

Special Issue on “Heart Failure- An Issue on Heart Failure Clinics”

Outpatient Management of Patients with Heart Failure

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Abstract

Planning for Heart Failure (HF) management must develop the capacity to care for an aging cardiac population. Older HF patients often require regular follow up with close monitoring for potential complications and worsening symptoms that may contribute to acute care utilization. Although HF disease management programs are beneficial, the growing population of older HF patients and the limited availability of specialized HF clinics call for system level interventions to optimize care and clinical outcomes. The purpose of this paper is to propose an integrated, patient centered system to manage HF. Patient management should be firmly rooted in the primary care sector that is highly integrated with specialty services and be based on a chronic disease management framework. Patients are stratified according to clinical risk and complexity with the intensity of intervention adjusted accordingly. Care is organized within a ‘Hub and Spoke’ Model, whereby the patients move between the levels of care as guided by their risk stratification. This integrated model of care will also help establish close working relationships among care providers who may be currently operating in isolation, and thus foster opportunities for greater knowledge translation and exchange and capacity development.

Keywords: Heart failure; Clinic; Health care system

Background

Heart Failure (HF) is a complex chronic condition where the heart cannot pump blood at a rate sufficient to meet the metabolic demands of the body, resulting in poor exercise tolerance, reductions in quality of life and survival [1]. HF tends to affect older individuals, with a prevalence of 10-23% in those over 80 years of age [2]. As the proportion of people over the age of 65 years continues to increase, the demand for HF management will also rise. Planning for HF management must account for this growth and develop the capacity to care for an aging cardiac population.

The management of HF in older adults is complex. Many older HF patients have multiple co-morbidities and are at high risk for frailty, disability and cognitive impairment [3]. They often require multiple medications and significant lifestyle modifications. These patients require regular follow up with close monitoring for potential complications and worsening symptoms that may contribute to acute care utilization. The illness trajectory with HF is unpredictable whereby they have periods of relative stability interspersed with periods of decompensation [4]. Therefore, HF patients need to be able to navigate and transition through the health care system seamlessly as the severity of their condition changes.

Numerous studies since the 1990s have found that HF disease management programs are of benefit for HF patients, especially those with more severe HF symptoms [5]. Though variability in clinic composition have made it difficult to define the ideal structure of these programs for HF patients, there is strong evidence to suggest that programs that contain the core elements of the Chronic Disease Model (CDM) [6] are essential to improve quality of care and patient outcomes.

Unfortunately, access to specialized HF management programs

remains relatively limited as most programs are based in acute, often tertiary care, facilities [7]. Given the high prevalence of older HF patients, the limited availability of specialized HF clinics, and evidence suggesting lack of persistence of optimal management interventions following discharge from specialized HF clinics [8], system level interventions are necessary to further develop HF management capacity in community-based and primary care settings [9].

Patient centered System of Care for Heart Failure

The purpose of this paper is to propose an integrated, patient centered system to manage HF that identifies different levels of care, (including a specialized HF clinic), as determined by the patient’s complexity and risk of a poor outcome. This step-wise approach is organized within a Hub and Spoke Model to allow for a patient-centered continuum of care.

Primary care setting

Ideally, HF patient management should be firmly rooted in the primary care sector that is highly integrated with specialty services [10]. In addition, the ideal HF system should be based on a CDM framework that fosters the development of self-care strategies and supports HF patients and care givers in an overall model of self-management.

Risk stratification and stepped care approach

The role of the Primary Care Provider (PCP) is to diagnose HF and treat the condition. Treatment should involve patient self-care education and support, medical management of the HF, concurrent management of any co-morbid conditions, and monitoring of the patient’s condition. Furthermore, PCPs need to stratify patients according to complexity and risk of adverse outcomes and facilitate referral for additional resources when necessary (Table 1). For example, patients experiencing clinical instability, or at risk for poor

Table 1: Heart Failure Patient Stratification.

| Level of Care | Patient Status | Care Provision |
|---------------|--|---|
| 1 | Low complexity NYHA I-II | Optimal prescription of pharmacological and non-pharmacological therapy, patient and caregiver self-care education and support. |
| 2 | Intermediate complexity NYHA II-III Unable to stabilize at Level 1 | Consultation by Level 2 HF team. Patient stabilization, review of therapies and recommendations for changes. Discharge back to Level 1 when stable. |
| 3 | High complexity NYHA III-IV Unable to stabilize at Level 2 | Consultation with and involvement of Level 3 specialized HF team until patient stabilizes sufficiently for transfer to Level 2 care. |

Abbreviations: NYHA: New York Heart Association classification; HF: Heart Failure

outcomes can be referred to an intermediate level of care, which can be supervised by a local PCP or specialist with recognized expertise in HF, and supported by an appropriately trained nurse and inter professional resources [11]. When symptoms are stabilized and treatment is optimized and they no longer require an intermediate level of care, these patients can be transferred back to the PCP. For other patients requiring more intensive care, they can be referred to a tertiary level of care with specialized expertise in the management of highly complex HF patients (Table 1). Once they are stabilized and the treatment plan is optimized, care can be transferred to an intermediate or low-intensity care provider, depending on patient complexity. Thus, the intensity of HF care can be intensified or reduced as guided by the patient complexity and risk for negative clinical outcomes.

Hub and Spoke Model

A ‘Hub and Spoke Model’ (Figure 1) represents a continuum of care, whereby the patients move between the levels of care as guided by the level of HF complexity as described above. When patients are stable and require low intensity intervention, they can be managed by a PCP (spoke). As complexity increases, patients need to be managed within a ‘hub’. Furthermore, when a patient experiences worsening symptoms, timely referral to a hub for assessment and stabilization can help to avoid further deterioration requiring hospitalization.

Importantly, by providing a more integrated solution to care provision, the Hub and Spoke Model will help establish close working relationships among care providers who may be currently operating

in isolation, and thus foster opportunities for greater knowledge translation and exchange and capacity development. For example, specialists can also contribute to clinical skills development through bedside mentorship opportunities, the development and refinement of protocols and decision-support tools to implement practice guidelines, and promote quality assurance.

Summary

In summary, health care systems need to ensure they can meet the needs of an aging cardiac population who suffer from HF and may have complex needs. Specialized HF clinics are effective for improving clinical outcomes, but should not be considered the ‘one-stop shop’ for managing all patients with HF. Rather, specialty clinics are embedded within a larger ‘Hub and Spoke’ integrated system of care that includes enhanced primary care capacity and step approach that is guided by patient risk stratification.

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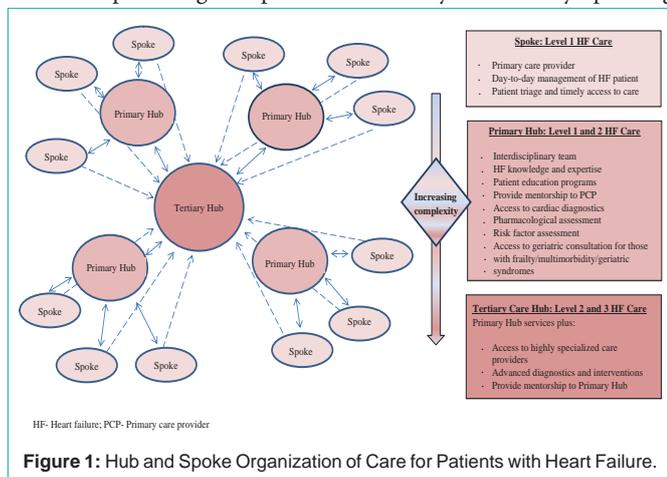


Figure 1: Hub and Spoke Organization of Care for Patients with Heart Failure.