What Nursing Interventions Work Best for Patients with Heart Failure?

A Collection of Evidence Based Nursing Practice

Nneka Okoye, RN, BSN
University of Virginia
GNUR 6054

“On my honor, as a student, I have neither given nor received aid for this assignment”.

[Image of a heart]
INTRODUCTION

Heart failure is a condition that causes the heart to ineffectively pump blood throughout the body (systolic dysfunction) or ineffectively have adequate filling of blood in the ventricles (diastolic dysfunction). It is most commonly diagnosed in patients older than 65 years than age (Redderson, Keen, Berry & Nasir, 2007) with readmission rates as high as 50% in that age group within a time period of 6 months (Washburn, Hornberger, Klutman & Skinner, 2005). Heart failure is not a disease as it is a condition that is associated with several types of cardiovascular conditions such as myocardial infarctions, chronic hypertension and coronary artery disease. Titler, M., Jensen, G., Dochterman, J., Xie, X, Kanak, M., Reed, D. & Shever (2008) described heart failure as the final common pathway of cardiovascular disease that affects about 5 million Americans and is a global epidemic.
The American Association of Heart Failure Nurses (2009) reported the number of hospitalizations tripled from 1,274,000 in 1979 to 3,860,000 in 2004. These statistics show an increasing trend in the lack of prevention and management of heart failure. Many heart failure patients who enter the hospital whose primary diagnosis is not heart failure may also have some therapies discontinued due to practitioners wanting to take care of the patient’s primary problem (Wingate, 2009). This action, in turn, can set these patients back and precipitate exacerbations. Nurses need to be aware of the increasing numbers of people with heart failure, people at risk for this condition and the evidenced based research available to help improve the quality of care they provide to these patients. Becoming aware of the nursing management of these patients can help us decrease readmission rates, improve quality of care and quality of life.
PICO
(Patient Intervention Comparison Outcomes)

- (P) In patients with heart failure, what
- (I) types of nursing interventions
- (C)
- (O) best improve the quality of patient care and quality of life.
The Iowa model is a research utilization tool that guides researchers to effectively find pertinent research and implement it into practice. Following this model provides the researcher a framework for organization. Major characteristics include:

- Identifying problem focused triggers or knowledge focused triggers
- Consider if the topic is a priority for the organization
- Form a team
- Assemble relevant research and related literature
- Critique and synthesize research for use in practice
- If research base is sufficient, pilot the change in practice
- If change is appropriate, institute change into practice

The Iowa Model of Evidence Based Practice was utilized to help find and implement evidence based research into practice.
Appendix I

The Iowa Model Of Evidence-Based Practice to Promote Quality Care

Iowa Model

Problem Focused Triggers
1. Risk Management Data
2. Process Improvement Data
3. Internal/External Benchmarking Data
4. Financial Data
5. Identification of Clinical Problem

Knowledge Focused Triggers
1. New Research or other Literature
2. National Agencies or Organizational Standards & Guidelines
3. Philosophies of Care
4. Questions from Institutional Standards Committee

Consider Other Triggers

Is this Topic a Priority For the Organization?
No
Yes
Form a Team

Assemble Relevant Research & Related Literature

What is involved in changing practice?
Education, Referral to leadership, Change in policy/procedure/documentation

Critique & Synthesize Research for Use in Practice

Yes
No
Is there a Sufficient Research Base?

Pilot the Change in Practice
1. Select Outcomes to be Achieved
2. Collect Baseline Data
3. Design Evidence-Based Practice (EBP) Guideline(s)
4. Implement EBP on Pilot Units
5. Evaluate Process & Outcomes
6. Modify the Practice Guidelines

Base Practice on Other Types of Evidence:
1. Case Reports
2. Expert Opinion
3. Scientific Principles
4. Theory

Conduct Research

Institute the change in Practice

Continue to evaluate quality of care & new knowledge

Is change appropriate for adoption in Practice?

Yes
Institute the change in Practice

No
Continue to evaluate quality of care & new knowledge

Disseminate Results

Monitor & Analyze Structure, Process, and Outcome Data:
- Environment
- Staff
- Cost
- Patient & Family

References:
## Literature Search

<table>
<thead>
<tr>
<th>Databases Searched</th>
<th>Inclusion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cinahl, Medline, Nursing &amp; Allied Health Collection: Comprehensive, Health Source: Nursing/Academic Edition, Biomedical Reference Collection: Comprehensive were reviewed in the month of January 2011.</td>
<td>Dates of publication had to be from years 2004-2009 unless it was a “landmark study.”</td>
</tr>
<tr>
<td>Google was also used for additional information.</td>
<td>Peer reviewed</td>
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<tr>
<td>University of Virginia Health Sciences Library</td>
<td>English</td>
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<td></td>
<td>Full Text</td>
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<td></td>
<td>References available</td>
</tr>
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<td></td>
<td>Level I, II, III, IV, V</td>
</tr>
</tbody>
</table>
Literature Search

Results

- Cardiovascular nursing and heart Failure yielded 45 results.
- Heart failure and nursing interventions yielded 29 results.
- Heart failure and nursing care yielded 36 results.
- Heart failure and management yielded 1872 results.
- Minnesota Living with Heart Failure yielded 39 results.
- Minnesota Living with Heart Failure and quality of life yielded 34 results.
- Quality of life and heart failure yielded 895 results.

Studies Included in Final Appraisal

- 20 studies were selected due to meeting inclusion criteria and outcomes showing significant and sometimes insignificant evidence. Most of the studies were also chosen because of foundation of theory the researchers laid to build the study upon.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Title of study/Date/Journal</th>
<th>Level of Evidenc</th>
<th>Hypothesis or Question or Purpose?</th>
<th>Design</th>
<th>Sample</th>
<th>Data Collection Instruments</th>
<th>Statistical results/findings</th>
<th>Implications/Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sochalski, Jaarsma, T., Krumholz, H., Laramee, A., McMurrray, J., Naylor, M., Rich, M., Riegel, B. &amp; Stewart, S.</td>
<td>What works in chronic care management: The case of heart failure January/February 2009 <em>Health Affairs</em></td>
<td>Ia</td>
<td>Do the delivery methods used in care management programs for heart failure contribute to differences in hospital readmissions?</td>
<td>Systematic review</td>
<td>10 randomized controlled trials of the effects of heart failure management programs on patient outcomes 2,028 cases (961 program patients and 1,067 routine care patients) Mean age: 74.1 49.0% male 62.5% White 13.4% Black 11.2 Hispanic 64.5% history of hypertension 46.8% history of heart attack</td>
<td>Taxonomy of Disease Management; New York Heart Association (NYHA) functional class</td>
<td>Compared to the routine care group, the program group had 25% fewer all-cause readmissions and 30% fewer all-cause readmission days. Chronic care management programs that had a multidisciplinary approach decreased readmission rates and readmission days per month, 2.9% and 6.4% respectively In person communication as compared to telephonic communication decreased readmission rates and stays.</td>
<td>A multidisciplinary approach using in person communication is key to improving the health status of heart failure patient</td>
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<td>Bakan, G. &amp; Akyod, A.</td>
<td>Theory-guided interventions for adaptation to heart failure September 2007 <em>Journal of Advanced Nursing</em></td>
<td>IIa</td>
<td>The purpose of this study is to examine the effects of a Roy Adaptation Model-based experimental education, exercise and social support program on adaptation in persons with heart failure.</td>
<td>Randomized, parallel, controlled clinical trial</td>
<td>44 randomized patients Inclusion criteria: literate, able to communicate verbally, diagnosed with heart failure at least 6 months before the study, NYHA functional class II-III, ejection fraction (EF) &lt;40%, no hearing or visual defect, no mental disorder, no myocardial infarction in past year and plans to remain in the city during the study period or could be reached by telephone.</td>
<td>Patient identification form, assessment form for physiological data, Minnesota Living With Heart Failure (MLWHF), Interpersonal Support Evaluation List, 6 minute walking test</td>
<td>Intervention patients showed statistically significant improved scores on the MLWHF, physical dimension and emotional dimension over time compared with control patients.</td>
<td>The Roy Adaptation Model can be used in adaptation programs to guide evaluation of the process of adaptation. Interventions such as cardiac rehabilitation programs is a clinically significant in improving heart failure symptoms and empowering patients to change their behavior so as improve quality of life.</td>
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<td>Evidence or Purpose?</td>
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<td>results/findings and conclusions</td>
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<td>Redderson, L., Keen, C., Nasir, L. &amp; Berry, D.</td>
<td>November 2007 Diastolic heart failure: State of science on best treatment practices <em>Journal of the American Academy of Nurse Practitioners</em></td>
<td>Level I</td>
<td>The purpose of this article is to increase awareness among nurse practitioners of the current state of science on diastolic heart failure (DHF), the American College of Cardiology (ACC) and the American Heart Association (AHA) guidelines for DHF, and pathophysiology, diagnosis, and nonpharmacological and pharmacological management</td>
<td>Systeatic Review</td>
<td>4 randomized controlled trials Inclusion criteria: RCT, investigated a pharmacological or lifestyle intervention in DHF patients, published from 2000 to 2007, English Exclusion criteria preliminary data, clinical trials investigating systolic heart failure, published before 2000</td>
<td>3 independent reviewers, one of which was a content expert, met to discuss the studies, interpret findings, compare clinical trials, review AHA/ACA guidelines and discuss the current state of science and management in DHF</td>
<td>Interventions such as the use of candesartan, participation in a outpatient low-moderate intensity exercise and educational program reduced cardiovascular death in patients with NYHF II-IV; thereby helping improve quality of life and functional capacity.</td>
<td>The need for more RCTs on DHF is imperative to have more resounding evidence of best practice. With the research currently available, nurse practitioners increase early diagnosis and institute nonpharmacological and pharmacologic management. In partnership with the cardiologist, the nurse practitioner can work with the patient and family through education, discussion and support so as to help patients improve their health outcomes and quality of life.</td>
</tr>
<tr>
<td>Dickson, V., Riegel, B.</td>
<td>May/June 2009 Are we teaching what patients need to know? Building skills in heart failure self care, <em>Heart and Lung</em></td>
<td>Level V</td>
<td>The purpose of this study was to assess what self-care skills patients with HF perceive that they need and how they developed the skills needed to perform self care</td>
<td>Qualitative descriptive meta-analysis</td>
<td>3 descriptive studies Inclusion criteria: documented evidence of symptomatic HF for at least 3 months, spoke and read English, no mental health or neurologic problems</td>
<td>Methodological rigor of qualitative analysis was maintained through an audit trail, periodic debriefing and discussions with people knowledgeable about HF self care. Reliability was measured by consistency of interpretation and coding. An audit trail of process and analytic memos and coding books was maintained to support the credibility of the study.</td>
<td>Tactical and situational skills are needed to perform adequate self-care. Proficiency in these skills was acquired primarily through input from family and friends.</td>
<td>For patients in this study it takes time and practice to learn how self-care practices can fit in their lives. As nurses, we must not only address the patients, we must address the patient’s social support system as well. The social support system of the patient seems to help reinforce skills for self-care. If possible, we can also teach community members these skills so they can help their fellow neighbors.</td>
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<tr>
<td>hamm</td>
<td>April/June 2005</td>
<td>IV</td>
<td>The purpose of this article is to provide a systematic evaluation of the impact of post hospital nursing interventions in the management of heart failure</td>
<td>Review of Literature</td>
<td>The author used a computerized search of MEDLINE, CINAHL to collect data for the literature review</td>
<td>The utilization of post hospitalization nursing interventions can improve outcomes for heart failure patients. It’s important for nurses to be knowledgeable or skillful in these types of interventions.</td>
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<td>Kutzle b, J. &amp; Reiner, D.</td>
<td>September 2005</td>
<td>IIb</td>
<td>The purpose is to evaluate the impact of a nurse-directed approach to patient education to improve the quality of life and functional capacity in people with heart failure</td>
<td>Prospective quasi-experimental (comparing nurse-directed care and medical management)</td>
<td>The Quality of Life (QOL) tool 6-minute walk test</td>
<td>The improvement of QOL and functional capacity in heart failure patients comes with providing comprehensive care to this patient population. Targeting causes of hospitalization can ensure the success of heart failure management.</td>
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<td>Author</td>
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<td>Sisk, J., Hebert, P., Horowitz, C., McLoughlin, M., Wang, J. &amp; Chaosin, M.</td>
<td>August 2006/ Effects of nurse management on quality of heart failure care in minority communities/ <em>Annals of Internal Medicine</em></td>
<td>IIa</td>
<td>To compare the effects of a nurse-led intervention focused on specific management problems versus usual care among ethnically diverse patients with systolic dysfunction in ambulatory care practices.</td>
<td>Randomized effectiveness trial</td>
<td>406 adults of minority descent</td>
<td>12-Physical Component Score-SF Minnesota Living With Heart Failure Questionnaire</td>
<td>Nurse management patients had fewer hospitalizations than usual care patients. They also had better functioning and improved quality of life.</td>
<td>Nurse management can improve functioning and modestly lower hospitalizations in patients with heart failure with systolic dysfunction. Sustaining improved functioning may require prolonged contact.</td>
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</table>
Summary and Critique of Current Research

The research studies exhibited positive outcomes stemmed from three types of nursing interventions that were commonly tested. These interventions included the use of a multidisciplinary team to collaborate with patients and their families on health management and maintenance, ongoing in-person communication with patients about their bio-psychosocial health status, and thorough assessment of a heart failure patient’s quality of life and functional capacity. The intervention that dominated almost all the articles was the concept of implementing a heart failure management program that provided a multidisciplinary approach to heart failure. Patients and their families would be exposed to counseling, dietary advice, education, monitoring of their medication by a nurse, social support and...
Summary and Critique of Current Research

...exercise management. This type of care showed significant evidence of improving outcomes for heart failure patients and decreasing readmissions to the hospital. In some studies, it decreased readmission stays in the hospital. The effects of heart failure nursing interventions on functional capacity seemed to vary throughout the studies. Quality of life seemed be significantly affected by these interventions and were predominately measured using the Minnesota Quality of Life Questionnaire. The level of evidence of the research studies ranged from level Ia to level V, most were systematic reviews of randomized controlled trials (level Ia). The importance of the multidisciplinary team in making sure the ACC/AHA Chronic Heart Failure Core Measures are implemented is integral in improving patient outcomes and quality of care.
Summary and Critique of Current Research

These core measures can help reduce mortality and morbidity and improve the patient–nurse therapeutic relationship. As result, active patient participation is achieved which is important in the adherence to a health management regimen. Both systolic and diastolic heart failure nursing research is relatively new; therefore, gaps in research were prevalent throughout the literature search. More research needs to be done.

Additionally, theoretically driven interventions need to be more consistently tested. Throughout the research, replication of studies were lacking causing deficient strength in data. Lack of attention to race or ethnicity prevents the effect of generalizability. Most of the studies and systematic reviews done were primarily made up of samples of white males. Outcomes need to be measured more consistently so that studies are easy to identify, compare and contrast.
Current Use of Research Findings

• Carilion Clinic in Roanoke, Virginia has been aware of the current statistics of heart failure management and prevention and have recently created a heart failure clinic “designed to provide specialized, convenient care...across the Carilion Clinic organization” (www.carilion.com, 2009).

• Carilion Clinic has also implemented the launching of a new heart failure unit where nurses are specially educated about these types of patients.
  ○ The heart failure unit staff must comply with the Joint Commission Heart Failure Core Measures for discharge instructions. Daily length of stay huddle are done with the case manager, staff nurse, social worker and unit director to discuss the plan of care for the patient and any pertinent issues that may impact their current stay or transition to lower level of care.
Current Research Findings

• Current statistics are not available from the implementation of the new heart failure clinic and length of stay huddles.

• What Carilion Clinic is doing is a step in the right direction, but more needs to be done.
Change is Recommended.

- Although change is needed in improving outcomes for heart failure patients, there are many potential challenges that pose as barriers to change.
- Potential barriers include lack of research on the cost-benefit of implementing such interventions. Cost is a major issue in health care especially in this current economy. Availability of educated staff poses a potential barrier to change. The time needed to conduct research so that one can see measurable outcomes. Nurses may resist change and want to keep doing what they have done for years.
- Potential change facilitators include community need for a program that decreases heart failure readmissions to the hospital leading to a decrease in the cost it takes to provide care for heart failure patient. Other potential change facilitators include empowerment of the patient, improved self-care, actively participating social support systems.
Change is Recommended.

- Plan of action: Provide consistent multidisciplinary care to heart failure patients.
Design and Plan for Practice Change

- Assessing the environment for change
  - Heart failure patients in the Roanoke Valley especially that of minorities and women.
  - Need an advanced practice nurse or clinical nurse specialist specialized in heart failure who is experienced in providing care to heart failure patients.
  - Brand new heart failure unit that would bridge the gap for patients who don’t know how to access resources to help improve their health status.
  - New clinic model of patient care Carilion Clinic has established that focus on patient centered care.
  - 60 registered nurses on the heart failure along with 1 clinical specialist and 1 director of nursing research willing to participate.
- New heart failure clinic
- New outpatient building that offers available office space for Carilion Clinic outpatient services.
Change Team

- Advanced practice nurse (specialized in heart failure)
- Advanced practice nurse
- Dietician/Nutritionist
- Clinical Psychologist
- Exercise physiologist
- Social worker
- Case Manager
- Registered Nurses (bedside and program)
- Cardiologist (possibly)
- PATIENT!
Cost of Change

Titler, M. et al (2008) conducted a retrospective study that focused on the cost of hospital care for older adults with heart failure. The total cost of hospitalization was $18,086 in which 35% of the hospitalizations included invasive diagnostic procedure for heart failure while 60% included invasive cardiovascular therapeutic procedures. The cost of registered nurse care at the bedside was not significantly related to overall cost of care. Prevention of hospital readmission is imperative. It would decrease cost incurred by the hospital and help drive down the skyrocketing cost of care for heart failure patients. It may also relieve costs incurred by the patient. Not enough research is available to determine full cost of implementation of a heart failure management clinic. Few research is available about cost incurred by the patient, hospital and outpatient clinics.
<table>
<thead>
<tr>
<th>Objectives</th>
<th>Method/Plan</th>
<th>Responsibility</th>
<th>Completion Date</th>
<th>Measurable Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet with new heart failure clinic and heart failure unit staff to discuss</td>
<td>Schedule meetings with the unit director of the heart failure unit and nursing coordinator of the new heart failure clinic to introduce the evidence base practice intervention. Plan: integrate evidence base practice interventions into heart failure clinic.</td>
<td>Advanced practice nurse whose has been assigned heart failure management program coordinator.</td>
<td>By January 15th, 2009</td>
<td>Unit director and heart failure clinic coordinator announces information given to them via email and staff meeting. Should be able to see this in staff meeting minutes and email document.</td>
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<tr>
<td>new implementation of evidence based practice.</td>
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<td>Hire 80% of multidisciplinary staff.</td>
<td>Look within hospital staff (via human resources) to see if they would like a part time position.</td>
<td>Carilion Human Resources/Recruiter in collaboration with advanced practice nurse coordinator</td>
<td>By February 12th, 2009</td>
<td>The nutritionist, exercise physiologist, clinical psychologist, cardiologist, social worker, case manager, front desk staff and registered nurse contracts are signed.</td>
</tr>
<tr>
<td>Enroll 50 heart failure patients in the heart failure management program.</td>
<td>Registered nurses in an inpatient setting/cardiologist outpatient practice/community members would refer patients to the program.</td>
<td>Advanced practice nurse coordinator and later on interdisciplinary team and advanced practice nurse coordinator</td>
<td>January 15th, 2010</td>
<td>50 documented heart failure patients will be participating in the program. Decrease in patient hospital readmissions.</td>
</tr>
<tr>
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<tr>
<td>Heart failure patients will be identified at the hospital will be referred to the heart failure management program.</td>
<td>New heart failure unit nurses will made aware of the program and learn how to direct their care so that patients are streamlined to accessing the heart failure management program.</td>
<td>Bedside nurses Hospitalists Case Managers Social Workers Nutritionists</td>
<td>ongoing</td>
<td>Increase in the number of heart failure patients enrolled in the program. 25-35% decrease in hospital readmissions. Documented improvement in Minnesota Living with Heart Failure (MLWHF) Questionnaire.</td>
</tr>
<tr>
<td>Heart failure patients will be assigned a multidisciplinary team.</td>
<td>When patients are enrolled in the program. A group of health professionals will participate in the care of the patient</td>
<td>Advanced practice nurse program coordinator</td>
<td>Ongoing</td>
<td>Decrease in MLWHF scores, decrease hospital readmissions 25-35%, increased knowledge of health management skills within heart failure patients through subjective data</td>
</tr>
<tr>
<td>Heart failure patients will fill out a Minnesota Living With Heart Failure Questionnaire</td>
<td>Part of enrolling in the program would include filling out the Minnesota Living With Heart Failure Questionnaire at certain intervals.</td>
<td>Staff Registered Nurse</td>
<td>MLWHF will be completed upon enrollment and 3 months after and every 3 months.</td>
<td>100% of patients have questionnaires filled out and on file every 3 months.</td>
</tr>
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## Change Strategy

<table>
<thead>
<tr>
<th>Objectives</th>
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<tbody>
<tr>
<td>Advertising of heart failure management clinic to cardiology practices and inpatient units.</td>
<td>Flyers would be handed out in cardiology practices. News of the program would be made in hospital monthly newsletters. Promotional material would be passed out in community centers.</td>
<td>Everyone hired, but primarily the administrative assistant.</td>
<td>Ongoing</td>
<td>5% increase in patients enrolled in the program every 3 months.</td>
</tr>
<tr>
<td>Patient and social support system are to participate in once a month heart failure self-care sessions.</td>
<td>Appointments are made and individualized plan of care implemented for patient and social support system.</td>
<td>Clinical psychologist, beside registered nurse and program registered nurse</td>
<td>Ongoing</td>
<td>Increase in the ability for patients perform adequate self-care. Social support system actively contributing to the patient learning self-care skills.</td>
</tr>
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# Evaluation Plan

<table>
<thead>
<tr>
<th>Measurable Outcomes</th>
<th>Method and Tools for Measuring</th>
<th>Responsibility</th>
<th>Timelines</th>
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</thead>
<tbody>
<tr>
<td>Unit director and heart failure clinic coordinator announces information given to them via email and staff meeting. Should be able to see this in staff meeting minutes and email document.</td>
<td>Email Staff meeting Planning session</td>
<td>Advanced practice nurse program coordinator</td>
<td>Within 3 months preferably by January 15th, 2009</td>
</tr>
<tr>
<td>The nutritionist, exercise physiologist, clinical psychologist, cardiologist, social worker, case manager, front desk staff and registered nurse contracts are signed.</td>
<td>Personnel files for hired individuals on file. Signed contracts on file</td>
<td>Carilion Human Resources Administrative Assistant</td>
<td>Within 6 months preferably by February 12th, 2009</td>
</tr>
<tr>
<td>50 documented heart failure patients will be participating in the program. Decrease in patient hospital readmissions.</td>
<td>Charts documented on by interdisciplinary team Readmission rates Chart audits</td>
<td>Interdisciplinary Team, but essentially advanced practice nurse coordinator</td>
<td>By one year of the implementation of program → January 15th, 2010</td>
</tr>
</tbody>
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## Evaluation Plan

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| Increase in the number of heart failure patients enrolled in the program. 25-35% decrease in hospital readmissions. Documented improvement in Minnesota Living with Heart Failure (MLWHF) Questionnaire. | Minnesota Living With Heart Failure Questionnaire  
Number of patients enrolled in program  
Patient hospital readmissions  
Chart audits | Interdisciplinary Team | January 15\(^{th}\), 2010 |
| Decrease in MLWHF scores, decrease hospital readmissions 25-35%, increased knowledge of health management skills within heart failure patients through subjective data | Minnesota Living With Heart Failure Questionnaire  
Patient hospital readmission  
Interview by advance practice nurse (to collective subjective data)  
Chart audits | Interdisciplinary Team, but advance practice nurse would be responsible for collecting interview data | January 15\(^{th}\), 2010 |
| 100% of patients have questionnaires filled out and on file every 3 months.       | Minnesota Living With Heart Failure Questionnaire  
Chart audits | Administrative Assistant  
Advance practice nurse coordinator | Every 3 months |
## Evaluation Plan

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<td>5% increase in patients enrolled in the program every 3 months.</td>
<td>Charts</td>
<td>Interdisciplinary team</td>
<td>Every 3 months</td>
</tr>
<tr>
<td>Increase in the ability for patients perform adequate self-care. Social support system actively contributing to the patient learning self-care skills.</td>
<td>Attendance records Interview by advanced practice nurse (to collect subjective data) Hospital readmission rates Minnesota Living With Heart Failure Questionnaire</td>
<td>Advanced practice nurse Interdisciplinary team</td>
<td>By January 15th, 2010</td>
</tr>
</tbody>
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References


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