

The Bulletin

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.

TIME IS BRAIN: WHAT ARE BEST PERFORMERS IN NOVA SCOTIA DOING THAT CONTRIBUTES TO IMPROVED DOOR TO NEEDLE TIME?

All sites across the province have been making efforts to improve door to needle time for tPA in stroke. The overall Nova Scotia performance has improved over time, with 43.4 percent receiving tPA within 60 minutes in 2016. There is still lots of opportunity for improvement.

CVHNS has been holding meetings at regional sites throughout the province to facilitate the development of process maps of current care from hospital arrival to tPA. Comparisons of the process maps of the best performers to other sites reveal that the following factors/process changes likely contribute to the reductions in door to needle time. This is consistent with the process changes shown elsewhere to have effected significant change, so we know continued improvements are possible in the Nova Scotia context.

Here are some of the process changes from best performers in the province:

- Activating Code Stroke prior to the patient's arrival at the hospital, which involves notification of Diagnostic Imaging, Lab, etc.
- Emergency Health Services (EHS) pre-notification that they are transporting a patient experiencing stroke symptoms to the Emergency Department
- One call to activate Code Stroke (e.g., through switchboard)
- Code Stroke being a series of parallel processes with clear delineation of roles and not just a written protocol
- Taking the patient directly to CT on the EHS stretcher
- Registering the patient for CT after the CT is completed; more efficient order/entry in Meditech

Selected examples of the impact of changes

Valley Regional Hospital started implementing changes in 2015. Prior to changes (2014), 39 percent of stroke patients received tPA within 60 minutes of arrival. This increased to 50 percent in 2015 and 70 percent in 2017.

Aberdeen Hospital implemented changes in April 2018. Prior to change (January-March 2018), 50 percent of stroke patients received tPA within 60 minutes of arrival. Following changes (April-August 2018), this increased to 80 percent.

- Bypassing and finishing triage after the CT (sometimes after tPA)
- Bypassing registration

Best performers do more activities concurrently. Conversely, those with more room for improvement do activities in a more linear fashion, have room for clarity on who is responsible for activities, and transfer the patient from stretcher to bed more than once.

Given the number of sites that have implemented changes in 2017 and/or 2018 (and the preliminary data reported by these sites), we expect to see an increase in the percent receiving tPA within 60 minutes by more than 10% in subsequent years.

Since the CVHNS meetings, sites have engaged in a number of activities to continue this work. We will be sharing selected activities and learnings in our newsletters (starting with this issue) and through other avenues for spread of ideas.

Learning Opportunities

Certificate Program in ABI Rehabilitation Level One: Neurorehabilitation: Assisting Recovery & Function in Everyday Life Following Brain Injury, April 29 – May 2, 2019. Halifax, NS. <http://obia.ca/brock-university-certificate-courses/>

6th Annual Heart Failure Update, May 10-11, 2019. Montreal, QC. www.hfupdate.ca/

European Stroke Organisation Conference, May 22-24, 2019. Milan, Italy. <https://eso-conference.org/2019/Pages/default.aspx#.XBqbhsuWyzk>

Atlantic Canada Cardiovascular Conference, May 24-25, 2019. Halifax, NS. http://ac-society.org/wp/en/home_acs_en/

CCCN National Spring Nursing Conference Annual General Meeting, May 24-25, 2019. Winnipeg, MB. www.cccn.ca/content.php?doc=182

22ND Annual Clinical Day in Cardiology, June 7, 2019. Sydney, NS. Contact 902-567-8007

CVHNS News

Posters Presented at International and Local Meetings

Two poster abstracts were successfully submitted by CVHNS to the recent World Stroke Congress in Montreal:

- “Implementing an Online Education Program to Standardize Education for Stroke Nurses: From Pilot into Practice”
- “Using Algorithms and Accredited Education Sessions to Address Physician Knowledge Gaps Regarding Transient Ischemic Attack (TIA) Diagnosis and Treatment in Nova Scotia”

The World Stroke Congress is a biennial international meeting hosted by the World Stroke Organization. This year’s meeting welcomed over 2670 participants from 91 different countries.

These two posters as well as a third titled “The Evolution of Provincial Stroke Monitoring in Nova Scotia” were accepted for presentation at the Atlantic Canada Stroke Conference held November 2nd and 3rd, 2018 in Halifax. Two additional Nova Scotia posters also presented at that conference were “Reduced Door to Needle Time with Code Stroke Protocol at Aberdeen Hospital” which highlighted the recent quality improvement project in Aberdeen Hospital’s Emergency Department and

“Implementing the Helsinki Model to Improve Time to Lytics in a Regional Hospital in Nova Scotia” which described similar quality improvement at Valley Regional Hospital.

The Atlantic Canada Stroke conference hosted over 200 attendees from around the Atlantic Provinces and beyond.

Local Activities to Improve Door to Needle Time

Since the CVHNS meetings to develop process maps of door to needle for STEMI and stroke, many sites have been busy discussing, planning and implementing process changes. We plan to share updates and learnings in our Bulletin on a regular basis. We may not have information on every site in each issue; absence from the list does not mean the site is not engaging in quality improvement.

Cape Breton Regional

A small group of staff and physicians have been meeting to determine priorities for change for both stroke and STEMI.

- **Stroke.** They have chosen to work on improving door to CT time by taking patients to CT on the EHS stretcher. They are also revising their Code Stroke algorithm.
- **STEMI.** They have identified that recognizing STEMI with an atypical presentation is leading to increased times. Strategies to address this will be explored.

Colchester East Hants Health Centre

- **Stroke.** Plans are underway to develop an inpatient Code Stroke protocol. The Stroke Coordinator has audited tPA cases and reviewed the results with ED staff.
- **STEMI.** Planned next steps include: education support for new graduate staff around improving door to needle time; refocusing on performing ECGs in triage prior to transfer to other care areas; and events to share related data.

South Shore Regional

- **Stroke.** Strategies to improve door to needle and door to CT times are being discussed. Patients are now being kept on the EHS stretcher when they arrive. They are posting times, for ED staff to see, in close to real time.
- **STEMI.** The monthly performance report on door to ECG and door to needle times is now being presented and discussed at monthly medical meetings. This is facilitated by the Medical Director for the Department of Emergency Medicine.

St. Martha's Regional

- **Stroke.** “Coordinator Consult” has been added to the code stroke order set in the EMR and EFR and the stroke ED package. This allows the Stroke Coordinator to be notified each time a Code Stroke is activated so she can track/audit more closely.

Strait Richmond

- **STEMI.** The Cardiovascular Coordinator facilitated a meeting with local staff to develop a process map of care from arrival to lytic. Several issues were identified, some resolved and other plans initiated. Previously planned renovations will address identified physical barriers to patients being triaged first. A lytic box has been created that can be taken anywhere in the department. As well a sign has been made for the ECG machine on how to run a STAT ECG without having the registration process complete.

Cumberland Regional Health Care Centre

- **Stroke.** A Code Stroke protocol was recently rolled out in the ED, in partnership with Diagnostic Imaging, Laboratory and EHS. They recently had a staff education session to review current statistics and give staff an opportunity to discuss their experiences with Code Stroke.

Aberdeen Regional

- **Stroke.** As at St. Martha's, "Coordinator Consult" has been added to the Code Stroke order set in the EMR and EFR and the stroke ED package.
- **STEMI.** The Cardiovascular Coordinator, ED Manager and a nurse from ED reviewed charts of all cases which did not meet benchmark and then brainstormed improvement ideas. They are focusing on improving door to ECG time. Patients will have their ECG prior to registration and triage. Staff in the ECG department will add identifiers to the NSES system following the ECG.

Heart Failure Case Definition – Canadian Primary Care Sentinel Surveillance Network (CPCSSN)
CVHNS and the Maritime Research Network for Family Practice (MaRNet) have been working together since 2016 to develop an algorithm for identifying heart failure cases in primary care.

An expert working group was brought together to inform development of a heart failure case definition that was transformed into an electronic algorithm to be run in the electronic medical records. The algorithm was recently tested with MaRNet data from 10 practices across Nova Scotia. The expert working group met in January to review findings and discuss next steps. If this work is successful, it sets the stage for us to learn more about heart failure care in primary care in Nova Scotia as well as compare ourselves to other provinces participating in CPCSSN.

2017 Stroke Reports

Data cleaning for 2017 stroke data is well underway. Targeted reporting of selected indicators is expected in February.

Improving Acute Coronary Syndromes (ACS) Discharge Education at Colchester-East Hants Health Centre and Aberdeen Regional Hospital

Patients being discharged home after a first time admission for ACS have a variety of learning needs related to secondary prevention. These include lifestyle changes, pharmacological intervention and the need for follow up and attendance at a cardiac rehabilitation program. In 2016, 7.1 percent of acute myocardial infarction patients and 13 percent of heart failure patients discharged in the Colchester-East Hants area were re-admitted for a cardiac event within 30 days of discharge. The local Cardiovascular Coordinator wondered how well patients were prepared for discharge home and to safely care for themselves while waiting to participate in the cardiac rehabilitation program.

An informal needs assessment was conducted through interviews with team leads, cardiac rehabilitation, and frontline staff at Colchester-East Hants Health Centre. Frontline nursing staff expressed a lack of understanding of available resources, availability of cardiac rehabilitation programs, and knowledge of what is appropriate information for patients. Many staff also expressed a lack of confidence with patient teaching as they themselves self-identified as being too new to be considered experts.

In partnership with the Cardiac Rehabilitation Nurse, education sessions were held with frontline staff in Colchester-East Hants Health Centre. Sessions included how to refer to the cardiac rehabilitation programs and an ACS discharge teaching strategy and teaching checklist based on the Teach Back method was developed. Expected answers for the Teach Back questions were provided to the nurses as a tool to prepare for teaching. Teach back is an evidence based health literacy intervention healthcare providers can use to confirm that the information provided to the patient was clear, understandable, and has met the patient's needs.

Catch up on any issues you may have missed. Past issues of the CVHNS bulletin can be found online [here](#)

Additionally, a resource binder was created with an index of all available NSHA patient handouts related to cardiovascular disease. These were listed for quick retrieval from the online library. Also included in the resource binder are resources to support referrals to cardiac rehabilitation and smoking cessation programs.

A similar session was held at Aberdeen Regional Hospital. In follow-up, the Interprofessional Practice Clinical Nurse Specialist and ICU Team Lead are working on a survey to use with patients returning from cardiac catheterization. The focus of the survey will be on patient satisfaction with discharge education and what they felt was most valuable in preparing them for discharge. Once tested at this site, it will be rolled out at Colchester-East Hants Health Centre. For more information contact sara.tucker@nshealth.ca.

Helpful Resources

Andrade JG, Verma A, Mitchell LB, et al. 2018 Focused Update of the Canadian Cardiovascular Society Guidelines for the Management of Atrial Fibrillation. *Canadian Journal of Cardiology*. 2018; 34 (11):1371-1392.

Quinn FR, Gladstone DJ, Ivers, NM, et al. Diagnostic accuracy and yield of screening tests for atrial fibrillation in the family practice setting: A multicentre cohort study. *CMAJ Open*. 2018; Jul-Sep; 6(3): E308-E315.

Heart and Stroke Facebook Groups

Community of Survivors is a members-only Facebook group for people living with heart disease or stroke. *Care Supporters' Community* is also a members-only Facebook group for caregivers to share, support and lean on each other. Read about these two groups at www.heartandstroke.ca/heart/recovery-and-support/the-power-of-community.

Open-Access Journal Launches in 2019

Launching in 2019, the *CJC Open* is a brand new open access journal established by the Canadian Cardiovascular Society (CCS) as a sister publication to the *Canadian Journal of Cardiology* (CJC) that publishes original reports of clinical and basic research relevant to cardiovascular medicine, as well as editorials, case reports and papers on health outcomes and health policy issues. www.cjcpopen.ca/.

NEW Blood Pressure App

GETDOWNBP is a community initiative that provides online tools which include a mobile health app, blood pressure tools and tips, educational resources, and heart-healthy recipes. Find out more about this initiative [here](#) and [download](#) the app.

Canadian Cardiovascular Society's All-In-One Guidelines App

iCCS is the all-in-one guideline app for the CCS' most popular guidelines and contains guideline summaries, introductory videos, clinical calculators, useful drug tables and clinical trial summaries designed to facilitate the adoption of guidelines into daily clinical practice. Download the app [here](#).

NEW Stroke App

The ViaTherapy app identifies best practice management and evidence-based recovery interventions for stroke patients with upper extremity impairment. For more information visit <http://www.viatherapy.org/>.

Innovative Ideas

Cape Breton TIA Clinic

Cape Breton stroke staff were noticing an increase in the number of patients admitted with transient ischemic attack (TIA). Were Emergency Physicians aware that often the workup for TIA can be completed as an outpatient? The Stroke Coordinator and Neurologist developed a one-page memo for Emergency Physicians outlining when a TIA patient might require admission as well as how

to refer a patient to their TIA clinic and the medications and tests to order for the patient prior to their clinic appointment. They also attached the TIA algorithms developed by CVHNS which are based on the *Canadian Best Practice*

Recommendations for Stroke Care. The memo was followed up with a presentation at a meeting with Emergency Physicians. For more information, please contact jennifer.white@nshealth.ca.

Quality Dashboard

The Stroke and Cardiovascular Coordinators in Truro worked with the Decision Support Analyst to develop a quality 'dashboard' for stroke and cardiovascular data. Data from CVHNS annual reports and the reports built in to the CVHNS STEMI and stroke databases (reports are generated locally through Coordinators) were turned into simple graphs and visuals for ease of interpretation. The "dashboard" includes performance on door to needle time for both stroke and STEMI. For more information contact Sara.Tucker@nshealth.ca or Meaghan.Bushell@nshealth.ca.

REMINDER

February
is
Heart Month

CONTACT US

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