Heart Failure Patients in Skilled Nursing Facilities
Evidence Needed

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The observational study by Allen and colleagues\(^1\) in this issue of Circulation: Heart Failure reports disturbing results about adverse outcomes for vulnerable patients with heart failure (HF) who are discharged from hospitals to skilled nursing facilities (SNFs). Data collected as part of the Get With the Guidelines-HF program were linked with claims files from the Centers for Medicare & Medicaid Services to compare characteristics and rates of 30-day and 1-year all-cause mortality and rehospitalization among hospitalized patients with HF discharged to home and SNFs. Nearly one fourth (24.1\%), or 3727 of the 15459 patients with HF in the sample, were discharged to SNFs. Longer length of hospital stay, older age, history of depression or stroke, and female sex were characteristics most associated with discharge to an SNF. Compared with patients discharged to home, patients discharged to SNFs had significantly higher mortality rates. At 1 year postdischarge, patients discharged to SNFs had an alarming 53.5\% mortality rate compared with 29.1\% for patients discharged to home \((P<0.0001)\). Moreover, after adjusting for characteristics associated with negative outcomes, patients discharged to SNFs had an estimated 76\% increased risk of death. The investigators recommend that longitudinal studies be conducted to characterize the patients discharged to SNFs, to understand the processes of care received, and to determine whether a different set of performance measures are needed for patients discharged to SNFs rather than to home.

Studies are urgently needed to understand and to reverse these alarming results. Immediate and sustained action by the community of HF researchers and healthcare providers is warranted. The current level of research being conducted in postacute care settings needs to be “scaled up” to increase survival and quality of life for some of the most vulnerable patients entrusted to our care. In addition to longitudinal studies, to begin to reduce mortality and morbidity, interventions with demonstrated efficacy in outpatients with HF discharged to home could be modified and tested in randomized controlled trials. Such evidence would provide the data that are required to formulate practice guidelines and determine performance measures. Research should be directed at (1) determining the number and types of interventions that patients require while hospitalized and while residing at SNFs to ensure a successful transition that promotes positive outcomes, (2) evaluating the discharge disposition and transition of patients discharged from SNFs to home and other postacute care settings (eg, nursing homes), and (3) evaluating characteristics (physical, cognitive, emotional, and social) of patients with HF residing in SNFs and their relationship to outcomes in order to identify targets for future randomized controlled trials.

A well-delineated body of evidence is available about efficacious interventions to reduce mortality and hospitalizations and to improve quality of life among patients with HF, including (1) provider adherence to evidence-based guidelines,\(^2,3\) (2) use of multidisciplinary teams of specialized providers to coordinate ongoing outpatient care,\(^4\) (3) use of advanced practice nurses to help patients to manage the transition from hospital to home,\(^5\) and (4) educating patients about self-care interventions to improve medication and dietary adherence and symptom monitoring.\(^6\) However, past studies are limited by a focus on patients with HF who are discharged to home and able to perform or participate in performing self-care behaviors. Much less is known about interventions to reduce mortality and hospitalizations and to improve quality of life among patients with HF who are discharged to postacute care settings, specifically SNFs.

The hospitalization episode before discharge to an SNF provides an opportunity to improve care coordination and determine therapeutic interventions that patients will need while residing at SNFs. Frail elderly patients with HF, multiple comorbidities, and complex care needs require intensive discharge planning. A comprehensive assessment of physical, cognitive, emotional, and social status as a prerequisite to hospital discharge is indicated to determine the number and types of individualized interventions that will be required while residing at an SNF. The complex care needs of hospitalized patients are reflected in a study by Dochterman and colleagues,\(^7\) who evaluated the nursing interventions delivered to 1075 patients with HF during 1435 hospitalizations (median length of stay, 6 days). A total of 120 different interventions were delivered during the hospitalizations, and patients received an average of 18.58 different interventions during each hospitalization, suggesting that interventions were tailored to each patient’s needs. A substantial number of interventions were delivered throughout the hospitalization until the time of discharge. The most frequent interventions were surveillance (defined as “purposeful and ongoing acquisition, interpretation, and synthesis of patient data for clinical decision making”\(^8\)), routine adult care, cardiac-specific care,
intravenous therapy, and fluid management. The finding that patients with HF required nursing interventions of decision-making and individualization of care throughout the entire hospitalization episode is critical information to use as patients are transitioned to SNFs.

It is likely that the number and type of nursing interventions needed by patients with HF residing in SNFs continue to be high and complex, although more studies are needed to determine efficacious interventions that will reduce mortality and rehospitalization and improve quality of life. HF, respiratory and urinary tract infections, sepsis, and electrolyte imbalance were the most common reasons for rehospitalization among elderly Medicare beneficiaries. Surveillance and early treatment of infections and electrolyte imbalances should be priority interventions for patients with HF patients residing in SNFs. High-risk patients with HF have been shown to receive fewer lifesaving medications, but it is unknown whether this is the case for patients with HF residing in SNFs. The complexity of interventions that these patients may require and the high mortality and rehospitalization rates suggest that advanced practice nurses with expertise in cardiovascular and complex long-term care may be required to supervise or deliver interventions.

Comorbidities, specifically depression and stroke, contributed to mortality and rehospitalization in the study by Allen et al. An ongoing study by Van Cleave and colleagues provides evidence about the complexity of elderly persons newly admitted to assisted living and nursing home facilities, although SNFs were excluded. In an interim analysis, 158 elders (mean age, 83.1 ± 8.3; 56% with circulatory conditions) admitted to 152 long-term-care facilities (70.4% assisted living and 29.6% nursing homes) had an average of 10.8 ± 4.4 chronic illnesses (range, 0 to 25), and after adjusting for covariates, total comorbidity was the only variable associated with use of healthcare services (P < 0.001) at 12 months. The results may be applicable to older patients with HF who often have comorbidities and are discharged to SNFs, but this needs to be evaluated.

Patient health factors such as poor physical and cognitive health were not directly measured in the study by Allen et al but may have contributed to mortality and rehospitalization. Interventions to improve physical health of patients with HF living at home are available. Dunbar and colleagues conducted a randomized controlled trial among 117 dyads of patients with HF and family caregivers to evaluate the efficacy of an educational support intervention in improving compliance with dietary sodium restrictions. Significantly higher proportions (P < 0.04) of patients in the educational supportive and the educational groups achieved a urinary sodium ≤2500 mg/d at 8 months after baseline. This study is an example of an efficacious intervention that could be modified for testing in patients discharged to SNFs. Including family caregivers in interventions conducted with patients in SNFs has the potential to improve clinical outcomes and to allow caregivers to assist with transitioning patients to home or other postacute care settings and to be engaged in making decisions about the interventions their family members require.

Dolansky and colleagues focused on physical health by evaluating the cardiac rehabilitation services used by 80 older adults (mean age, 78.8 years) discharged to 2 SNFs after a cardiac event (mean length of SNF stay, 14 days). Most (78%) patients were eligible for cardiac rehabilitation, but in a review of nursing notes, 312 physical therapy session notes, and 308 occupational therapy session notes, there was limited documentation that patients received cardiac rehabilitation interventions (eg, 4 patients used NuStep over a 7-day period, 12 used arm ergometry, and 1 received cardiac risk reduction education).

Interventions to improve cognitive health have been effective in healthy elders, and these could be modified and tested among patients with HF residing in SNFs. Cognitive impairment is reported in 23% to 50% of stable outpatients with HF and in 1 study, was a predictor of 12-month all-cause mortality. Rates of cognitive impairment among patients residing in SNFs has not been determined but is likely to be higher than among patients discharged to home. Improvement of the patient’s medical condition and physical health might contribute to improved cognitive health. Alternatively, cognitive function is fundamental to performing self-care and maintaining physical health.

Acute care hospitals have been the focus of many systematic investigations to improve HF outcomes, but much less is known about SNFs. Reducing mortality and rehospitalization and improving quality of life for patients with HF discharged to SNFs may require engaging SNF employees as partners in care. Long-term-care facilities have been described as unstable environments characterized by rapid change and high turnover rates of patients and staff. In hospitals, higher educational levels of nurses are associated with better outcomes, including safer patient care, and this needs to be examined in SNFs in relationship to HF outcomes. Nursing staff dissatisfaction and burnout are higher in long-term-care settings than in hospitals, and 47% of nurses in long-term-care settings report missing important patient changes because of workload. In long-term-care facilities, turnover of staff providing direct patient care ranges from 20% to 80%, with an average of 40% in 1 year. The influence of these workforce issues on the clinical outcomes of patients with HF also requires further investigation.

In summary, research is critically needed to understand and ameliorate the multiple factors that contribute to increased mortality and rehospitalization among patients with HF discharged to SNFs. Allen and colleagues raise the possibility that a different set of performance measures may be indicated for this group. Evidence is needed first before new guidelines and performance measures are developed for these vulnerable patients.

Disclosures

None.

References


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