



BC's HEART FAILURE NETWORK  
Quality care for quality life.

# BC's HEART FAILURE NEWS

JUNE 2011

A NEWSLETTER FOR PROFESSIONALS INTERESTED IN HEART FAILURE

## BC'S HEART FAILURE NETWORK ROLLS OUT HEART FAILURE STRATEGY

**AS IN MOST WESTERN COUNTRIES, THE BURDEN OF HEART FAILURE (HF) IN CANADA IS INCREASING, PRIMARILY AS A RESULT OF IMPROVED MEDICAL MANAGEMENT, IMPROVED DIAGNOSTICS, INCREASED SURVIVAL AMONG PATIENTS WITH HYPERTENSION AND CORONARY ARTERY DISEASE AND AN AGING POPULATION THAT ARE LIVING LONGER AND BECOMING MORE SUSCEPTIBLE TO HEART FAILURE. THE MOST RECENT ESTIMATES INDICATE THAT THERE ARE ABOUT 500,000 CANADIANS LIVING WITH HF AND 50,000 NEW PATIENTS BEING DIAGNOSED EACH YEAR. (Ross, Howlett, Arnold, 2006).**

BC HF prevalence rates are similar to national data and indicate that more than 90,000 patients are living with HF with this prevalence expected to double by 2030. HF is also one of the most expensive chronic diseases in BC with an annual estimated cost to the health care system of \$590M. HF is also the most common cause of hospitalization of people over 65 years of age and has an average one-year mortality rate of 33%. Accurate and timely diagnosis is critical to initiate treatment that will relieve HF symptoms, reduce hospitalizations, diminish costs and improve survival. A provincial strategy to improve HF services and care was developed in 2009 with Health Authorities commencing their implementation strategies in 2010. The three-year provincial strategy, led by Cardiac Services BC (CSBC), is based on an investment of \$7.58M.

In addition, a provincial centre has been identified at St. Paul's Hospital with responsibilities to lead acute HF management, collaborate on the development of provincial HF quality indicators, HF resources, guideline, tools, patient self management resources, education and research.

The main planning objectives for the provincial HF strategy include:

- ▶ Clear articulation and agreement on the roles and responsibilities of patients and providers (GPs, internists, specialists, other health providers)
- ▶ Development and dissemination of a common understanding of optimal heart failure management for providers and patients
- ▶ Facilitation of active self-management of the disease
- ▶ Promotion of the appropriate use of technologies in consultations and/or (virtual) care
- ▶ Targeting of areas of greatest need
- ▶ Development, implementation, measurement and evaluation of adherence to best practice protocols/treatment algorithms.

To provide coordination of HF services in BC, a conceptual model based on the "hub and spoke" model was proposed whereby there would be defined services in one location (e.g., spokes) with coordinated

access to specialized services in other locations (e.g. regional or provincial hubs). The care model is based on the principles of the “*Expanded Chronic Care Model*” that functions to ensure integration across the care continuum, creates supportive environments, activates communities, develops and builds self-management skills, engages proactive community partners and integrates information systems.

To support the implementation of the Provincial HF plan, five working groups have been established that include representation from across the province.

Purpose of each group:

- ▶ **Database Working Group** will identify a minimum data set, develop tools for data collection and evaluate key HF measures.
- ▶ **Diagnostic Imaging Working Group** will identify requirements for diagnosis and management of HF patients, gaps in imaging and provincial protocols or ordering tests.
- ▶ **Resource Development Working Group** will identify and develop HF quality indicators, to standardize HF order sets, protocols, guidelines, to develop tools and resources to optimize HF care and facilitate patients to self management of their disease.
- ▶ **Special Populations Working Group** will identify, develop and implement HF management strategies for specialized populations (specifically, Frail Elderly, South Asians, Chinese, Aboriginal populations).
- ▶ **Telecommunications Working Group** will identify, develop and implement strategies to improve access and connectivity to promote optimal HF management.

## HEALTH AUTHORITY HF LEADS AND CENTRAL HUBS

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### PROVIDENCE HEALTH CARE

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THROUGH THE VISION OF BC'S HF STAKEHOLDERS (THOSE INVOLVED WITH THE HF STRATEGY), THE PROVINCIAL HEART FAILURE STRATEGY HAS MOVED BEYOND A STRATEGY TO BECOME “BC'S HEART FAILURE NETWORK.” THE STAKEHOLDERS WITHIN THE NETWORK WILL WORK TOGETHER AT ESTABLISHING RESOURCES, SERVICES AND INFRASTRUCTURE TO DELIVER QUALITY CARE AND QUALITY SERVICES FOR HF PATIENTS ACROSS THE PROVINCE.

The number of people with heart failure is increasing throughout BC. To help meet this challenge, our BC's Heart Failure Network generates and shares accurate, current, and relevant heart failure information for health care providers and patients in BC. We will do this primarily through our central, online hub ([www.bcheartfailure.ca](http://www.bcheartfailure.ca)), which will contain BC and Canadian specific heart failure information including practice guidelines, expert advice and referral information. We're also working to improve access to diagnostics and specialized heart failure care throughout the province. We're called “BC's network” because we work for the people of BC who are living with heart failure to improve their health and well-being regardless of geography or cultural background. We are supported by the Provincial Health Services Authority and all of BC's regional health authorities.



## 5 THINGS YOU SHOULD KNOW ABOUT BC'S HEART FAILURE NETWORK

- 1 WE ARE A COLLABORATIVE, INTERPROFESSIONAL TEAM FROM ACROSS BC.**  
Supported by BC's health authorities, we are a BC-wide network of cardiac specialists, nurses, family physicians, and allied health care professionals. This team, along with Cardiac Services BC, created BC's heart failure strategy.
- 2 WE ARE COMMITTED TO BROAD EDUCATION & KNOWLEDGE SHARING.**  
We provide comprehensive and current information, guidelines, and practice tools for BC health professionals. We also provide accessible, culturally sensitive resources to ensure all patients and families have the opportunity to co-manage their heart failure care.
- 3 WE WORK WITH PRACTITIONERS TO STANDARDIZE QUALITY CARE IN BC.**  
We provide evidence and evidence-based tools to ensure all practitioners have the information they need to deliver the best quality care no matter where they practice in BC.
- 4 WE WORK WITH BC HEALTH AUTHORITIES TO ENSURE EQUITABLE ACCESS TO HEART FAILURE CARE.**  
Together, we are increasing human resource capacity and creating supports to ensure all patients in BC have timely access to heart failure diagnostics and speciality care.
- 5 OUR ULTIMATE GOAL IS TO IMPROVE THE HEALTH OUTCOMES OF BRITISH COLUMBIANS WITH HEART FAILURE.**  
Guided by the BC heart failure strategy, we seek to improve the health and quality of life of all heart failure patients living in BC.

For more information, contact: **Bonnie Catlin** RN MScN, Provincial Clinical Nurse Specialist • BC's Heart Failure Network  
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## PROVINCIAL HEART FAILURE WEBSITE

A NEWLY ESTABLISHED PROVINCIAL HEART FAILURE WEBSITE HAS BEEN CREATED FOR HEALTH CARE PROFESSIONALS CARING FOR PATIENTS WITH HEART FAILURE AS WELL AS FOR PATIENTS AND FAMILIES WHO ARE LIVING WITH AND CO-MANAGING THEIR HF CONDITION. THE WEBSITE WILL BE THE CENTRAL REPOSITORY FOR ALL HEART FAILURE RESOURCES, TOOLS, EDUCATION MATERIAL AND INCLUDE THE MOST UP-TO-DATE EVIDENCE BASED LITERATURE ON HEART FAILURE CARE. IT WILL ALSO SERVE AS THE PROVINCIAL COMMUNICATION TOOL FOR ALL HEART FAILURE EVENTS, WORKSHOPS AND NEW AND BREAKING RESEARCH.

[WWW.BCHEARTFAILURE.CA](http://WWW.BCHEARTFAILURE.CA)



Go live date for the website is slated for July 2011. For further information please contact Bonnie Catlin (Provincial HF Clinical Nurse Specialist) at [bcatlin@providencehealth.bc.ca](mailto:bcatlin@providencehealth.bc.ca)

If you wish to continue receiving subsequent newsletters please sign up for our e-newsletter on the homepage of our website when it goes live.

### NEW PROVINCIAL HEART FAILURE RESOURCES

Forms will be available on our website in July. If you want these forms before July, please contact: [bcatlin@providencehealth.bc.ca](mailto:bcatlin@providencehealth.bc.ca).



## Research Update

# RECENT ADVANCES IN THE MANAGEMENT OF HEART FAILURE IN 2011

Submitted by: Dr. Mustafa Toma

HEART FAILURE (HF) CONTINUES TO BE A MAJOR BURDEN TO THE CANADIAN HEALTH CARE SYSTEM. AS OUR POPULATION AGES, THE NUMBER OF CANADIANS LIVING WITH HEART FAILURE IS INCREASING WITH A PROJECTED DOUBLING IN THE PREVALENCE OF HF BY THE YEAR 2040. IN THE PAST 20 YEARS WE HAVE BEEN ABLE TO IMPROVE SURVIVAL AND DECREASE HOSPITALIZATION IN PATIENTS WITH HEART FAILURE BY USING BOTH PHARMACOTHERAPY AS WELL AS DEVICE THERAPY. THIS ARTICLE WILL HIGHLIGHT SOME OF THE RECENT ADVANCES IN HF CARE IN THE YEAR 2011.

### MEDICAL THERAPY:

#### *Systolic Dysfunction:*

In terms of medical therapy, the **EMPHASIS trial** will have a huge impact on the care of HF patients. This trial, which was recently published in the *New England Journal of Medicine*, showed that the use of the selective aldosterone antagonist **epplerenone in NYHA class II patients** on optimal medical therapy with LVEF < 30% and estimated GFR > 30 ml/min **had a significant 24% decrease in mortality as well as a 42% reduction in HF hospitalization after 3 years of therapy**. Although eplerenone was used in the study, the benefit of this drug has been extrapolated by many cardiologists to the generic and less expensive drug spironolactone in NYHA class II patients with low EF. Hyperkalemia was more common in the eplerenone group, suggesting that close monitoring of electrolytes is warranted.

The **FAIR-HF trial** tested the hypothesis that IV iron improves quality of life in patients with moderate HF symptoms and iron deficiency. **After 24 weeks of therapy, the group receiving IV iron showed improved symptoms as well as functional capacity without any increased adverse effects**. This trial suggests that this relatively inexpensive therapy should be used in HF patients with evidence of iron deficiency and moderate HF symptoms.

#### *Diastolic Dysfunction:*

To date, no trial has shown benefit in terms of reduction in mortality in patients with heart failure with preserved systolic function. The recent **I-PRESERVE trial randomized patients with moderate to severe HF symptoms and preserved systolic function (LVEF > 45%) to receive either angiotensin receptor blocker (ARB) irbesartan or placebo**. After 5 years of therapy, there **was no difference in death or cardiovascular hospitalization in the ARB group**. The goal of therapy in this difficult to treat HF population with preserved systolic function remains to controlling blood pressure, controlling heart rate, and using diuretics for symptom relief.

The number of Canadians living with heart failure is increasing with a projected doubling in the prevalence of HF by the year 2030.

### DEVICE THERAPY:

Two recent trials that have been published within the past year further **support the use of cardiac resynchronization therapy (CRT) in patients with moderate HF (NYHA II/III) and low ejection fraction (LVEF < 30%)**. In one trial (**MADIT-CRT**), **CRT use in addition to implantable cardioverter defibrillator (ICD) was superior to ICD alone in terms of improving survival**. Furthermore, the **RAFT trial** showed that the use of **CRT, in addition to ICD in NYHA class II patients was superior to ICD alone in terms of improving survival and decreasing hospitalizations in patients with mild-moderate HF (NYHA II)**. In subgroup analyses, the benefits of CRT seem to be limited to those with wide QRS (> 150 msec) and in those with left bundle branch block. These two trials extended the use of **CRT to the population of patients with NYHA class II HF symptoms**, which will result undoubtedly in an increase in the rates of implantation of these devices in the upcoming years.

These recent advances in pharmacotherapy and device therapy will hopefully result in a further improvement in outcomes for the Canadian HF population. However, Canadian physicians and health care workers will continue to face the challenges of identifying patients eligible for these life-saving therapies as well as finding the financial and clinical resources to provide expensive device therapies.

### Rural Practice

## A PRIMARY CARE PHYSICIAN'S PERSPECTIVE ON HEART FAILURE CARE

*Submitted by: Dr Bruce Hobson*

This patient story illustrates some of the challenges and successes rural primary care physicians have when caring for heart failure patients.

Dealing with a patient in acute heart failure can be a challenge in any health care facility but even more so at 2 in the morning in a rural emergency room. Mr. G was a 72 year old patient, living alone, who presented with worsening shortness of breath since dinner time. When I got the call from the ER nurse I was bleary eyed from having worked in the office all day then being the only

Dealing with a patient in acute heart failure can be a challenge in any health care facility but even more so at 2 in the morning in a rural emergency room.

family doctor on call in our hospital emergency room and I hadn't got much sleep in the last 24 hrs. As I drove to the ER I was on my hands free cell phone discussing the case with the ER RN and giving her orders to manage Mr. G's worsening condition. Once I arrived at the ER I assessed Mr. G and was faced with other challenges because at 2am there's no lab, no x-ray and no internist available on site to support the patient's care needs. If needed they can be paged in but that may mean waiting up to 45-60 minutes before they arrive at the hospital and the lab work or x-ray can be completed.

ER nurses in small rural hospitals function very independently but require advanced assessment skills to triage the ER patients and make the decision when to page the physician on call. This is an added burden as the nurses like the physicians have minimal support in their practice but acquire a wide range of expertise and can handle a variety of patient emergencies. We are also lucky to have a small ICU with knowledgeable and competent nurses who can deal with middle of the night issues using standard protocols and guidelines but if the patient deviates from the standard case they have to call and wake up a physician. Rural community hospitals have no hospitalist coverage on evenings and nights, so the responsibility remains with the on call primary care physician or the internist.

Fortunately we stabilized Mr. G with medication changes and patient self-management education. He was ready to go home in two days but there's no social worker to arrange any services. Again, it's up to the primary care physician to organize home support, home care nursing visits, follow up office visits and continuing education about his heart failure. I will see him in a week in the office; he'll only see the internist if he runs into any problems that are beyond my expertise. Home care nursing will start regular visits and send reports back to my office. It can be intimidating to know that caring for Mr. G was mainly my responsibility. Our internists are great but there's only two of them and we use them carefully so as not to burn them out.

The benefits of practicing in a rural community are the familiarity of knowing your patients history and the family dynamics; communication as the patient transitions across the care continuum is seamless as the primary care physician is responsible for all facets of their patients care. As well we are a tight knit community and Mr. G's friends and neighbors report to me about how Mr. G is managing since his discharge from hospital. I know that as rural primary care physicians we give the best care we can give the limited resources available to us; it is a practice I truly enjoy.



## End of Life Care

# PALLIATIVE CARE REDUCES MORTALITY IN HEART FAILURE?

Submitted by: Dr. Romaine Gallagher



Most healthcare professionals view palliative care as services offered to patients when they have exhausted all options for controlling their chronic disease. In heart failure (HF) this translates as palliative care being offered after the patient has had multiple hospitalizations for exacerbation of their symptoms despite optimal HF therapy.

There are now several studies suggesting that palliative care lengthens life. The most recent high-profile article was a randomized controlled trial of 107 patients with newly diagnosed metastatic non-small cell lung cancer who were randomized to early palliative care versus usual care. Both groups had similar amounts of chemotherapy. Patients who were in the early palliative care group had a higher quality of life ( $p=.03$ ), fewer depressive symptoms ( $p=.01$ ), less aggressive end of life care ( $p=.05$ ). The patients in the early palliative care group lived 2.7 months longer than usual care patients ( $p=.02$ ).

The other article was a retrospective analysis of Medicare data in the US comparing patients with the same diagnosis who did and did not use hospice services prior to death. In the US hospice is available to those with 6 months of life or less. A total of 540 patients with HF were followed for three years. The 83 patients who were enrolled in the hospice program lived an average of 81 days longer than the 457 patients who were not enrolled ( $p=.0540$ )

The use of palliative care services has an impact on both the patient and their loved ones. A matched retrospective cohort study compared the 18 month post-death mortality rate of over 30,000 spouses of individuals who did or did not use hospice services before their death. There was a small but significant reduction in the mortality rate for both husbands and wives.

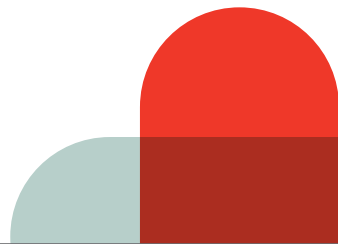
Clearly more research needs to be done but these studies suggest that palliative care has more to offer than most people expect.

These studies add to the substantial body of research showing that palliative care improves physical and psychological symptom management, caregiver well-being and family satisfaction. Small studies have shown dramatic cost savings from the introduction of palliative care consults teams. More recently, large studies on the health economic impact of palliative care teams have demonstrated that palliative care consultations reduce the costs of care significantly when com-

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pared to care without palliative consultation. Most interestingly, this same study showed the earlier in the disease trajectory the referral to palliative care came, the more the cost savings. Studies with hospice have also confirmed that earlier timing results in better family satisfaction with care. The “earlier the better” suggests palliative care services should be offered to patients much earlier in the disease trajectory than current practice reflects. Suggested ways to accomplish this is the subject of the next newsletter.

To obtain the references from this submission please contact [bcatlin@providencehealth.bc.ca](mailto:bcatlin@providencehealth.bc.ca)



## Nursing Update

# NURSE PRACTITIONER PRACTICE IN HEART FUNCTION CLINICS

Submitted by: Carol Galte, NP Fraser Health



Nurse Practitioners (NPs) contribute to the health of individuals and populations affected by heart failure. NPs in British Columbia (BC) are experienced, master's prepared nurses who have successfully completed a written examination and an oral structured clinical examination (OSCE). Protected title was first granted in BC in 2005 with the first licensing process under the College of Registered Nurses of British Columbia (CRNBC). In BC, there are three streams of NP practice: family, adult and pediatric, each with a defined set of regulations and scope of practice that provides for the autonomous diagnosis, investigation through ordering diagnostic testing, prescription of therapeutic treatments and ability to perform certain procedures.

The Canadian Nurses Association (2009) recognized the body of literature supporting the contribution of NPs to improving timely access to individualized, high-quality, cost-effective care. The education and experience of NPs promote their ability to function both independently and collaboratively as part of teams. Guidelines for heart failure (Canadian Cardiovascular Society, 2006) recommend involvement of multi-disciplinary disease man-

agement programs for complex patients. Nurse Practitioners have contributed too many of the positive outcomes demonstrated within these programs. The role is uniquely designed to blend health promotion and disease prevention with complex illness management and is particularly suited to the team-based model of care. NPs bring a complementary perspective to care provided by physicians and registered nurses.

NPs licensed in BC have education and experience in community and primary care settings and this perspective has the capacity to enhance care provided in specialty programs, particularly in light of the complexity of health care conditions in the heart failure population. In this capacity, NPs strive to promote the collaborative efforts of primary and specialty care.

While the majority of NP practice (up to 90%) involves direct patient care, NPs have capacity to lead quality initiatives that focus on population health. NPs often co-lead clinical teams and participate or lead the development of clinical protocols and models that reflect patient-centered care. They participate at the provincial and regional level on working groups and care teams. NPs promote the advancement of the discipline of nursing through education, role modeling and implementation of evidence based care. The roles developed through the HF network will serve to demonstrate the value of NP care with potential for integration with other care models in the province. It's an exciting time to be a nurse practitioner!



**UP  
CLOSE**

## LEARN MORE ABOUT OUR HEALTH AUTHORITY PARTNERS

### SHOWCASING FRASER HEALTH

*(Next issue: Northern Health)*

## FRASER HEALTH TAKES ON THE CHALLENGE OF HEART FAILURE CARE

**AS A PARTICIPANT IN BC'S HEART FAILURE NETWORK, FRASER HEALTH IS TAKING SOME EXCITING STEPS TO IMPROVE HEART FAILURE CARE FOR PATIENTS IN THE REGION. THROUGH THE ENGAGEMENT OF AN ADVISORY GROUP FROM ACROSS THE HEALTH CARE SYSTEM, THE CARDIAC PROGRAM HAS DEVELOPED AN AMBITIOUS PLAN TO PROVIDE INTEGRATED AND EQUITABLE QUALITY HEART FUNCTION SERVICES.**



Some important milestones have been achieved in the last year. A new heart function clinical service Hub was opened at the Royal Columbian Hospital in February of 2011, and the Surrey Memorial heart function clinic expansion and moved to the new Jim Pattison Outpatient Care and Surgery Centre in June of 2011.

These are inter-professional clinics designed to optimize the contribution of each health care provider to patient-centered care. Specialist nurses, pharmacists, dietitians, nurse practitioners and cardiologists will provide complementary team-based care in these ambulatory settings. Working in partnership, these clinics will serve as a resource for community care providers and other specialty clinics as well as provide direct consultation and ongoing care to patients with complex disease.

Other initiatives nearing implementation include a program for enhancing discharge transitions for heart failure patients, the Heart Failure Outreach & Support Team (HOST), and a patient engagement project for South Asian individuals with heart failure, a collaborative with the South Asian health initiative and women's health programs.

Planning this fall will focus on the development of local collaborative models of heart function care; with prototypes planned through bringing together specialists, family physicians and clients to develop models that reflect local needs and circumstances. Finally, as patients with heart failure cross multiple Fraser Health programs during the course of their disease process, the regional strategy will be working with programs such as end of life, residential care, home health and primary care, and seniors health to identify quality improvement opportunities at the population and individual care levels.

