

Randomized, Controlled Evaluation of Short- and Long-Term Benefits of Heart Failure Disease Management within a Diverse Provider Network: The SPAN-CHF Trial

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Heart failure is a major health problem in the United States. It affects more than 5 million patients and is the most common cause of hospitalization and readmission in the Medicare population. One in every four Medicare patients discharged from the hospital with heart failure is readmitted to the hospital within 30 days. Heart failure readmission are a result of many reasons, including patient factors such as not taking medications or not following the recommended diet. Health care system factors for readmission include failure to prescribe medications known to improve heart failure outcomes and the lack of coordination and follow-up after hospital discharge.

SPAN-CHF addresses these factors by randomizing patients to nurse practitioner follow-up with a home visit and subsequent telephone support to coordinate care. SPAN-CHF also supports patients and families in the management of their condition at home compared with a control group of patients who received usual care. Patient outcomes were assessed by telephone interview over one year after hospital discharge in both academic medical center and community settings.

Over the 90 days of nurse practitioner support of patient self-management, hospital readmissions for heart failure or another cardiovascular cause were reduced by 52% ($p = 0.027$). Hospital days per patient year were cut by 36% ($p < 0.001$) compared with the control group's rate. At 1 year, however, there was no difference in hospital readmission rates.

This study demonstrates that support of patient self-management of heart failure can significantly reduce hospital readmission by patient education and by supporting patient efforts to improve adherence to medication and lifestyle changes. The loss of positive effect after the support ended implies that educating patients is not sufficient to improve outcomes. This suggests that the care of patients with heart failure would benefit from ongoing support of health care professionals, in addition to routine doctor visits.

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