in the patient's paper medical record, an educational brochure was distributed with monitoring logs for daily weights and symptom recognition for patients to use at home, and, lastly, the project developed an evaluation plan for future measure of outcomes, process, quality and cost. Plans to continue the use of this heart failure management program and further implementation of current IHI guidelines, provides an optimistic outlook regarding decreased hospitalizations and rehospitalizations, improved patient outcomes, and subsequently decreased costs to the heart failure patient and facility.

References

Amoah, B., Boutwell, A. Schall, M., Sevin, C., Shapiro, E. & Taylor, J. (2008). Getting started

    guide: Improving care for patients with heart failure -- Focus on ambulatory care.

    Institute for Healthcare Improvement. Retrieved from

    http://www.ihi.org/resources/Pages/Tools/GettingStartedGuideImprovingCareHe

    artFailureAmbulatoryCare.aspx

Carlson, J. (2013). OIG proposal threatens enhanced payments to two-thirds of critical-access

    hospitals. *Modern Healthcare.* Retrieved from

    http://www.modernhealthcare.com/article/20130815/NEWS/308159958#

Centers for Medicare and Medicaid Services. (n.d.). Hospital compare: Outcome measures.

    The Official U.S. Government Site for Medicare. Retrieved from

    http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-

    Instruments/HospitalQualityInits/OutcomeMeasures.html

DeBusk, R. F., Miller, N. H., Parker, K. M., Bandura, A., Kraemer, H. C., Cher, D. J., West,

    J.A., Fowler, M. B., & Greenwald, G., (2004). Care management for low-risk patients

    with heart failure: a randomized, controlled trial. *Annals of Internal Medicine,141*(8),

    606-613. Retrieved from http://annals.org/article.aspx?articleid=717888

Del Sindaco, D., Pulignano, G., Minardi, G., Apostoli, A., Guerrieri, L., Rotoloni, M., Petri, G.,

    Fabrizi, L, Caroselli, A., Venusti, R., Chiantera, A., Giulivi, A., Giovannini, E., Leggio,

    F. (2007). Two-year outcome of a prospective, controlled study of a disease management

    programme for elderly patients with heart disease. *Journal of Cardiovascular Medicine,*

    8(5), 324-329. doi:10.2459/JCM.0b013e32801164cb

Jencks, S. F., Williams, M. V., & Coleman, E. A. (2009). Rehospitalizations amount patients in

    the medicare fee-for-service program. *New England Journal of Medicine, 360,* 1418-

    1428. doi:10.1056/NEJMsa0803563

O'Loughlin, C., Murphy, N.F., Conlon, C., O'Donovan, A., Ledwidge, M., & McDonald, K.

    (2010). Quality of life predicts outcome in a heart failure disease management

    program. *International Journal of Cardiology, 139*(1), 60-67.

    doi:10.1016/j.ijcard.2008.09.003

Roger, V. L., Go, A. S., Lloyd-Jones, D. M., Adams, R. J., Berry, J. D., Brown, T. M., …Wylie-

    Rosett, J. (2011). Heart diseas and stroke statistics—2011 update: A report from the

    American Heart Association. *Circulation, 123,* e18-e209. doi:

    10.1161/CIR.0b013e3182009701

United States Census Bureau. (2011). Syracuse, Nebraska. Retrieved from

    http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_

    10_DP_DPDP1

Whitty, J.A., Carrington, M. J., Stewart, S., Holliday, J., Marwick, T. H., & Scuffham, P. A.

    (2012). Patient preferences for the delivery of disease management in chronic heart

    failure: A qualitative study. *Journal of Cardiovascular Nursing, 27*(3), 201-207.

    doi:10.1097/JCN.0b013e3182ab1f22

Williams, M. V. (2013). A requirement to reduce readmissions: Take care of the patient, not just

    the disease. *The Journal of the American Medical Association*, *309(*4), 394-396.

    doi:10.1001/jama.2012.233964

Appendix A

CalOptima
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CONGESTIVE HEART FAILURE (CHF)
FLOW SHEET

Patient Name: _____ DOB: _____ CIN#: _____

Provider Name: _____ Provider ID#: _____

OFFICE VISIT	DATE: / /	DATE: / /	DATE: / /	DATE: / /
Blood Pressure Target: (/)				
Weight/Body Mass Index Target: Wt- ( ) BMI- ( )				
Waist Circumference (inches) Target: ( )				
Symptom Assessment (Y/N)				
TREATMENT OPTIONS	Y/N or N/A	Y/N or N/A	Y/N or N/A	Y/N or N/A
ACE Inhibitors				
Angiotensin II Receptor Blockers				
Hydralazine/Nitrates				
Diuretics				
Aldosterone Antagonists				
Beta-Blockers				
Digoxin				
Coumadin				
Statin Therapy				
EDUCATION	√ if addressed	√ if addressed	√ if addressed	√ if addressed
CHF Action Plan Review	☐	☐	☐	☐
Medication Review	☐	☐	☐	☐
Daily Weight Monitoring	☐	☐	☐	☐
Nutrition/Sodium Restriction	☐	☐	☐	☐
Fluid Management	☐	☐	☐	☐
Physical Activity	☐	☐	☐	☐
Smoking Cessation	☐	☐	☐	☐
Discourage Alcohol Intake/ Illicit Drug Use	☐	☐	☐	☐
Importance of Follow-Up Visits	☐	☐	☐	☐
Advance Directive Discussion	☐	☐	☐	☐
ANNUAL OR AS INDICATED	Date Last Done/ Results	Date Last Done/ Results	Date Last Done/ Results	Date Last Done/ Results
Cholesterol/Triglycerides Target: Chol- ( ) Tg- ( )				
HDL/LDL Target: HDL- ( ) LDL- ( )				
BUN/Serum Creatinine				
Sodium/Potassium				
Liver Panel				
Fasting Plasma Glucose				
Ejection Fraction (%) or degree of LV dysfunction				
Depression Screen				
Quality of Life Assessed				
Social/Family Support Assessed				
Influenza Vaccine				
Pneumococcal Vaccine				

Appendix B

Program Adherence Log

	Patient	Educational Resource Addressed Y/N	Was flow record completed? Y/N	Did patient provide daily weight and symptoms monitoring Y/N	Other considerations/Notes
Visit One					
Visit Two					
Visit Three					

Appendix C

Heart Failure Follow-up Tracking

Patient	Date	Days since dismissal	Changes in treatment regimen

Appendix D

Heart Failure Phone Tracking Record

Patient	Date/Time	Symptoms/Questions Reported	Recommended TX	Appointment Made Y/N	Did pt. come in Y/N	Outcome

Appendix E

Admission and Follow-up After Hospital Discharge Tracking

Patient	Date	Admission Type/Disposition ER/Inpatient/Observation/ Transfer/Dismiss Home	Readmission Y/N	LOS (Days)	F/U Visit Made Y/N Appt.Date/Time	Did Patient Keep F/U Appt? Y/N