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Multidisciplinary Management of Chronic Heart Failure: Principles and Future Trends

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ABSTRACT

Purpose: Globally, the management of chronic heart failure (CHF) challenges health systems. The high burden of disease and the costs associated with hospitalization adversely affect individuals, families, and society. Improved quality, access, efficiency, and equity of CHF care can be achieved by using multidisciplinary care approaches if there is adherence and fidelity to the program's elements. The goal of this article was to summarize evidence and make recommendations for advancing practice, education, research, and policy in the multidisciplinary management of patients with CHF.

Methods: Essential elements of multidisciplinary management of CHF were identified from meta-analyses and clinical practice guidelines. The study factors were discussed from the perspective of the health care system, providers, patients, and their caregivers. Identified gaps in evidence were used to identify areas for future focus in CHF multidisciplinary management.

Findings: Although there is high-level evidence (including several meta-analyses) for the efficacy of management programs for CHF, less evidence exists to determine the benefit attributable to individual program components or to identify the specific content of effective components and the manner of their delivery. Health care system, provider, and patient factors influence health care models and the effective management of CHF and require focus and attention.

Implications: Extrapolating trial findings to clinical practice settings is limited by the heterogeneity of study populations and the implementation of models of intervention beyond academic health centers, where practice environments differ considerably. Ensuring that individual programs are both developed and assessed that consider these factors is integral to ensuring adherence and fidelity with the core dimensions of disease management necessary to optimize patient and organizational outcomes. Recognizing the complexity of the multidisciplinary CHF interventions will be important in advancing the design, implementation, and evaluation of the interventions. (*Clin Ther*. 2015;▮:▮▮▮–▮▮▮) © 2015 Published by Elsevier HS Journals, Inc.

Key words: Heart failure, disease management, multidisciplinary, health services.

INTRODUCTION

Chronic heart failure (CHF) is a global health problem and affects an estimated 26 million people worldwide.[1] High health care utilization and poor prognosis remain challenging features of this complex and multifaceted syndrome.[2] The costs of CHF care are estimated at $108 billion per annum globally and, with an aging and industrializing global population, these costs will continue to rise.[3] Many of these costs are attributable to hospitalization, the avoidance of which is a core focus of disease management approaches.[4] The complexity of CHF management requires a team approach, particularly coordination of care and fostering of communication among providers and health care settings.[5]

Disease management refers to the multidisciplinary efforts to improve both the quality and the cost-effectiveness of care for patients with chronic conditions.[6] Multidisciplinary care for CHF is distinguished from generic chronic disease management programs by the complexity of the care required for these

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patients (eg, high comorbidity burden, the need for medication titration, symptom monitoring, assessment of cardiovascular risk, the management of devices). Models of disease management intervention range from self-care support to intensive case supervision. As health care systems across the world juggle increased demand with diminishing resources, reducing costs as well as improving the experience of care and the health of populations are increasingly important.[7]

Since the seminal trials of heart failure disease management in the 1990s,[8,9] several meta-analyses have demonstrated the benefits of multidisciplinary approaches in decreasing hospitalizations, improving quality of life, and decreasing mortality.[10–12] A meta-review of 15 meta-analyses over the past decade found that although most analyses showed a clear benefit, it was difficult to calculate the point estimate of the benefit because of the heterogeneity of the results between trials.[12] In addition, other systematic reviews examined program components, such as transitional care[13] and telehealth.[14] **Table I**[11,15–17] summarizes findings from these key systematic reviews collating multidisciplinary approaches.

Due to this robust evidence base, multidisciplinary approaches are recommended as part of the comprehensive guidelines for contemporary CHF management.[2,18,19] Approaches to CHF disease management include home-based, clinic-based, telehealth care, and hybrid tactics. Models of care are largely driven by provider preferences, available resources, reimbursement modes, and policy recommendations.[14,20,21] Regardless of the model of intervention, an important focus of CHF disease management is optimizing evidence-based therapies, providing support to patients and their families, promoting quality of life, and avoiding adverse events.[22] CHF multidisciplinary management is recommended for individuals with heart failure with reduced ejection fraction as well as those with preserved ejection fraction; however, access to interventions, such as disease-specific cardiac rehabilitation,[23] can be limited in some settings by reimbursement.[24]

Despite a robust evidence base for CHF disease management, the majority of studies have been performed in academic health centers, are single-site studies, and offer limited evidence to determine the benefit of individual program components, specifically the frequency and timing of the intervention elements. Diversity in populations and heterogeneity are ubiquitous findings of systematic reviews.[12]

It has also been suggested that there is insufficient clarity in reporting some of these interventions, which prevents the replication or identification of successful elements.[25] As the science of CHF disease management has advanced, there has been a parallel increased focus on complex interventions underscoring the importance of considering not only individual program elements but their interaction.[26,27] An increased access to registry data is enabling both the characterization of real-world populations and the tailoring and targeting of specific approaches.[28] The need to adapt models of CHF care to specific populations, particularly the elderly and racial and ethnic groups, is recognized.[29,30]

The American Heart Association's Disease Management Taxonomy Writing Group has developed a system of classification that can be used both to classify and compare elements of disease management programs; it is useful for identifying specific factors associated with effectiveness, as well as translating research into clinical practice.[31] Using this standardized nomenclature is important in developing, implementing, and evaluating multidisciplinary approaches to care.

The goal of the present article was to identify integral elements of multidisciplinary management of CHF; to discuss implications from the perspective of the health care system, providers, patients, and their caregivers; and to identify areas for future focus in CHF multidisciplinary management. As shown in the **Figure**, improving health outcomes, decreasing costs, and enhancing the patient experience depend on the implementation of standards and monitoring of outcomes. Embedding outcome measures in management programs is important in promoting adherence with guidelines, intervention fidelity, and optimal patient outcomes. The application of process measures is also important in optimizing organizational efficiencies and working toward goals of decreasing health care utilization, lowering morbidity and mortality, and improving health-related quality of life.[22]

KEY PRINCIPLES OF CHF MANAGEMENT

Despite the diversity and heterogeneity of CHF disease management programs, available data from systematic reviews and clinical practice guidelines highlight key principles of CHF multidisciplinary management[2,18,19]: