Heart Failure Management
Caregiver Versus Care Plan
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Over the last 2 decades, improved understanding of the pathophysiology of heart failure has led to significant progress in the treatment of this syndrome. Nevertheless, heart failure remains a clinical problem of truly epidemic proportions, affecting nearly 5 million people in the United States. Moreover, the lifetime risk of developing heart failure may be as high as 20%, with an annual incidence of new cases of well over a half million per year. Beyond this human crisis, heart failure also presents a tremendous economic challenge as a result of the enormous costs of caring for this patient population. Unfortunately, this clinical and economic burden predictably will continue to increase as further therapeutic advances are made in the treatment of ischemic heart disease, creating an older surviving population at risk for developing heart failure. Although there has been some improvement in heart failure survival over the years, overall mortality remains high at >30% despite the introduction of ACE inhibitor and β-blocker therapies, which have been proven in landmark trials to markedly improve survival. This lack of striking improvement in survival rates outside of clinical trials may be a result of the well-documented obstacles faced in effecting appropriate changes in physician behavior, which in turn lead to significant under-use of proven medications and therapies. It is also possible that the ever-increasing complexity and multitude of recommended treatments is simply daunting and difficult to understand, causing these therapies not to be used, especially by practitioners who lack the time or the expertise to pursue the kind of “micromanagement” required with complex regimens. Numerous studies have attempted to address this issue by comparing the management provided by generalists and by cardiologists. In a small retrospective study of 403 patients, Ansari et al found that cardiologist care was associated with more frequent left ventricular function assessment, greater use of ACE inhibitors and β-blockers, and decreased risk of death or hospitalization. Although other studies have supported these findings, discrepancies exist.

The study by Jong et al utilized a large, comprehensive database to examine 38,702 consecutive patients with a mean age of 75.5 years who were monitored after their first-time hospital admission for heart failure in a large Canadian province. Cardiologist care was associated with higher rates of invasive procedures; higher postdischarge prescriptions for heart failure medications, specifically ACE inhibitors and β-blockers; and lower 1-year risk-adjusted mortality. Interestingly, patients cared for by cardiologists also had higher readmission rates that, as the authors contend, could be related to survivor bias or to lower threshold for admission because of increased vigilance.

The authors make use of a comprehensive administrative medical database that, because of its design and purpose, lacks some important clinical variables, which, if available, would allow better characterization of patients and understanding of outcomes. Furthermore, it does not allow control over patient selection beyond the database’s restricted pre-existing parameters. Nevertheless, these limitations may be offset by the comprehensive nature of the database, which provides a broad and representative look at the population, more or less reducing selection bias. Furthermore, the authors’ ability to combine clinical information with a medication prescription database has provided them with a unique opportunity for such analysis.

Implications
The findings by Jong et al, as well as the available literature, seem to suggest that specialist—in this case cardiologist—care affects clinical outcomes. It is likely that the major underlying process responsible for this trend is the closer adherence to established guidelines by cardiologists. Such adherence is associated with greater utilization of proven therapies such as ACE inhibitors and β-blockers and leads to better clinical outcomes. Cardiologists also appear to have a better understanding of the pathophysiology of heart failure and to be more cognizant of the adverse effects of heart failure medications, leading to more aggressive initiation, as well as up titration of these therapies. Assessment of left ventricular function also occurs more frequently with cardiologist care, again adhering more closely to current guidelines.

Should these findings lead us to conclude that there is a need for far-reaching changes in the care of heart failure patients, with the cardiologist assuming the role of primary caregiver?
Before such an assertion is even entertained, several facts of medical life need to be considered. Two opposing trends coexist in the American healthcare system at the current time. The first is the trend toward increasing specialization. At the manpower level, this trend is exemplified by the decreasing number of medical students choosing general practice as a career.15 At an institutional level, there has been a surge of specialty hospitals such as “heart centers,” which compete with other, “nonspecialized” hospitals and draw patient populations with specific illnesses away from nonspecialists.

The second and opposing trend is economic. The care of high-risk patients by cardiologists would be resource intensive and therefore costly.16 Jong et al13 found that cardiologist care was associated with higher rates of coronary angiography, percutaneous coronary intervention, and bypass surgery. In an environment in which managed care controls a large portion of the healthcare dollar or in an environment in which the healthcare dollar is strictly limited (such as Canada), a system in which the primary care physician remained the gatekeeper or nonspecialist physicians provided the majority of care would be much more appealing. Because of these 2 seemingly opposing forces, any universal change in practice pattern would be difficult to foresee or recommend.

A Better Way?
The above notwithstanding, perhaps the focus of the debate should be reexamined. Instead of debating the question of who is the optimal caregiver, one should perhaps focus on the question of how to provide optimal care. Even though many of the studies alluded to so far explore the effect of the type of practitioner on outcome, the real forces that produce these differences in outcomes are likely to be the underlying processes of care. After scrutinizing these processes, one can distill the following 3 basic steps to establishing optimal heart failure care strategies: (1) identifying the population that will benefit the most, (2) setting benchmarks that will serve as standards of care, and (3) actively implementing algorithms that will ensure translation of concept to practice.

Identifying the Population
An important finding from Jong et al13 was that 1-year mortality benefit from cardiologist care was seen in the medium- and high-risk patients, but not in the low-risk patients. This is consistent with data showing that high-risk patients benefit most from therapeutic interventions.17 With this in mind, a simple approach to care could be adopted, whereby low-risk patients would be cared for by generalists, with difficult-to-treat and high-risk patients referred to cardiologists. The challenge, however, lies in the identification of high-risk patients. Studies have attempted to utilize risk-scoring systems to guide this categorization.18 Although the use of such systems is an attractive idea, the syndrome of heart failure is much less quantifiable than disease entities such as acute myocardial infarction, for which risk scores have been more successfully used,19 making the effort more challenging in the field of heart failure. Attempts to use more quantifiable measures such as QTc and brain natriuretic peptide levels may prove useful20; however, their clinical utility needs further refinement. Meanwhile, the simplest method may still be to use clinical judgment and rely on high-risk clinical correlates such as lower left ventricular ejection fraction or VO₂ max; the presence of diabetes, hypotension, or nonsinus rhythm; or a history of prior admission for or history of heart failure or renal insufficiency.21,22

Benchmarks
Once the patient population has been characterized, it is important to ensure that all patients receive proven levels of effective care. Standards have been well delineated in recent guidelines.23 In the initial period of intervention, particular attention should be paid to patient education, as evidence supports its role in increasing compliance with medication and dietary instructions, as well as in decreasing adverse outcomes and costs.24 Also, emphasis should be placed on frequent and regular follow-up communication both for therapeutic re-evaluation and for continued patient education.

Active Implementation
It is clear that passive dissemination of information regarding new therapeutic modalities alone produces suboptimal results.25 Once benchmarks for appropriate therapy have been set, proactive strategies are essential with the goal of disseminating and implementing these standards.26 Numerous approaches to proactive strategies have been investigated.27–29 An extensive review by McAlister et al28 of 11 randomized trials including 2067 patients showed that specialized follow-up by a multidisciplinary team reduced costs and hospitalizations, whereas telephone follow-up or improved communication with primary care physicians did not. Although grander-scale implementation may include general public health policies beyond the scope of this article, at the individual patient level, multidisciplinary disease management programs may provide the best-rounded approach to care.

Conclusion
Although provision of truly ideal care may be a utopian dream, we believe that any healthcare system should endeavor to provide not adequate care, but the best possible care, whether it be provided by a cardiologist, a generalist, or a multidisciplinary team.

References


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