

As seen in Hospital News

Congestive Heart Failure: New Strategies for an Old Problem

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It is estimated that more than 5 million people in the US are living with heart failure (HF) and approximately 550,000 new cases of HF are diagnosed each year, according to the American Heart Association. This number will most likely rise because the risk of developing this disease dramatically increases with age. Thus, as the US median lifespan increases, the rates of chronic diseases like HF, and also the related conditions of hypertension and diabetes will also increase.

Determining the exact precipitating factor for heart failure produces an entire host of options for care, and sometimes results in controversies about which is best. Cholesterol has been blamed as the major cause of heart disease for decades, but HF has an exponential number of initiating factors. In recent years, much progress has been made in both the diagnosis and treatment of HF.

As consultants in the field, we've witnessed the onset of many innovative techniques in the rapid *assessment* of heart failure. Meanwhile, HF *treatment* has entered the new millennium with excellent results in pharmaceutical therapy and both interventional and surgical options as well. In fact, one might argue that the most revolutionary advances in cardiovascular medicine are targeted directly at HF.

New Strategies in the *Diagnosis* of Heart Failure

Multi-slice CT modalities: There has been great speculation regarding cardiovascular imaging modalities and their detection of structural and functional heart abnormalities. Radiology groups have displayed an overwhelming enthusiasm regarding these options; however, there is limited consensus from clinicians regarding the image quality produced, even by the most advanced CT scanners. The Cardiovascular Roundtable believes that these modalities will not reach full cardiac diagnostic capabilities for at least five more years.

Brain Natriuretic Peptide (BNP): A relatively new laboratory assay for the diagnosis of HF that uses BNP, a peptide released by the heart as a compensatory mechanism to overcome heart valve overload. Possible clinical use has been recognized for many years because the heart produces a more forceful contraction with less effort when the arteries and veins become dilated in the presence of BNP. This blood test has experienced very widespread use in the last several years and has become one of the most important in cardiology. BNP can also be performed as point-of-care testing in the Emergency Department to rapidly diagnose patients that present with HF-like symptoms.

BNP has also shown promising uses for the management of long-term heart failure therapies. This simple blood assay can reveal efficacy of heart failure treatment and long term prognosis as well. But, cardiac programs must work diligently with the Laboratory Medicine Department and pathologists to define responsibilities, policies, procedures, and quality assurance protocols for BNP testing.

New Strategies in the *Treatment* of Heart Failure

Nesiritide (Natrecor): Many heart failure patients can be successfully managed with typical cardiac medications; however, much sicker HF patients require intravenous medication therapy. The newest agent available is Nesiritide, a recombinant form of BNP. Though it has received FDA approval for the treatment of HF, Nesiritide is costly—as much as \$500 per day. *The Corazon National Benchmarking Survey* reports that almost half of the 101 CV programs surveyed indicated infusion therapy as a service in their outpatient HF treatment programs, but only 12 programs out of 28 indicated the use of Natrecor as one of their primary infusion modalities. In our experience, despite high costs, many progressive centers administer this medication. Of note, a decision to treat on an outpatient basis “robs” the hospital of revenues from an inpatient hospital stay.

Bi-ventricular pacemakers: Interventional and surgical treatment modalities have proved most promising for those HF patients that are unable to be managed with medication therapy alone. For example, bi-ventricular pacemakers have received a great deal of attention in the last two years, though they can only be used in patients meeting certain clinical criteria. The cost of a single bi-ventricular pacing device may reach upwards of \$50,000. Unfortunately, they are still considered a “novelty” item in many national markets and therefore obtaining these devices on consignment can be a complex and bureaucratic process.

Ventricular Assist Devices (VAD) and Transplants: For the distinct patient population where medical management has failed and the individual is in a declining state, sophisticated treatment strategies are available. Usually, due to cost and access issues, these advanced options for end-stage heart failure patients are available only at quaternary medical centers or academic facilities with cardiac surgeons trained in VAD and mechanical heart therapies, as well as cardiac transplantation. These are extremely cost-prohibitive therapies for most institutions, however the Centers for Medicare & Medicaid Services (CMS) have

recently approved greater funding for VADs. We advise keeping aware of the latest clinical trails and CMS legislation as to whether patient outcomes and cost containment strategies will allow for wider usage.

Heart Failure—One of the Most Utilized Models for DM

In our experience, outpatient heart failure clinics can be a great CV program development option, and are fast becoming one of the principal community outreach services for many hospitals. There has been much scrutiny in the start-up costs associated with developing such a program and questions about the loss of potential inpatient revenue when these patients are managed in a clinic or at home. But, Corazon believes that hospitals must work with payors to identify ways that reward organizations for keeping the HF patient out of the hospital.

Traditionally, hospitals have gained little financial incentives from preventing patient admissions or emergency room visits. There are recent studies that indicate that HF patients managed at home by advanced practice nurses have fewer hospital readmissions.

Many Corazon clients indicate that another barrier for a successful outpatient HF management program is the lack of patient referrals through a designated physician. In some markets, cardiologists feel it is unnecessary to refer patients to a program managing this chronic cardiac condition because they have their own expertise in the field. Therefore, these programs experience a lack of referrals and less than optimum quality ensues. So, in developing an HF clinic, it is necessary to secure an expert physician champion with strong collegial relationships with the local cardiologists.

HF provides an optimal disease management opportunity because it accounts for such a large number of hospital discharges and costs. In fact, as we report in our book, *Getting to the Heart of It: Proven Strategies to Bypass the Competition in CV Services*, among adults over age 65, heart failure is the number one reason for admission to a hospital, and over the past two decades, deaths due to this condition have increased over 140%.

Some of the newest technological advances in heart failure treatment involve outpatient disease management strategies using remote physiologic monitoring systems. Using a device that monitors the patient's weight, blood pressure, and other vital signs, data is transmitted via telephone lines to a case manager, who analyzes the information. Preliminary findings have revealed positive clinical outcomes for those patients using this technology and the process has been shown to reduce hospitalizations and healthcare costs in some situations.

Whether using advanced technology or more traditional approaches to ongoing care, in order for any disease management program to yield positive outcomes both fiscally and clinically, the model must have several elements in place:

- Appropriate patient identification
- Patient stratification
- A collaborative practice approach
- Education models for self management
- Outcome metrics

If just one of these facets is missing, the program may experience sub-optimal clinical outcomes and a loss of patient referrals

As CMS and third-party payers look to incentivize institutions for providing services in HF disease management, this type of health care delivery will likely become a central part of a population-based approach to managing health risks and costs across the entire delivery system. And though *most* of the pioneering treatments are likely to face delayed broad adoption for one reason—price—the future of HF diagnosis, treatment, and ongoing management is ever-advancing. Those CV programs that stay ahead of this curve will be best positioned to take advantage of new opportunities.



Ross is a Consultant with Corazon. Corazon is a national leader in specialized consulting services for CV program development from strategic business planning through clinical implementation. Corazon combines business planning, market and financial analysis, feasibility studies, clinical operations, Heart Hospital design, best practice benchmarking, and staff education for newly established or existing programs. Corazon is a 2003 Ernst & Young Entrepreneur of the Year Company. Call 412-364-8200 or visit www.corazon-consulting.com