

University of San Diego

Digital USD

Doctor of Nursing Practice Final Manuscripts

Theses and Dissertations

Spring 5-28-2022

Improving Discharge Outcomes: Telephone Follow Up for Heart Failure Patients

Ashley Fanjoy

University of San Diego, afanjoy@sandiego.edu

Follow this and additional works at: <https://digital.sandiego.edu/dnp>



Part of the [Nursing Commons](#)

Digital USD Citation

Fanjoy, Ashley, "Improving Discharge Outcomes: Telephone Follow Up for Heart Failure Patients" (2022).
Doctor of Nursing Practice Final Manuscripts. 195.

<https://digital.sandiego.edu/dnp/195>

This Doctor of Nursing Practice Final Manuscript is brought to you for free and open access by the Theses and Dissertations at Digital USD. It has been accepted for inclusion in Doctor of Nursing Practice Final Manuscripts by an authorized administrator of Digital USD. For more information, please contact digital@sandiego.edu.

Manuscript

Improving Discharge Outcomes: Telephone Follow Up for Heart Failure Patients

Ashley Fanjoy BSN, RN

Dr. Joseph Burkard DNSc, CRNA

University of San Diego

Abstract

Congestive heart failure is one of the leading causes of hospitalization and readmission in the United States. The readmission rate at an acute care hospital in San Diego is 22%, and readmissions occur within an average of 6 days after discharge. The purpose of this pilot project is to improve discharge outcomes among heart failure patients using telephone follow up. The two objectives of this project are to reduce heart failure readmission rates over 3 months and improve patient knowledge to prevent decompensation, as rated by the Self Care of Heart Failure Index. Follow up calls were completed by the Doctor of Nursing Practice student or heart failure registered nurse at 72 hours and 30 days after discharge. The readmission rate for the project cohort was 12%, which is 10% less than the organizations average readmission rate. Of the participating patients, there was a 20% increase in Self Care of Heart Failure Index scores from pre to post intervention. There are potential positive impacts when implementing a telephone follow up program for heart failure patients. Telephone follow up is an evidence-based strategy for reducing readmissions, but there are many barriers to the successful implementation of a phone follow up program. It will be important to look at a larger sample size over a longer period to determine if there are significant benefits.

Keywords: heart failure, self-care, readmission rates, SCHFI, telephone follow up

Improving Discharge Outcomes: Telephone Follow Up for Heart Failure Patients

Background and Significance

Congestive Heart Failure (CHF) is a chronic disease that affects 5.7 million people in the United States (Anand et al., 2019). This number is only expected to grow as the population ages. CHF results from the heart's inability to effectively pump blood to the body, resulting in low cardiac output and congestion in the pulmonary or systemic circulation (Ellinas, 2019). According to Anand et al. (2019), over half of CHF patients that are admitted to the hospital will be readmitted for exacerbation within 6 months of discharge. By 2030, it is estimated that the total cost of CHF care will increase to \$69.7 billion (Zohrabian et al., 2018). To reduce this cost burden, the Centers for Medicare and Medicaid (CMS) impose fines on hospitals with high readmission rates (CMS, 2021). Using data from the Hospital Readmissions Reduction Program (HRRP), Khera et al. (2019) identified a 30-day and 90-day heart failure readmission rate at 23% and 11.4% respectively.

According to CMS, the 30-day heart failure readmission rate at an acute care San Diego hospital is 22% and patients are being readmitted within an average of 6 days after discharge (CMS, 2022). Not only does this have financial impacts on the organization, but it also affects patient outcomes and satisfaction. Strategies to improve the 30-day readmission rate should be implemented. Telephone follow up and self-care focused disease education are potential solutions to reduce the burden of heart failure readmissions.

Purpose

The purpose of the telephone follow-up pilot project is to improve discharge outcomes among heart failure patients at a San Diego acute care hospital. The primary objective is a reduction in heart failure readmission rates over 3-months. A secondary objective is to improve

patient knowledge to prevent decompensation. Patient knowledge will be measured by comparing Self Care of Heart Failure Index (SCHFI) scores before and after telephone follow up intervention and standard heart failure education. The PICO question is, “In recently hospitalized adults with congestive heart failure, will the use of a telephone follow up program, compared to no follow up, result in a 15% reduction in 30-day heart failure readmission rates over 3 months?”

Evidence Based Practice Model

The San Diego 8A’s evidence-based practice (EBP) model was used as a guide for this project. The San Diego 8A’s EBP model was developed by members of the San Diego Evidence Based Practice Institute (San Diego Consortium for Excellence in Nursing and Allied Health, n.d.). The 8 A’s model combines aspects from the Johns Hopkin’s, Iowa, and Rosswurm and Larabee’s EBP models (Ecoff et al., 2020). The 8 A’s stand for assess, ask, acquire, appraise, apply, analyze, advance, and adopt. The steps guide the individual in identifying gaps in practice and implementing change in healthcare.

The model is designed to incorporate research into practice in a seamless and systematic way (Brown & Ecoff, 2011). Each step is clearly outlined and proves as a guide for implementing the telephone follow up project. Assessment of the problem reveals patients with heart failure continue to be readmitted within 30 days of discharge, driving up hospital costs and revealing poor patient outcomes. Acquisition of the evidence shows telephone follow up by a provider can help to reduce the number of readmissions and improve patient self-care behaviors. The final step is advancing and adopting the practice change, which would improve readmission rates, patient outcomes, and reduce costs.

Evidence

Self-care is a key concept in managing CHF. Self-care has been defined as a “naturalistic decision-making process that patients use in the choice of behaviors that maintain physiological stability . . . and the response to symptoms when they occur” (Riegel et al., 2009, p. 1141).

Patients must understand how to manage their symptoms to prevent decompensation and subsequent hospitalization. McAlister et al. (2004) concluded that self-care-focused education was significant in reducing hospital readmissions. Current educational interventions are inconsistent and rarely consider the specific needs of patients and caregivers (Clark et al., 2014). Thus, there is a gap between the evidence and practice.

The SCHFI is an instrument that measures an individual’s disease management and symptom perception. Symptom perception involves “monitoring, body listening, symptom recognition and interpretation, and labeling of signs and symptoms” (Riegel et. al, 2019, p. 184). The SCHFI has been psychometrically validated and deemed a reliable tool to determine the adequacy of an individual’s self-care behaviors. In this 29-item questionnaire, a score of 70 or more was considered adequate self-care and was associated with the best 1-year event free survival (Riegel et. al, 2019). Clinically significant events included all-cause mortality, emergency room visits, and hospitalization related to CHF exacerbation (Lee et. al, 2018).

In addition to a focus on self-care and disease management, telephone follow up has been identified an effective strategy in reducing heart failure readmission rates. In a systematic review of 10 studies, Health Quality Ontario (2017) determined that 7 and 30 day-in person follow up for heart failure and chronic obstructive pulmonary disorder patients was associated with lower all cause readmissions, emergency department visits, and mortality. A systematic review of 10 studies revealed that post-discharge phone calls by nurses significantly improves heart failure

readmission rates at 3, 6, and 12 months-post discharge (Lee & Park, 2010). Oscalices et. al (2019) completed a randomized controlled trial on heart failure patients admitted to the emergency room. The intervention group received a phone call at 7- and 30-days post discharge. At 90 days, the intervention group had higher treatment compliance. In the THRIVE study, authors completed a randomized controlled trial to compare telephone follow up and in-person visits after hospital discharge. The authors demonstrated comparable outcomes between the intervention and control groups (Lee et. al, 2020).

Charais, Bowers, and Smallheer (2020) developed a multidisciplinary follow up program for heart failure patients. This included education and telephone follow up within 48 to 72-hours after discharge. After program implementation, there was a significant reduction in 30-day readmissions over 3-months. In an observational study, Harrison et. al (2014) assessed the readmission rates of a general medical population after the implementation of a 72-hour post discharge follow up call. There was a statistically significant reduction in 30-day readmissions after the implementation of the phone intervention. Lee et. al (2016) reviewed characteristics associated with lower 30-day readmission rates. It was found that outpatient appointment or phone call within 7 days after discharge was associated with a lower odd of readmission. Telephone follow up is an effective strategy to reduce readmission rates in the heart failure patient population, as seen in multiple studies of high level of evidence.

Design and Methods

This evidence-based practice project was implemented on a heart failure progressive care unit at an acute care hospital in San Diego. Inclusion criteria consisted of adults 18 years or older with the primary diagnosis of heart failure and discharging home. The heart failure registered nurse identified soon to be discharged patients on the unit. If the patient's primary language was

not English, a hospital provided translator was utilized. This was done to include the maximum number of participants, as the patient population in this region consists of many non-English speakers. The Doctor of Nursing Practice (DNP) student met with selected patients to administer the SCHFI survey. In addition to completing the SCHFI, the DNP student provided standard heart failure education as is provided to all hospitalized heart failure patients. It was decided that the first phone call should be completed at 72 hours, as the average readmission at this facility occurred prior to 7 days after discharge. The DNP student and heart failure nurse used a standardized phone script to determine if the patient refilled their prescriptions, scheduled or attended cardiology appointments, and addressed any questions. Patients were also reminded of important signs and symptoms to monitor and reminders for self-care. At 30-days, the DNP student called to complete a second SCHFI survey as well as answer any questions.

Ethical Considerations

This project was approved by the Sharp Healthcare Institutional Review Board on September 23, 2021, and the Institutional Review Board of the University of San Diego, Hahn School of Nursing and Health Science on October 13, 2021.

Results

Readmission rates after 30 days and pre/post SCHFI scores were used to evaluate the results of this pilot project. Of the 10 patients who agreed to participate in the program, 2 were excluded due to discharge to skilled nursing facilities and 1 unfortunately expired. 57% of patients participated in the 72-hour phone call, while 43% completed the 30-day phone call. The readmission rate for the cohort was 12%, which is 10% less than the organizations average readmission rate. Of the participating patients, there was a 20% increase in SCHFI scores from pre-phone calls to post-follow up phone call. The results of the pilot project reflect the

effectiveness of a telephone follow up program in reducing 30-day readmission rates and improving SCHFI scores.

Limitations

There are limitations to this evidence-based practice pilot project that must be acknowledged. Due to a low number of participants, the applicability of this program to a larger population may be limited. Our participant numbers were reduced due to loss to follow up and patients not answering phone calls. Health literacy was another identified barrier. Many patients did not understand the SCHFI and needed assistance to complete the form. Language differences also played a role in interpretation of the SCHFI survey, despite the use of translation services. It is also important to note the impact of the COVID-19 pandemic on hospital admissions and burden on services during the time of this project.

Implications for Future Research

The results of this pilot project are promising. This project should be continued over an extended period with a larger sample size, which would allow for analysis of the statistical significance of the interventions. Another important concept identified while conducting this project is health literacy. Health literacy is a key issue identified in the Healthy People 2020 campaign (U.S. Department of Health and Human Services, 2022). It may be beneficial to incorporate a health literacy assessment prior to providing patient education to maximize understanding of the material, and therefore improve SCHFI scores.

Conclusion

With the rise in the older adult population, many with chronic conditions like CHF, it is imperative that organizations implement strategies to improve financial and patient-specific outcomes. A focus on disease self-management has been identified as an effective strategy to

improve outcomes in patients with heart failure. Telephone follow up after discharge from the hospital is an evidence-based intervention that has resulted in improved readmission rates and patient-specific outcomes. The results of this pilot project are promising. There is also room for improvement and expansion of the telephone follow up program for heart failure patients.

References

- Anand V., Garg K., Koene R., & Thenappan T. (2016). National trends in hospital readmission rates in congestive heart failure patients. *Circulation*, 134(1), 17286–17286. doi:10.1161/circ.134.suppl_1.17286
- Brown, C. E. & Ecoff, L. (2011). A systematic approach to the inclusion of evidence in healthcare design. *HERD: Health Environments Research & Design Journal*, 4(2), 7–16. <https://doi.org/10.1177/193758671100400202>
- Centers for Medicare and Medicaid Services (2021). *Hospital readmissions reduction program (HRRP)*. <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program>
- Centers for Medicare and Medicaid Services. (2022). *Hospital readmission rates*. <https://data.medicare.gov/Hospital-Compare/Hospital-Readmission-Rates/92ps-fthr>
- Charais, C., Bowers, M., Do, O. O., & Smallheer, B. (2020). Implementation of a disease management program in adult patients with heart failure. *Professional Case Management*, 25(6), 312–323. <https://doi.org/10.1097/ncm.0000000000000413>
- Clark, A. M., Spaling, M., Harkness, K., Spiers, J., Strachan, P. H., Thompson, D. R., & Currie, K. (2014). Determinants of effective heart failure self-care: A systematic review of patients' and caregivers' perceptions. *Heart*, 100(1), 716–721. doi:10.1136/heartjnl-2013-304852
- Ecoff, L., Stichler, J. F., & Davidson, J. E. (2020). Design, implementation and evaluation of a regional evidence-based practice institute. *Applied Nursing Research*, 55(1), 1–8. <https://doi.org/10.1016/j.apnr.2020.151300>

- Ellinas, H. (2019). Disorders of cardiac function, and heart failure and circulatory shock. In T. Norris (Ed.), *Porth's pathophysiology: Concepts of altered health states* (10th ed., pp. 791-793). Wolters Kluwer.
- Harrison, J. D., Auerbach, A. D., Quinn, K., Kynoch, E., & Mourad, M. (2014). Assessing the impact of nurse post-discharge telephone calls on 30-Day hospital readmission rates. *Journal of General Internal Medicine*, 29(11), 1519–1525.
<https://doi.org/10.1007/s11606-014-2954-2>
- Health Quality Ontario. (2017). Effect of early follow-up after hospital discharge on outcomes in patients with heart failure or chronic obstructive pulmonary disease: A systematic review. *Ontario Health Technology Assessment Series*, 17(8), 1–37.
<https://www.hqontario.ca/Evidence-to-Improve-Care/Health-Technology-Assessment/Journal-Ontario-Health-Technology-Assessment-Series>
- Khera, R., Wang, Y., Nasir, K., Lin, Z., & Krumholz, H. M. (2019). Evaluation of 30-day hospital readmission and mortality rates using regression-discontinuity framework. *Journal of the American College of Cardiology*, 74(2), 219–234.
<https://doi.org/10.1016/j.jacc.2019.04.060>
- Lee, C. S., Bidwell, J. T., Paturzo, M., Alvaro, R., Cocchieri, A., Jaarsma, T., Strömberg, A., Riegel, B., & Vellone, E. (2018). Patterns of self-care and clinical events in a cohort of adults with heart failure: 1 year follow-up. *Heart & Lung*, 47(1), 40–46.
<https://doi.org/10.1016/j.hrtlng.2017.09.004>
- Lee, J. & Park, S. (2010). The effectiveness of telephone-based post-discharge nursing care in decreasing readmission rate in patients with heart failure: A systematic review. *JBI*

Library of Systematic Reviews, 8(32), 1288–1303. <https://doi.org/10.11124/jbisrir-2010-164>

Lee, K. K., Thomas, R. C., Tan, T. C., Leong, T. K., Steimle, A., & Go, A. S. (2020). The heart failure readmission intervention by variable early follow-up (THRIVE) study.

Circulation: Cardiovascular Quality and Outcomes, 13(10), 719–729.

<https://doi.org/10.1161/circoutcomes.120.006553>

Lee, K. K., Yang, J., Hernandez, A. F., Steimle, A. E., & Go, A. S. (2016). Post-discharge follow-up characteristics associated with 30-day readmission after heart failure hospitalization. *Medical Care*, 54(4), 365–372.

<https://doi.org/10.1097/mlr.0000000000000492>

McAlister, F. A., Stewart, S., Ferrua, S., & McMurray, J. (2004). Multidisciplinary strategies for the management of heart failure patients at high risk for admission. *Journal of the American College of Cardiology*, 44(1), 810–819. doi:10.1016/j.jacc.2004.05.055

Oscalices, M. I. L., Okuno, M. F. P., Lopes, M. C. B. T., Campanharo, C. R. V., & Batista, R. E. A. (2019). Discharge guidance and telephone follow-up in the therapeutic adherence of heart failure: Randomized clinical trial. *Revista Latino-Americana de Enfermagem*, 27(1), 1–9. <https://doi.org/10.1590/1518-8345.2484-3159>

Riegel, B., Barbaranelli, C., Carlson, B., Sethares, K. A., Daus, M., Moser, D. K., Miller, J., Osokpo, O. H., Lee, S., Brown, S., & Vellone, E. (2019). Psychometric testing of the revised self-care of heart failure index. *Journal of Cardiovascular Nursing*, 34(2), 183–192. <https://doi.org/10.1097/jcn.0000000000000543>

Riegel, B., Lee, C. S., Dickson, V. V., & Carlson, B. (2009). An update on the self-care of heart failure index: *The Journal of Cardiovascular Nursing*, 24(1), 485–497.

doi:10.1097/JCN.0b013e3181b4baa0

San Diego Consortium for Excellence in Nursing and Allied Health. (n.d.). *About our practice change model*. EBPI San Diego. <https://www.ebpisandiego.org/about-our-model.html>

U.S. Department of Health and Human Services. (2022). *Health literacy*. Healthy People 2020.

<https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/health-literacy>

Zohrabian, A., Kapp, J. M., & Simoes, E. J. (2018). The economic case for US hospitals to revise their approach to heart failure readmission reduction. *Annals of Translational Medicine*, 6(15), 298–298. doi:10.21037/atm.2018.07.30