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Nurse-led Multidisciplinary Heart Failure Group Clinic Appointments: Methods, Materials and Outcomes Used in the Clinical Trial

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Abstract

Background—The Self-Management and Care of Heart Failure through Group Clinics Trial (SMAC-HF) evaluated the effects of multidisciplinary group clinic appointments on self-care skills and rehospitalizations in high risk heart failure (HF) patients.

Objective—The purpose of this article is to: (1) describe key SMAC-HF group clinic interactive learning strategies; (2) describe resources and materials used in the group clinic appointment; and (3) present results supporting this patient-centered group intervention.

Methods—This clinical trial included 198 HF patients (randomized to either group clinical appointments or to standard care). Data were collected from 72 group clinic appointments via patients': (1) group clinic session evaluations; (2) HF Self-Care Behaviors Skills; (3) HF related discouragement and quality of life scores and (4) HF related reshospitalizations during the 12 month follow-up. Also the costs of delivery of the group clinical appointments were tabulated.

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Results—Overall, patients rated group appointments as 4.8 out of 5 on the “helpfulness” in managing HF score. The statistical model showed a 33% decrease in the rate of rehospitalizations (incidence rate ratio (IRR) = 0.67) associated with the intervention over the 12-month follow-up period when compared with control patients ($\chi^2_{(1)} = 3.9, p = 0.04$). The total cost for implementing five group appointments was \$243.58 per patient.

Conclusion—The intervention was associated with improvements in HF self-care knowledge and home care behavior skills and managing their for HF care. In turn, better self-care was associated with reductions in HF related hospitalizations.

Keywords

Heart Failure; group clinic appointments; rehospitalizations

Background

The cost for heart failure (HF) in the US for 2009 was \$37.2 million and is estimated increase to \$69.7 billion in 2030, 80% due to hospitalizations.¹ Of the 1 million HF hospital admissions in the United States (US) each year on average, 18%, 50% and 60% of these patients are readmitted within 30 days² and 6 and 9 months respectively.³ Studies indicate that up to 70% of heart failure (HF) readmissions are preventable if patients had better self-management skills.^{4,5}

Many hospital discharge and nursing follow-up programs are designed to improve HF knowledge without emphasis on developing patients' daily HF self-care skills. Yet, many patients lack understanding of medication adherence and the importance of sodium intake limits, and they do not have the skills to recognize and report the symptoms of HF decompensation.^{6,7} Data from 10 clinical trials of HF management programs suggested that programs employing multidisciplinary teams and in-person communication led to fewer HF hospital readmissions.⁸ Indeed, high risk HF patients (advanced stage, low self-care skills, elderly, and those with frequent readmissions) could benefit the most from skill-building programs.⁹

The Self-Management and Care of Heart Failure through Group Clinics Trial (SMAC-HF) is a randomized controlled trial evaluating the effects of nurse practitioner (NP) facilitated, multidisciplinary HF group clinic appointments among higher risk patients.¹⁰ The SMAC-HF intervention includes five clinic appointments where four to eight patients recently discharged from the hospital for HF decompensation are seen by multiple professionals. The scientific basis of this clinical trial is the Chronic Care Model (CCM),¹¹ which emphasizes engaging patients in self-management partnerships with multiple professionals^{12,13,14,15} The purpose of this article is to: (1) describe key SMAC-HF group clinic interactive learning strategies; (2) describe resources used in the group clinic appointment; and (3) present results supporting this patient-centered group intervention.

In group appointments, patients who face a common health disorder are seen by multidisciplinary health professionals and, as a group, address the self-management priorities of their illness.^{16,17} Group appointments have been successfully used for patients

with a variety of cardiovascular and other chronic diseases.¹⁸ Studies have repeatedly found significantly greater patient satisfaction ratings with their medical care in group clinics than in individual appointments.^{19,20} Wagner and colleagues found with frail elders and patients with diabetes; that group clinic participants had greater overall health status, and received more health education and preventive care services.^{21, 22,23,24} In large Kaiser Permanente randomized trials of group visits, chronically ill elder adults with heart failure and with poorly controlled diabetes had greater quality of life scores and required significantly fewer specialists or ER visits compared to controls.^{25,26} Research on HF group visits have shown positive patient outcomes in increased knowledge, medication adherence and care satisfaction^{27,28,29,30,31,32} However, group appointment studies rarely include only NY Class III and IV patients, who are at the highest risk for rehospitalization, or measure HF-related rehospitalizations, as in this study.

Methods

This design is a classic clinical trial using random assignment to either the experimental group clinic intervention or standard care. The design complies with the CONSORT standards describing scientific processes expected in clinical trial reports³³ and represents a rigorous methodology for comparing treatment to controls. Analyses used negative binomial regression to assess the magnitude of effect of the intervention on rates of post-intervention rehospitalization due to heart failure. The regression included factors posited *a priori* to clinically influence rehospitalizations for HF and other group comparisons on questionnaire scores.

Measures

Measures for this analysis included patients' HF self-management skills, HF knowledge, HF related discouragement, quality of life, and symptom severity/frequency scores. HF related rehospitalizations and Group Clinic Appointment Evaluations were summarized by reviewers blinded to group assignment.^{34,35} All scores were measured at baseline, 6 and 12 months post-intervention follow-up using the empirically validated methods and rating scales in Table 1.

Sample

All patients (n=198) enrolled in the study were adults hospitalized due to exacerbation or decompensation of HF and gave written consent to participate. Participants randomized to the group clinic intervention (N=92) compared to the standard care control group (N=106) did not vary in age (mean 62.3, SD = 13.2 years), gender (38% female), ethnicity, socioeconomic status, education, depression level, mean left ventricular EF (30%), comorbidities, or number of deaths and attrition across the 12-month follow-up. Attrition was low in both groups, less than seven per each group.

Group Clinic Appointment Intervention

Fundamental learning strategies of this intervention are providing American College of Cardiology Foundation/American Heart Association (ACCF/AHA)³⁶ self-care guidelines illustrated in DVD and supportive group facilitation to engage participants in patient-

centered discussions related to daily HF management. Table 2 describes patient group discussion guidelines and training provided to the multidisciplinary professionals for facilitating the group clinic appointments. Further, during group clinics, patients practiced assessing their own HF symptoms, managing any discouragement, and establishing HF self-care skills such as adhering to daily medications using the pill box organizer. Also patients listed questions and information to discuss with their primary care providers (see Figure 1).

Group Clinic Appointment Implementation

In this trial, each patient randomized to the intervention group was invited to a total of five, 2-hour group clinic appointments with four to eight other patients. For each clinic session, a patient-centered agenda with time allotments was used as an overall guide (Table 3). Twice in the 72 group clinic appointments, there were variations in the agenda time schedule when patients were taken to the ER due to acute symptoms or during a patient's emotional reaction. Across the 72 group sessions in this trial, the strongest and most frequent emotions expressed were frustration, grief, and mild anger due to HF required lifestyle changes, declining physical stamina, and discouragement related to the HF diagnoses.³⁷ Such issues were planned for and managed skillfully, and the routine agenda was resumed after a halt for the situation to be managed.

Four health professionals, each with HF care experience, were present at each clinic: (1) a nurse practitioner (NP) with HF outpatient care background; (2) a mental health clinical nurse specialist; (3) a social work case manager; and (4) a dietitian. Other professionals such as physical therapists (to guide exercise) and pharmacists (to discuss medications) could be invited to group sessions. However, to maintain standardization of the SMAC-HF intervention and the lower cost of these clinics, only these four professionals were included.

Resources and Materials Used in the Group Clinic Appointment

HF Self-Management DVDs were developed during a previous NIH grant according to television broadcast standards.³⁸ Unique to the DVD series is the inclusion of 13 ethnic groups of young and older adult HF patients, the visual displays of the signs of worsening HF, and the illustration of simple memory aids that convey key skills of HF self-management. The DVDs illustrate over 20 examples of patients and professionals working together to manage the complexities of HF.

A focus group of cardiologists, registered nurses, and dieticians all evaluated the DVDs as accurately illustrating the essential ACCF/AHA HF education elements and condensing scientifically-based information into layman's language (5th grade reading level) according to criteria for health literacy.³⁹ Use of the audiovisual DVD method supported patients with low health literacy while also providing a standardized, replicable method of delivering HF self-management information for the trial.⁴⁰

At each group clinic, following discussion of the DVD topics, the group practiced HF home-care skills using the provided HF monitoring resources and materials (Table 4). The checklists and monitoring resources, materials and strategies practiced in each group clinic appointment were given the "Innovation in Practice Award" by the American Association of Heart Failure Nurses in 2008.⁴¹ The DVDs earned the International Health and Medical

Media Award⁴² in 2007 and then the booster DVD won the national Robert Wood Johnson 'Innovations for Better Transitions in Care' video award.⁴³

Results

Patients' Clinic Helpfulness Evaluations Ratings

The 92 patients randomized to the intervention group clinics attended 4.6 out of 5 appointments on average. Patients rated the group clinic appointments and the initial and booster DVDs as very helpful, generating cumulative averaged "helpfulness" scores of 4.7, 4.4, and 4.8 (out of 5), respectively. No patients rated any clinic appointment as a "1" (not helpful), and only one patient rated one appointment as a "2" (a little helpful), explaining that her decreased hearing prevented her from fully participating in the group discussions. The majority of patients wrote additional comments, indicating that "talking about" and "sharing opinions with others" were the best ways to learn how to cope and manage their HF. Each of the key elements in the American College of Cardiology Foundation/American Heart Association clinical guideline were found to be topics during the discussion sessions.

Rehospitalizations Related to Heart Failure

Factors posited a priori to affect HF rehospitalization were: (1) random assignment to intervention or not; (2) patient's KCCQ total symptom frequency and severity score; their HF related quality of life and discouragement about HF scores and (3) patient's HF knowledge and self-care behavior skills scores.

Due to the large number of subjects in both groups without a rehospitalization during the post-intervention follow-up period, zero-inflated Poisson regression was used to estimate the magnitude of effect of the intervention on rates of post-intervention rehospitalization due to heart failure (HF) at 1 year. The Poisson model showed a 33% decrease in the rate of rehospitalizations (incidence rate ratio (IRR) = 0.67) associated with the intervention over the follow-up period when compared with controls ($\chi^2_{(1)} = 3.9, p = 0.04$). The zero-inflated logistic model included the predictor KCCQ total symptom score at baseline, showing baseline total symptom scores were predictive of the risk of rehospitalization for HF during the follow-up period ($\chi^2_{(1)} = 7, p < 0.01$). Specifically, subjects with a lower total symptom score at baseline were significantly more likely to remain rehospitalization-free at 1 year—for every one-unit decrease in total symptom score, the odds of rehospitalization decreased by 3% (OR = 1.03, est = 0.03, SE = 0.009).

Patients HF Self-care Skills Use

The group clinic intervention patients as well as the standard care patients were asked to track on checklists from daily to never, which specific aspects of their own HF self-care they undertook including whether they weighed, used a low sodium diet, limited their fluids, and took all prescribed medications. At the 6-month follow-up, there was a significant improvement found in the intervention group ($\chi^2 = 4.92, p = .03$) on recognizing HF exacerbation symptoms and reporting these to their healthcare providers. At the 12-month follow-up, using t-test statistics, a significantly greater number of clinic group versus the standard care patients reported that they used a checklist/calendar to monitor their daily

weight ($t= 2.11, p=.04$). At 6 and 12 months, a significantly greater percentage of patients in the group clinics had improved HF self-care skills of reducing salt intake, taking HF medications, and exercising than did standard care patients ($\chi^2= 4.99, P=.03$).

The results from the HF self-management knowledge data were similar in that patients were able to name: 1) the milligram/ounces limits of daily fluid and sodium intake, 2) symptoms of HF exacerbation; and 3) their HF medications. The group clinic patients had significantly greater knowledge scores than controls post SMAC-HF sessions ($t=2.26, p=0.05$) and again at follow-up ($t=2.76, p=0.01$).

KCCQ Quality of Life and Depression Scores

The HF-related quality of life scale data revealed a significant improvement ($p=.000$) from baseline to 12 months of one-half standard deviation in both groups, with no significant difference found between groups. Likewise, on the discouraged by HF rating (depression score), both groups had improvement from baseline to 12 months. However, at 12 months a greater percentage of patients in the group clinics (26%) scored as having no or rare feelings of discouragement versus 18 % in the control group.

Intervention Costs

All costs for administering the group clinics were tabulated to be \$243.58 per participant for all five groups. Costs included time of the professionals participating for the group clinic 2 hour sessions (nurses, dietitian and social workers payroll reimbursement), the DVD series, the medication pill organizer, handout printing costs and the low sodium reference guide.

Discussion

As shown in this study, building patients' HF self-care skills and knowledge, recognition of HF symptoms, and managing their discouragement related to HF should be intervention strategies used to reduce HF-related hospitalization.^{44,45,46,47, 48} It is essential for patients' to practice HF symptom monitoring and reporting to professionals and to incorporate self-care skills in their daily routine.

Notably quality of life increased in both groups, likely due to patient's improvements of their HF exacerbation symptoms during the index hospitalization. Also, the mental health nurse specialist guided discussion of ways to manage discouragement, frustration and grief related to reduced functional capacity and limited social activities because of their HF with all patients who had depressive scores.^{49, 50} Thus input from the mental health professional and encouragement from other patients in the group addressed patients discouragement with their HF. The greater reduction in frequency of discouragement in group clinic patients is likely due to their shared understanding that depression is a common and a recurring component of HF to be monitored daily.⁵¹

Although there have been other HF group clinics described in the literature,^{52,53} the SMAC-HF trial intervention is unique in several ways. The SMAC-HF problem-solving approach engaged patients in actual use of self-care skills and working with professionals. This approach has been found to increase patient-professional partnerships and results in

increased patient symptom self-management, improved physical status, and emotional health. Patient and health professional relationships were also maintained over time when problem-solving partnerships developed.⁵⁴

Another unique strategy in SMAC-HF was the self-management report that patients completed at the end of every clinic appointment. On this report patients identified HF self-management questions for their Provider Patient Action Plans. The professionals coached patients to discuss these questions with their primary providers.⁵⁵ Completing the Action Report fostered active participation and emphasized the patient's responsibility for monitoring their HF daily and reporting untoward symptoms. This patient-centered action plan report gave patient ownership for the written details of their HF status and the "words" for talking to their primary health providers about their specific regimen.

Notably, recent national report approximately 25% of Medicare patients with HF are rehospitalized within 30 days after hospital discharge for HF,⁵⁶ 40 to 60% are rehospitalized within 12 months, and 12 to 31% of patients die of their HF within 12 months.⁵⁷ Therefore the results of this study of reducing HF readmissions by 33% across 12 months are promising. Considering the escalating costs and the high rehospitalization rates for HF, the impact of this comprehensive, multidisciplinary intervention should be replicated and retested.⁵⁸ It is possible that group clinics may "bridge the gap" in the HF self-management skill deficits that exist in the transition between hospital and home.^{59,60} Also, having NPs facilitate HF patients in incorporating self-care practices into their everyday lives may relieve the current and rapidly increasing physician shortage.^{61,62,63} This analysis assessed the impact of repeated hospitalizations for HF of all subjects during the entire follow up period. This aligns with the analyses of time till first HF related hospitalization which was significantly delayed in the intervention group for the first six 6 months.⁶⁴ The cost of these patient appointments is less than the reimbursement currently provided by Medicare for group education. And the cost is certainly less than the charges for an ER visit or rehospitalization that could be avoided by patients with HF home care skills or out-of-pocket costs for HF care reported by families.⁶⁵

Study Limitations

Overall, the intervention was associated with improvement in patients' HF self-care behaviors and less discouragement about having HF. In turn, better self-care and less discouragement have been associated with reduced risk for having HF related rehospitalization.^{66,67,68} Study limitations were identified. First, the personnel time used for tabulating costs of the intervention were based on the recorded length of each group clinic. Yet detailed data could not be collected as to the length of time some patients spent having short discussions/referrals with clinic professionals either before or after the clinic appointments. Personnel cost is the major component of the total intervention cost. Therefore, this additional personnel time data should be collected and used in future clinic cost tabulations. We did not include any administrative costs such as personnel time for appointment scheduling of group clinic patients and reminder telephone calls for their appointments nor for the use of the office space for the clinic sessions.⁶⁹ In the future, including such administrative fees will provide a more realistic picture of group clinic

resource needs and costs. Another limitation is we did not enroll family members in the SMAC-HF program. Thus an important change for SMAC-HF would be involving family caregivers in the group education and discussion sessions. The ACCF/AHA national guidelines for HF care state that close monitoring of symptoms by family members is possibly the most effective but least utilized recommendation.

Summary

The SMAC-HF trial evaluated the effects of low cost NP-facilitated multidisciplinary group clinic appointments. During these group clinics, patients practiced self-care skills of medication schedule adherence, maintaining sodium/fluid restrictions, and monitoring and reporting symptoms early as illustrated in our HF DVDs. The clinic professionals guided practice of HF self-care and patient-centered group discussions. These NPs facilitated groups clinics lead to statistically lower risk for post clinic rehospitalizations related to improved HF self-care and less discouragement about their HF. Multidisciplinary, group clinic appointments are feasible, affordable, and highly rated by HF patients.

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Attention Dr. _____ Fax #: _____ Enrollment EF: _____ Date: _____

RE: Patient _____ DOB: _____ Assessment Date: _____

Actions Plan below based on patient HF self-care skills and aligns with medication/diet/exercise targets identified in ACCF/AHA clinical guidelines

Action 1: Take the best available medications at the right doses regularly.

- Frequently misses evening dose of cardiac medications.
- Beta blocker dose below target.

Action 2: Optimal salt & fluid intake management.

- Confused or unable to maintain 2000 mg low-sodium diet.

Action 3: Action plan for exercise.

- Does not routinely walk.

Objective 4: Improving Self-Management of HF.

- Interested in medications for not smoking, reporting shortness of breath and depression.

***Medication Review: ACCF/AHA Guidelines: Key Heart Failure Medications**

	Is patient currently taking this medication type?	If yes, is dose at target dose?
ACE-Inhibitor or Angiotensin Receptor Blocker	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Beta Blocker	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Aldosterone Antagonist	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Hydralazine & Nitrate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Rating of HF Self-Management Skills Assessment Completed by the patient

<input type="checkbox"/> Yes <input type="checkbox"/> No	WEIGH DAILY	Has patient weighed himself/herself daily since discharge or the last meeting?
<input type="checkbox"/> Yes <input type="checkbox"/> No	SMOKING	Has patient smoked since discharge or the last meeting?
<input type="checkbox"/> Yes <input type="checkbox"/> No	EXERCISE	Has patient participated in a prescribed exercise per MD since discharge or the last meeting?
<input type="checkbox"/> Yes <input type="checkbox"/> No	-SALT DIET	Has patient followed a low-salt (2000 mg sodium/24 hr) diet since discharge or the last meeting?
<input type="checkbox"/> Yes <input type="checkbox"/> No	MEDICATIONS	Has patient taken his/her medication as prescribed since discharge or last meeting?
<input type="checkbox"/> Yes <input type="checkbox"/> No	REPORT HF SYMPTOMS	Has patient reported worsening symptoms (...list these...) to primary MD or RN within 24 hours?

Assessments	Meeting 1	Meeting 2	Meeting 3	Meeting 4
	Date:	Date:	Date:	Date:
Weight				
Wt change				
Heart Rate				
Blood Pressure				
Depression Level				
Social Worker Assists	Assistance with:	Assistance with:	Assistance with:	Assistance with:
Primary Meeting Topics Discussed	<input type="checkbox"/> Self-Management Medications <input type="checkbox"/> Low-Salt Diet <input type="checkbox"/> Smoking, Stress, Exercise <input type="checkbox"/> Problem-Solving Concerns	<input type="checkbox"/> Self-Management Medications <input type="checkbox"/> Low-Salt Diet <input type="checkbox"/> Smoking, Stress, Exercise <input type="checkbox"/> Problem-Solving Concerns	<input type="checkbox"/> Self-Management Medications <input type="checkbox"/> Low Salt Diet <input type="checkbox"/> Smoking, Stress, Exercise <input type="checkbox"/> Problem-Solving Concerns	<input type="checkbox"/> Self-Management Medications <input type="checkbox"/> Low Salt Diet <input type="checkbox"/> Smoking, Stress, Exercise <input type="checkbox"/> Problem-Solving Concerns

Figure 1.
HF Self-Management Summary Report: Patient/Provider Action Recommendations.

MONITOR YOUR FEELINGS & DISCUSS THESE WITH YOUR MD OR RN	SU	MO	TU	WED	TH	FRI	SA	<p align="center"><u>Write About Your Feelings</u></p> <p>If your feelings are rated toward worst or > 5 and are not relieved by writing about them, then do one of the mood elevating activities and contact your healthcare provider to discuss your mood.</p> <p>Try some activities to improving feelings by engaging in the listed activities used to elevate mood. The following activities can increase positive feelings: talking with family; calling a friend; reading; working on hobbies; getting hugs or back rubs; listening to music; using positive self-talk or remembering fun times.^{80,81,82}</p>
<p>Please monitor your moods and emotions by rating your feelings of being sad, unhappy, depressed, or gloomy from 1 to 10</p> <p align="center">Best Worst</p> <p align="center">1 2 3 4 5 6 7 8 9 10</p> <p>And write about those feelings, even a short paragraph can help relieve poor moods.</p>								

Figure 2.
Mood Monitoring Checklist for Patients to Rate Their Daily Mood and Emotions.

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Table 1

Measures/ Operational Definitions and Reliability & Validity noted

Measures	Operational Definition (Collected 6 and 12 months post-intervention)	Reliability ^{a,b,c} Validity ^{d,e,f}
Kansas City Cardiomyopathy Questionnaire (KCCQ) ⁷⁰	HF-related quality of life, symptom frequency & severity, sense of discouragement relative to having HF.	23-item Likert ^{a,c,d,e} $\alpha = 0.90$, ^a
The European Heart Failure Self Care Behavior Scale ^{71,72}	HF self-care skills practiced daily (maintaining their daily medications, fluid and sodium restrictions, monitoring HF symptoms Information about HF home management	9-item Likert ^b $\alpha = 0.81$
HF Knowledge Questionnaire. ⁷³	HF knowledge (i.e., What is the sodium intake per day for HF patients?)	8 multiple choice items, KR21 = 0.70
Patients' HF rehospitalizations. Each occurrence was classified as HF-related hospitalization or not.	Adjudicated by MDs blinded to group by using an a priori determined adjudication definition of HF (based on other NIH funded clinical trials) ⁷⁴	3-item Likert ^{e,f}
Group Appointment Helpfulness Evaluation Scale. ⁷⁵	Participants were asked to anonymously rate their group clinic experience in helping them manage their HF.	8-item Likert ^{d,e} $\alpha = 0.86$ (1 = not helpful to 5 = very helpful)

¹ These measures have confirmed discriminant or construct validity, internal consistency and reliability, and established specificity from large populations of HF patients. These measures also have published scores/standard deviations that distinguish clinically significant differences and are verified to be sensitive to change over time.

Table 2

Clinic Guidelines and Staff Facilitation Training for Group Discussion.

Discussion Guidelines	Group Facilitation Strategies Used
<p>Patient Group Introduction and “Ground Rules.” The multidisciplinary professionals and patients sat around a table together. Name tags (first name only) were used in the group.</p>	<ul style="list-style-type: none"> • Patients are guided not to share their private health information guided per the Health Insurance Portability and Accountability Act (HIPAA) privacy and non-disclosure guidelines⁷⁶ and to keep all discussion information confidential, per their signed agreement. • All patients are encouraged to contribute, to ask questions, and to even disagree with each other in a respectful way.
<p>The NP facilitator and health professionals were trained in motivational counseling techniques, to promote group information sharing and to refrain from lecturing to the group since the HF self-care content is presented in the DVDs.</p>	<ul style="list-style-type: none"> • Staff used reflective listening, open-ended questions, summarizing, and redirecting questions back to the group. • The NP redirected the discussion towards another group member if one was monopolizing the conversation. • The NP and the multidisciplinary team encouraged the patients to raise concerns, to share what has and what did and did work in their HF self-management. • Problem-solving and self-management skills were practiced by patients in each session.
<p>Professionals were trained in specific protocols to manage any patient who becomes emotional, angry, or derogatory.</p>	<ul style="list-style-type: none"> • Staff used communication techniques such as “This is an emotional topic; let’s switch topics for now and come back to this when there is less anger or upset.” • The key points are to first defuse the emotions without blame and second to move off the topic but leave an opening to return to it, when emotion has died down.
<p>The health professionals provided problem-solving guidance, if the group reached an impasse or required reinforcement of problem-solving skills.</p>	<ul style="list-style-type: none"> • The problem-solving approach used was based on the American College of Physicians’ Family Home Care Guide⁷⁷ and described in other clinical trials.^{78,79} • Patients are assisted to identify problems and engage with professionals in selecting potential solutions. • Problem solving was illustrated in each DVD and by practicing with the checklists.

Table 3

Group Clinic Appointment Agenda.

Minutes	Patient-Centered Agenda Protocol
15	A brief HF self-management assessment exam of weight, vital signs, and a chart review of current medication orders.
5	Introductions (by first names only), name tags and HIPPA health protections and confidentiality pledge reminders.
15	View the short DVD for that week and HF home care skills identified.
70	Facilitated group discussions: Patient problem identification with solutions generated from patients and professionals practice of HF home care skills.
15	Each clinic appointment ended with completion of the HF Self-Management Summary report including the Patient/Provider Action Plan recommendations for each patient, that are then faxed to their primary care provider (see Figure 1).

Note: The average of each clinic appointment length was 2 hours with four to eight patients participating. The first four appointments occurred weekly post hospital discharge for an exacerbation of HF, and the fifth appointment occurred approximately 6 months later as a reinforcing booster.

Table 4

Resources and Materials Used in the Group Clinic Appointment.

Resource and Materials	Description and Protocols
HF Self-Management skills illustrated in the DVDs (viewed prior to discussion) are then practiced during the clinic appointment.	<ul style="list-style-type: none"> • The first four DVDs include topics of overall HF self-management, medications, low sodium diet, exercise, stress and smoking reduction. • The Booster (reinforcement) DVD, shown at the 6 month clinic visit, reviews previous content and adds information about cardiac devices.
Daily HF Monitoring Checklist and Early Symptom Reporting list. Daily HF self-monitoring one-page, double-sided checklist chart used for 12 weeks to establish a habit of self-monitoring.	<p>Patients are directed to:</p> <ul style="list-style-type: none"> • Checklists for recording daily weight, sodium intake, medication intake, prescribed exercise, and the reporting of HF signs and symptoms. Also the mood checklist guides monitoring emotions and prompts engagement in mood elevating activities and discussion with professionals. (See Figure 2).
List of common signs and symptoms associated with worsening HF and intolerance to HF medication that prompts early recognition and reporting of decompensation.	<ul style="list-style-type: none"> • Shortness of breath; at rest, with exertion, lying flat, at night while sleeping, Exercise intolerance, leg cramps. • Cough (dry or productive). Appetite loss and or Nausea. • Weight gain, weight loss. (swelling in abdomen or ankles); • Fatigue, loss of energy. Dizziness, lightheadedness. • Chest, arm, shoulder, stomach pain. • Nearly fainting (pre-syncope). Fainting (syncope). • Palpitations, fast or irregular heartbeats.
Other materials provided and used for practice in the group sessions	<ul style="list-style-type: none"> • Wallet cards with medication list and emergency telephone numbers. • A weekly pill-sorter box medication side effects list. • Low-sodium foods list and recipe book. • Stress reduction and smoking cessation guides/referrals.

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