

# The Challenge of Comprehensive Disease Management in Heart failure

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**R**ates of death and hospitalizations for heart failure remain high despite considerable advances in medical treatment [1]. There is a great medical and fiscal need to develop new strategies to prevent hospitalizations and reduce readmissions. Disease management has become increasingly recognized as an important strategy as health care providers search for better ways to manage chronic disease.

In their report in this issue of IMAJ Gotsman and co-authors [2] present the results of 1-year follow-up of 324 patients treated by a nurse-led heart failure clinic. Comparing patients in the HF clinic to the whole cohort of patients in Clalit Health Services in Jerusalem with a diagnosis of HF (N=6618), the main outcome was a reduced hospitalization rate, 29% vs. 42% ( $P < 0.01$ ) and a similar 1 year survival rate, 91% vs. 89%. In a subset of patients, 78 showed increased compliance to medical treatment and improved functional capacity. This non-randomized observational study with outstanding results highlights the problem of management of heart failure patients. Are we doing the right thing?

HF disease-management programs have included specialized nurse-led clinics with or without telemonitoring surveillance.

HF = heart failure

## SPECIALIZED CLINICS VS. REGULAR CARE

Specialized clinics, mostly nurse-led, provide collaborative team work and care coordination and their staff is trained to follow evidence-based treatment guidelines to proactively communicate with patients to help them understand and monitor their own disease and better follow treatment protocols. Specialized clinics have been reported to improve quality of life, prevent readmissions and improve medical outcome [3,4], as also shown by Gotsman et al. [2]. However, recent randomized clinical trials have questioned this paradigm [5,6].

## TELEMONITORING

Telemonitoring enables remote surveillance of patients with heart failure, facilitates early recognition of clinical deterioration, and enables early intervention to prevent hospitalization. This remote monitoring approach relies on routine surveillance of selected physiological indicators – usually weight, heart rate and blood pressure – and structured telephone support. While the ability of telemedicine to reduce all-cause hospitalization has been demonstrated by a Cochrane review [7], recent randomized trials have failed to support the claim that telemonitoring improves outcome [8,9].

In the near future external or internal sensors of the cardiorenal physiological indices [10,11] will be available; hopefully, incorporating these new techniques into telemonitoring systems will improve clinical surveillance and outcome.

Traditionally, face-to-face encounters between a provider and a patient have been the primary and only reimbursable form of health care delivery. One major

innovation for managing chronic diseases is to use other interactive telecommunication technologies, such as video conference together with physiological indices, which offers the potential of better clinical assessment and recommendations while reducing unnecessary face-to-face contacts between patients and medical personnel.

## OTHER MEASURES NEEDED TO IMPROVE DISEASE MANAGEMENT IN HF PATIENTS

### • 24 hour call center

Heart failure is a dynamic disease and patients need a quick medical response 24 hours a day, especially during out-of-office hours. Incorporating into a heart failure managed care system a nurse-led medical call center that can integrate clinical information from telemonitoring, medical records and video conference with the possibility to contact the primary care physician or other emergency services may prove to be an important component in the management of heart failure.

### • Reducing hospital readmission rates

Hospital readmission rates represent an important, if imperfect, proxy measure for poor-quality inpatient and outpatient care and poor care transitions. Linking hospital readmission rates to reimbursement is a complex issue that may have unintended negative consequences. Health care policy makers should pay careful attention to developing innovative measures for care transition and to refining readmission analyses used for hospital reimbursement [12].

Implementing a patient-centered care curriculum for residents on the inpatient general medicine service, which focuses

on the importance of knowing patients as individuals, to achieve safer transitions out of the hospital has been shown to reduce readmissions [13].

• **HF disease management programs in Israel**

As described by Gotsman et al. [2], Clalil Health Care Services (the largest of Israel's four health management organizations) has been implementing nurse-led specialized HF clinics in several districts in Israel. Maccabi Healthcare Services, together with Sheba Medical Center and the Gertner Institute of Health Policy Research has introduced the Comprehensive Heart Failure Disease Management Community Program, which consists of disease management led by nurse specialists in regional heart failure clinics as well as a national call center. Telemonitoring of body weight, pulse rate and blood pressure is performed at participants' homes. Implementation of this program was followed by a randomized controlled study [14]. Over 1500 HF patients have been recruited and results will be due in November 2012.

**WHAT DO WE NEED TO DO?**

Systematic study of the home-hospital circle of heart failure is still needed. The support of health policy makers and health providers together with new initiatives for training and reimbursement are needed in order to develop the optimal disease management that will decrease readmissions and improve quality of life for patients with heart failure.

Follow-up strategies for patients after discharge following hospitalization due to worsening of heart failure should include optimization of treatment, coun-

selling and education to improve adherence to treatment and promote adequate reactions to signs and symptoms by both the health providers and the patients.

Since effective daily self-management is important, patients should be taught how to interpret data from personal physiological indices. This will enable them to adjust their own diuretic regimen, much as patients with diabetes adjust their own insulin level.

The location where patients receive their routine treatment for heart failure may not matter as long as the quality of care is good. The role of specialized clinics may change, and their main role in the future may be to follow mainly the most severe HF patients. A dedicated team is needed to provide this service, including motivated cardiologists and nurses.

The role of telemedicine may change by transforming telemonitoring into a system for the patients themselves. Self-monitoring and self-managing is crucial to avoid the complications of this condition. Allowing patients to react to their own data based on preset therapy plans, and enabling them to connect to a medical call center 24 hours a day when they perceive a significant change in their condition could prove telemonitoring to be an effective and efficient tool.

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**“You only have power over people as long as you don’t take everything away from them. But when you’ve robbed a man of everything, he’s no longer in your power – he’s free again”**

Alexander Solzhenitsyn (1918-2008), Russian novelist, dramatist and historian. Through his often-suppressed writings, he helped to raise global awareness of the Gulag, the Soviet Union’s forced labor camp system – particularly in *The Gulag Archipelago* and *One Day in the Life of Ivan Denisovich*, two of his best-known works. Solzhenitsyn was awarded the Nobel Prize in Literature in 1970 and was expelled from the Soviet Union in 1974, but returned to Russia in 1994 after the Soviet system had collapsed