

Welcome to the Cardiovascular Health Nova Scotia (CVHNS) e-mail bulletin, produced 3 times annually. The Bulletin has been created to share information about the program's activities, related cardiovascular health initiatives, and ideas from around the province.

TEMPORAL TRENDS IN HEART FAILURE MANAGEMENT AND OUTCOMES IN NOVA SCOTIA

It is estimated that over 500,000 Canadians are living with heart failure and more than 50,000 new patients are diagnosed each year. Heart failure is associated with significant morbidity, mortality, and use of healthcare resources. In the last decade, we have seen many new therapies emerge for the treatment of heart failure and the refinement of heart function clinics based on best practice recommendations from the Canadian Cardiovascular Society. However, recent evidence still suggests that many heart failure patients are undertreated. To help guide decisions at both the bedside and system-wide levels, there is a need for up-to-date epidemiologic information regarding our heart failure population in Nova Scotia. An improved understanding of current trends is essential for guiding care.

As such, in collaboration with CVHNS, Dr. Brian Clarke, a heart failure cardiologist at the QEII Health Sciences Centre in Halifax, and Chris Green, a medical student at Dalhousie University, led a study examining trends in heart failure management and outcomes in patients who have been admitted to a Nova Scotia hospital for heart failure between 2001-2011. The findings were first presented at Vascular 2013.

These patients are elderly (mean age 75.6 years), with higher rates of diabetes, hypertension, chronic obstructive lung disease, atrial fibrillation, and history of coronary revascularization over the past 10 years. Heart failure with preserved ejection fraction (>40% with echo evidence of diastolic dysfunction) is highly prevalent, accounting for more than 50% of hospitalizations.

The study also reports that Nova Scotia has the highest in-hospital mortality rate in Canada for heart failure (16.5% 2006-2011) and rates have risen by 2.5% compared to 2001-2005. The study authors offer possible reasons for this trend, including unmeasured changes in acuity of patients, changes in patient mix (i.e. increasing comorbid burden) and possible coding error in hospital diagnosis. Factors that strongly predict early re-hospitalization and/or death in the total population (<60 days from discharge), include: advancing age, female gender, diabetic, creatinine >180mmol/L, presence of ischemic heart disease, and anemia with

hemoglobin <100g/L. Lengths of stay have been relatively constant with an average length of stay for a heart failure admission of 15 days; much higher than the most recently reported national standard of 10-11 days (2003).

There have been increases in discharge prescription rates of beta blockers and aldosterone receptor blockers in heart failure with reduced ejection fraction, with approximately 75% of patients appropriately being discharged on beta blockers. However, ACE inhibitor discharge prescription rates in heart failure patients with reduced ejection fraction are declining. ACE inhibitor therapy in these patients is recommended in Canadian and all international heart failure guidelines; we are unable to explain this decrease. Three groups of patients were identified as being undertreated with current best practice evidence based heart failure pharmacotherapy: 1) patients with COPD, 2) patients with mild to moderate renal insufficiency, and 3) patients >65 years of age.

Recommended continued efforts include:

- investigation into why Nova Scotians experience lengthier hospital stays for heart failure,
- efforts to improve prescription rates of evidence based heart failure therapy at hospital discharge,
- and attempts to develop a discharge risk calculator to identify those at highest risk of early hospital readmission and/or death in order to prioritize and streamline follow up in provincial heart function clinics.

Dr. Brian Clarke, Heart Failure Cardiologist, QEII, Halifax, NS

Learning Opportunities

19th Annual Atlantic Canadian Cardiovascular Conference, May 30-31, 2014. Halifax, NS.

Tel: 902-494-7433 or mary.ann.robinson@dal.ca;
http://cme.medicine.dal.ca/17_acc.html

Annual Stroke Conference, June 5-6, 2014.

Charlottetown, PE. Tel: 902-892-7441 or
 scozier@hsfpei.ca

Canadian Council of Cardiovascular Nurses (CCCN) Spring Nursing Conference June 7, 2014, Calgary, AB. www.cccn.ca

Advances in Stroke Recovery, June 9-10, 2014, Ottawa, ON. www.canadianstroke.ca

CVHNS News

Rehab Shadowing

Throughout the fall, CVHNS and the Nova Scotia Rehabilitation Centre supported 18 staff from across the province to attend a two-day shadowing experience at the NSRC. Staff came from all disciplines at Restorative Care Units and Rehabilitation Centres across the province. By the end of this initiative, in addition to those who came in for shadowing in March, a total of 27 people will have had this opportunity. Overall the feedback and evaluations have been very positive.

Stroke Program Reflection Activity

In order to better understand and evaluate stroke service enhancements over the last five years, CVHNS asked all seven stroke programs to reflect on service enhancements for their DHA(s). Each

program completed a survey, with input from key stakeholders and stroke champions within their district(s) - most often input was gathered through the stroke steering/advisory committee. The survey asked districts to reflect on progress on key milestones for stroke care reorganization. Key factors contributing to the success of enhancements included: a dedicated, qualified stroke team; leadership from the physician champion and stroke coordinator; formalized protocols, ordersets and processes of care; and opportunities for networking and sharing work across Districts. Areas for continued focus include stroke rehabilitation, community reintegration and rapid assessment plans/processes for TIAs. Districts have been provided with a summary report which can be accessed through your Stroke Coordinator.

District Visits about Speech Language Pathology

Throughout the fall, CVHNS and Nova Scotia Hearing and Speech Centres engaged in dialogue with districts about dysphagia management and communication therapy. These consultations provided some insight into the accessibility and availability of these services and strategies for both districts and provincial staff to address challenges.

TIA Tools Update

CVHNS continues to work on the development of an algorithm and other tools to support best practice management of TIA. The draft tool has been circulated for district feedback. We hope to have the tool finalized and ready for distribution by the end of March.

Stroke Strategic Planning

All Districts (or pairs of Districts for those that share stroke unit services) have now completed stroke strategic planning, in partnership with CVHNS. Cape Breton and Annapolis Valley initiated stroke strategic plans and, based on their

success, CVHNS decided to support this work throughout the province using a consistent framework (the continuum of care), process and facilitator. Each District now has a strategic planning document which includes strategic priorities, outcomes, and objectives to guide activities for ongoing stroke service enhancement over the next 5 years. CVHNS will use DHA plans to assist with informing our own activities, including how we can address objectives that were identified by most/all Districts. The framework and these plans will also guide ongoing evaluation of stroke service enhancement.

Ability to Report Process and Outcome Indicators for Patients Receiving Lytics in the Ambulance

In partnership with EHS, CVHNS submitted an application to the Data Access Committee at the Department of Health & Wellness requesting permission to receive selected data fields from EHS. This will allow us to ensure the quality of the data we already collect, so we can accurately generate process of care and outcomes indicators for the RESTORE population. Our application has been approved and our 2012 data reports will include appropriate indicators broken down by whether lytics were administered in the ambulance or the Emergency Department.

Renal Function Cardiac Catheterization

In late 2012, CVHNS conducted an audit to determine why STEMI and NSTEMI patients were not referred for cardiac catheterization; one of the main reasons for non-referral was renal status. CVHNS' Advisory Council suggested we, with the Nova Scotia Renal Program (NSRP), develop guidelines related to referral for cardiac catheterization based on renal status. A working group comprised of representatives from CVHNS, NSRP and seven physicians representing interventional cardiology, internal medicine,

nephrology and radiology was struck to develop a protocol to guide referral in order to promote consistency in practice.

The committee recently met and a draft protocol has been developed. CVHNS and NSRP will seek input from other key stakeholders before finalizing the protocol and will work towards producing the final document by the summer of 2014.



CVHNS, DCPNS and NSRP: Recipients of the 2013 Hypertension Canada *Certificate of Excellence Award*

REMINDER:

May 17th is World Hypertension Day

We encourage you to plan a local Blood Pressure Challenge in the month of May to assist early detection of hypertension.

CVHNS will be sending out information on this year's challenge in the near future.

Come on Nova Scotia, Check It!

World Salt Awareness Week

March 10–16, 2014

www.worldactiononsalt.com

DHA News

IMPACT-AF Research Study

A new community-based Atrial Fibrillation (AF) research study is underway across Nova Scotia. Integrated Management Program Advancing Community Treatment of Atrial Fibrillation (IMPACT-AF) will transfer knowledge and expertise of specialized patient care from leading Nova Scotia researchers to front-line community care providers and patients through interactive web-based tools. Anticipated benefits include a reduction in CV hospitalizations and ED visits with enhanced quality of life for AF patients.

The research team, led by Dr. Jafna Cox, includes co-investigators from Capital Health (Dr. Ratika Parkash), Dalhousie University (Dr. Raza Abidi and Dr. Samina Abidi), McMaster University (Dr. Lehana Thabane and Dr. Feng Xie) and family practice (Dr. Jim MacKillip, Cape Breton). With a Bayer HealthCare investigator-sponsored research grant, IMPACT-AF is receiving guidance and expertise from a broad range of health system stakeholders, including CVHNS, Heart and Stroke Foundation, and the Department of Health and Wellness, and Doctors NS.

Despite the existence of Canadian best-practice guidelines, inconsistencies have been documented in the diagnosis, treatment and management of AF. IMPACT-AF will address care gaps through the use of a clinical decision support system (CDSS). The web-based tool will interpret patient profiles and, based on evidence-informed AF recommendations, guide care decisions by auto-calculating risk scores, prioritizing patient care needs with proactive personalized communications (e.g., suggesting referrals, specialist testing, medications changes,) as well as sending alerts, notifications, and reminders. To engage and empower patients, an application that

offers education, goal setting opportunities, alerts, reminders and motivational support is also planned.

IMPACT-AF will test the efficacy of the web-based decision support system through a cluster-randomized clinical trial. Community based primary care providers (n=200) from NS, and their patients (n=4,000), will be eligible to participate. Practices will be randomly assigned to the CDSS (intervention) or to continue with usual care for approximately 12-months. Data abstractors will visit each clinician's offices at baseline and study end to confidently review consented patients' charts and enter study-related clinical data into a study registry (housed by HITS-NS). This information will be used to populate patient profiles within the CDSS and examine study outcomes. Once proven effective, the CDSS technology has the potential to be applied to a host of other chronic conditions.

For more information visit www.impact-af.ca or 473-6309 or toll-free, 1-855-550-0557.

Helpful Resources

ACC/AHA PCI Performance Measures

Nallamothu BK, Tommaso CL, Anderson HV, et al. ACC/AHA/SCAI/AMA-convened PCPI/NCQA 2013 performance measures for adults undergoing percutaneous coronary intervention: A report of the American College of Cardiology /American Heart Association Task Force on Performance Measures, the Society for Cardiovascular Angiography and Interventions, the American Medical Association-Convened Physician Consortium for Performance Improvement, and the National Committee for Quality Assurance. *J Am Coll Cardiol.* 2013. doi: 10.1016/j.jacc.2013.12.003

AHA and ACC Prevention Guidelines

Stone NJ, Robinson J, Lichtenstein AH, et al. 2013 ACC/AHA Guideline on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults: A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *J Am Coll Cardiol.* 2013. doi: 10.1016/j.jacc.2013.11.002

Canadian Hypertension Education Program (CHEP)

Hypertension Canada. 2014 CHEP Recommendations. Available at <http://hypertension.ca/resources>, Accessed January 30 2014.

Commentaries on AHA and ACC Prevention Guidelines

Psaty BM, Weiss NS. 2013 ACC/AHA Guideline on the treatment of blood cholesterol: A fresh interpretation of old evidence. *JAMA.* 2013. doi: 10.1001/jama.2013.284203

Robinson JG. Accumulating evidence for statins in primary prevention. *JAMA.* 2013;310(22):2405-2406. doi: 10.1001/jama.2013.281355; 10.1001/jama.2013.281355.

Taylor FC, Huffman M, Ebrahim S. Statin therapy for primary prevention of cardiovascular disease. *JAMA.* 2013;310(22):2451-2452. doi: 10.1001/jama.2013.281348.

European Hypertension Guidelines

ESH/ESC Task Force for the Management of Arterial Hypertension. 2013 Practice guidelines for the management of arterial hypertension of the European Society of Hypertension (ESH) and the European Society of Cardiology (ESC): ESH/ESC Task Force for the Management of Arterial Hypertension. *J Hypertens.* 2013;31(10):1925-1938. doi: 10.1097/HJH.0b013e328364ca4c .

La Société Québécoise D'Hypertension Artérielle – English & French Editions Available

La Société québécoise d'hypertension artérielle (La SQHA). *Hypertension: Therapeutic Guide*. 4th ed. La SQHA, 2014. <http://www.hypertension.qc.ca/content.asp?node=323&lang=en>. Accessed January 30 2014.

Review Article: Cardiac Rehabilitation

Mampuya WM. Cardiac rehabilitation past, present and future: an overview. *Cardiovasc Diagn Ther*. 2012;2(1):38-49. doi: 10.3978/j.issn.2223-3652.2012.01.02

Innovative Ideas

Improving Wait Times for Echocardiogram

In an effort to reduce echocardiogram wait times at AVH, the Diagnostic Imaging Manager changed technologist's schedules from an 8-hour day, three days a week (with 2/3 staff working together) to a 14.5-hour day, Monday to Friday (with no staffing overlap). This was achieved by working with staff to eliminate scheduling overlap, thereby expanding staffing availability to support broader service availability. Overlapping staff was not enhancing productivity; there was only one machine and only one technologist was required for its operation. By removing the overlap, the manager was able to cover longer days, each day of the week. For more information, contact Andrea Cottrell, acottrell@avdha.nshealth.ca.

Forms Easily Accessible on your Desktop

This fall when the newly updated CDHA documents and pamphlets (*Cardiac Transfer Summary* form, the *24 Hour Cardiology Transfer Service* document, and the *Cardiology service* pamphlet) became available, CVHNS district coordinators were asked to assist CDHA in disseminating these improved versions in their districts. We were provided instructions to access the documents through the CDHA intranet. In

order to make the documents more readily accessible, I went directly to our units and made them available as icons on computer desktops. This works great in our District because clerks and staff typically organize frequently accessed forms on their computer desktops. I also used this method for all CDHA cardiac patient education pamphlets to ensure that nurses on units have easy access to all information. I created a folder ahead of time but this is a great way to organize. For more information contact Allison Kelly, allison.kelly@gasha.nshealth.ca.

New 24 hour Cardiology Transfer Service Form

Capital Health Cardiology staff recently updated their 24 Hour Cardiology Transfer Service: Transfer Summary form (CD1001MR_09_2013). The new form and 24 hour transfer service guide has been sent out to key stakeholders in all district health authorities to be implemented immediately. Capital Health has also produced a new patient pamphlet called *The Cardiology Service at the QEII* (WG85-0519) which can be used for 24 hour or direct transfer patients. The transfer summary form and pamphlet as well as other teaching materials are available on Capital Health's internet site. Visit <http://healthforms.cdha.nshealth.ca> or <http://library.cdha.nshealth.ca/chlibrary/> pamphlets. For more information, contact Lindsay Pottinger, lindsay.pottinger@cdha.nshealth.ca, or your local CVHNS District Cardiac Coordinator.

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