NOVA SCOTIA

CardioVascular HEALTH NOVA SCOTIA

The Bulletin

IMPROVING CARDIOVASCULAR HEALTH OF NOVA SCOTIANS

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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.

New Information on Stroke Thrombolysis

The results of the largest-ever randomized controlled trial of intravenous (IV) alteplase (or tissue plasminogen activator, t-PA) for the treatment of acute ischemic stroke - the third International Stroke Trial (IST-3)[1] - were released in May 2012. Concurrently, an updated systematic review and meta-analysis[2] were published to place the results of IST-3 in the context of the evidence from all the trials of t-PA for acute ischemic stroke.

Who was in IST-3?

IST-3 was a pragmatic, multicenter, randomized-controlled, open-treatment trial of IV t-PA within six hours of stroke onset that enrolled 3035 patients from 156 centers (including Halifax) in 12 countries. Fifty-three percent (53%) of the patients were older than 80 years of age. All participating hospitals had to have an organized system of stroke care but 51% of centers had treated fewer than three people with t-PA in the 12 months before joining the trial. Twenty-eight (28%) of the patients were randomized within three hours of stroke onset, 33% were between 4.5 and six hours of onset, and 81% had middle cerebral artery stroke syndromes.

What did IST-3 show?

At six months, the odds of surviving with less disability were 27% greater for patients treated with t-PA ($p=0.001$), despite the occurrence of symptomatic intracranial hemorrhage (SICH) in 7% of the t-PA group (versus 1% of controls). Benefit was greatest in patients treated within three hours but there was insufficient statistical power to examine decay of benefit with time. Patients randomized in centers classed as experienced and inexperienced had similar outcomes, and patients older than 80 years benefited at least as much as younger patients.

What does the totality of the evidence tell us about stroke thrombolysis?

For patients who receive intravenous t-PA within six hours of stroke onset, an additional 42 patients per 1000 treated will be alive and independent several months later ($p=0.001$). This treatment effect compares

favorably with that of thrombolytic therapy for suspected acute myocardial infarction which, at 35 days, saves the lives of about an additional 30 patients per 1000 treated within six hours of symptom onset[3]. For stroke patients treated within three hours, the absolute benefit is 90 per 1000 patients treated. SICH, which occurs in 7.7% of t-PA patients, is the single largest hazard of treatment but this complication is not more frequent among those treated after three hours than those treated earlier.

What's next?

Identifying how to avoid SICH is a priority. This and other persisting questions, including for whom the treatment window can be extended to six hours, are being addressed in an analysis of individual patient data from all the trials of IV t-PA treatment. Future trials of recanalization therapies to better the effects of IV t-PA may be expected to examine alternative doses and routes of t-PA administration, different thrombolytic drugs, mechanical thrombectomy, and the use of advanced imaging techniques to guide treatment decisions. It is unclear if IST-3 will result in any changes to current guidelines around tPA; updates to the Canadian Best Practice Recommendations for Stroke Care in this area will be released in the fall of 2012 at www.strokebestpractices.ca.

[1] The IST-3 Collaborative Group. The benefits and harms of intravenous thrombolysis with recombinant tissue plasminogen activator within 6 h of acute ischaemic stroke(the third international stroke trial [IST-3]): a randomized controlled trial. *Lancet*. June 2012; 379(9834): 2352-2363.

[2] Wardlaw JM, Murray V, Berge E et al. Recombinant tissue plasmingen activator for acute ischaemic stroke: an updated systematic review and meta-analysis. *Lancet*. June 2012; 379(9834): 2364-2372.

[3]. Fibrinolytic Therapy Trialists' (FTT) Collaborative Group. Indications for fibrinolytic therapy in suspected acute myocardial infarction: collaborative overview of early mortality and major morbidity results from all randomised trials of more than 1000 patients. *Lancet*. 1994; 343: 311-22.

Stroke Thrombolysis: 2012 Update

- Treatment of an acute ischemic stroke with IV t-PA significantly increases the likelihood of surviving with less disability.
- Early treatment is best.
- The latest time window for benefit remains unclear; the Canadian Best Practice Recommendation remains unchanged at 4.5 hours.
- Previously independent patients older than 80 years benefit at least as much as younger patients.
- Outcomes are similar in experienced and inexperienced centers.
- The Stroke Thrombolysis Trialists Collaboration is conducting an analysis of individual patient data from all the trials of t-PA to provide better guidance for clinical decision-making in routine practice.

Learning Opportunities

Heart and Stroke Clinical Update
December 7-8, 2012. Toronto, Ontario
www.heartandstroke.on.ca

IHI National Forum on Quality Improvement in Healthcare
December 9-12, 2012. Orlando, Fl.
www.ihi.org/offerings/Conferences/Forum2012/Pages/default.aspx

CVHNS News

Blood Pressure Challenge 2012

The *Come on Nova Scotia… Check It! Blood Pressure Challenge*, during the month of May, was spearheaded by the Diabetes Care Program of Nova Scotia, Cardiovascular Health Nova Scotia and the Nova Scotia Renal Program. Employers throughout Nova Scotia were encouraged to challenge their employees to have their blood pressures checked, learn more about blood pressure and use provincial *My Blood Pressure* tools (wallet card and pamphlet). Challenge Kits were developed with instructions on how to implement a challenge at a workplace. The kits included:

- *My blood pressure* stickers, wallet cards and pamphlets for staff.
- Promotional materials (poster), sample messages for emails, newsletters, bulletin boards.
- Ballots for participants.
- Tally sheets for coordinator.
- Samples of blood pressure challenges.
- Measuring Blood Pressure The Right Way cards.
- Get the Facts on Sodium handouts.
- A Blood Pressure Management Algorithm.
- *Come on Nova Scotia…Check It!* T-shirts.

Forty–two challenge kits were requested from across the province - from district health authorities, First Nation Health Centres, VON, not for profit associations and private industry. Many of the organizers reported that the challenge was successful due to support of leadership in the organization, teamwork, good advertising (radio spots, press releases, emails, posters) and incentives (especially prizes: BP monitors, movie passes, Tim's cards, YMCA membership, gift baskets, t-shirts etc.).

Organizers of the challenge were asked to fax back their blood pressure tally sheets. We have heard back from 29 of the participating organizations; approximately 1800 blood pressures were checked (range of 7-485 per challenge). Tally sheets indicated whether or not the blood pressure was elevated (>140 mm Hg systolic or >90 mm Hg diastolic); 17% of the blood pressure readings were elevated. Anyone with an elevated blood pressure (especially if previously undiagnosed) was asked to follow up with their family physician.

World Hypertension Day is held on May 17th each year…..we hope more Nova Scotians will be up for the challenge in 2013.

Heart Failure Documentation Standards

This past Spring, the Models of Care Initiative brought stakeholders from each DHA together to develop Provincial Clinical Documentation Standards and a template for documentation standards for specific patient populations. Heart Failure was chosen as the first population for using the template to develop documentation standards. CVHNS has convened a small working group to further develop the documentation standards, based on a first draft from the Spring workshop. This Fall, we will be seeking broader input from a variety of settings – acute care, heart function clinics/services and primary health care. If you are interested in being a reviewer, please contact us at cvhns@cdha.nshealth.ca.

Improving the timeliness of administration of lytics for STEMI and Ischemic Stroke

Over the past year, CVHNS has been working with both stroke and cardiac coordinators to implement quality improvement initiatives aimed at improving door to ECG/CT (for STEMI and stroke respectively) and door to needle times. In both

cases, a forum held in the fall of 2011 generated a plan which has since been put in place and monitored.

There are some successful overarching strategies that have made a clear difference in each district. Some of those strategies include:

- Involving staff from multiple departments in the improvement process (clerical, porters, Diagnostic Imaging, Laboratory, ECG, Emergency Department, etc.).
- Protocolize care ("Code Stroke", algorithms etc.). Clearly define roles and expected timelines for care.
- Good, open, consistent, and regular communicaiton about the process, including staff education.
- Regular feedback on data – as close to real time as possible.

Some more specific actions that have been helpful include:

- Regularly synchronize clocks to ensure accurate data collection and reporting.
- Develop "lytic boxes".
- Triage first in Emergency Department.
- Advance notification of arrival by ambulance.
- One stop paging notification of relevant staff.

Congratulations to all the district teams for their continued hard work to improve care for Nova Scotians.

DHA News

Creating Direction for the Future: Strategic Planning

Both the Annapolis Valley Health Cardiac Program and Cape Breton District Health Authority Stroke Program have completed strategic plans in the past year. The goal of strategic planning is to provide a framework to support the various initiatives already underway related to cardiac and stroke and, most importantly, a shared vision for moving forward.

Creating a strategic plan is an involved process requiring organization, facilitation and follow-up once the actual planning days are complete. In both districts, an outside facilitator was hired to provide guidance and feedback for all aspects of the planning process. The facilitator selected in both districts has experience with strategic planning at the district level, and a solid understanding of the overall direction of both the cardiac and stroke programs in Nova Scotia.

Several factors were considered instrumental in the success of these planning days:

- Adequate representation from across the continuum of care, across all relevant disciplines, and across the district, including senior management.
- The presence of an external facilitator was helpful in maintaining focus.
- Adequate room for large and small group discussion, as well as adequate breaks with food helps to keep participants engaged.
- Adequate time – either during the planning day(s) or beforehand - to complete the stated objectives. CBDHA opted to do more pre-work and have only one focused day of strategic planning. AVH opted to do less pre-work, but have two days of strategic planning.
- Having a focused agenda with clear objectives for the day. Tangible outcomes, like the creation of strategic priorities, linked to the stated objectives help participants to immediately see the benefit of the day.

The final strategic plans were prepared by the facilitator and have been presented to senior management in both districts. They are used as a

framework for moving forward and are an active tool in the day-to-day work of each program. Overall, the strategic planning process was extremely beneficial and provided a forum for stakeholders from across the continuum of care to be involved in planning for the future. For more information, contact Tina at tvardy@avdha.nshealth.ca or Tracy at macgillivaryt@cbdha.nshealth.ca

Helpful Resources

CADTH Report on New Anticoagulants
Canadian Agency for Drugs and Technologies in Health. Safety, effectiveness, and cost-effectiveness of new oral anticoagulants compared with warfarin in preventing stroke and other cardiovascular events in patients with atrial fibrillation. Available at: http://www.cadth.ca/media/pdf/NOAC_Therapeutic_Review_final_report.pdf. November 20, 2012.

CADTH Report on Anticoagulation Monitoring
Canadian Agency for Drugs and Technologies in Health. Anticoagulation monitoring and reversal strategies for dabigatran, rivaroxaban, and apixaban: A review of clinical effectiveness. Available at: http://www.cadth.ca/media/pdf/TR0002_New_Oral_Anticoagulants.pdf. November 20, 2012.

CADTH Report on Oral Anticoagulants in Patients with Atrial Fibrillation
Canadian Agency for Drugs and Technologies in Health. New oral anticoagulants for the prevention of thromboembolic events in patients with atrial fibrillation. Available at: http://www.cadth.ca/media/pdf/tr0002_New-Oral-Anticoagulants_rec_e.pdf. November 20, 2012.

Stroke Prevention for Patients with Atrial Fibrillation
PeerView Press. inSession: Improving clinical decisions in stroke prevention for patients with atrial fibrillation. Available at: http://www.peerviewpress.com/improving-clinical-decisions-stroke-prevention-patients-atrial-fibrillation. Accessed on July 31, 2012.

2012 ACCF/AHA Focused Update Unstable Angina and Non-ST Elevation Myocardial Infarction
Jneid H, Anderson JL, Wright SR, et al. 2012 ACCF/AHA focused update on guideline for the management of patients with unstable angina/non-ST elevation myocardial infarction (Updating the 2007 guideline and replacing the 2011 focused update): A report of the ACCF/AHA. *Circulation*. Aug 14, 2012; 126(7): 875-910.

Innovative Ideas

New Antiplatelets: Safe Integration of Ticagrelor at Annapolis Valley Health
As the evidence around new antiplatelets grew, and the *Atlantic Canadian Guidelines for the Acute Use of Oral Anti-Platelet Therapy in Patients With Acute Coronary Syndromes* document were released, our physician group was faced with the challenge of integrating the new antiplatelets safely into our current practice. Physicians at Annapolis Valley Health decided to limit prescription of ticagrelor to internal medicine physicians who will decide on the timing of and transition over to ticagrelor from clopidogrel based on clinical circumstances. By adding ticagrelor to our hospital formulary with this limitation, we have eliminated the risk of confusion in a busy emergency department and trying to ascertain whether a patient is suitable for ticagrelor versus clopidogrel. For more information, contact Tina Vardy at tvardy@avdha.nshealth.ca.

Patient Assessment of Chronic Illness Care (PACIC)

South West Health's Primary Health Care – Chronic Disease Management Working Group administered the PACIC to 169 individuals receiving chronic illness care within the following programs and services: cardiovascular, renal, diabetes, respiratory, chronic pain, mental health, cancer, and rehabilitation.

The PACIC, a 20-item questionnaire, was developed by Wagner[1] et al. and can be used to assist health organizations in implementing changes and evaluating related success. The tool is aligned with the Chronic Care Model, and is completed by patients, with responses broken into 5 sub-scales: Patient Activation, Delivery System Design/Decision Support, Goal Setting, Problem-Solving, and Follow-up/Coordination.

Staff consultations have taken place with the majority of programs and services represented to discuss and provide feedback on findings from the PACIC report[2]. Moving forward, these results will help guide chronic disease management programs and initiatives at South West Health with a vision to re-administer the PACIC on a regular basis to ensure quality improvement across the district. For more information contact, Michele LeBlanc at 742-3542 ext. 1512 or leblancm@swndha.nshealth.ca.

[1]Glasgow RE, Wagner EH, Schaefer J, et al. Development and validation of the patient assessment of chronic illness care (PACIC). *Med Care.* 2005;43:436-444.
[2]Jones, S. Patient Assessment of the Implementation of the Chronic Care Model in South West Health. Stan Jones Consulting. May 2011.

SSH was up for the Challenge!

Susan Atkinson, CVHNS Cardiac Coordinator and Schelene Swinemar, Stroke Program Coordinator were pleased with the outcome of the 10-day blood pressure challenge they organized at SSH; 485 staff members participated in the challenge - the highest number of blood pressures checked in any of the twenty nine challenges held in Nova Scotia! Keys to the success of this initiative included:

- Teamwork.
- Advertising the challenge locations via email.
- Placing challenge packages with ballots and a tally sheet on all units that had the clinical ability to properly check blood pressure.
- Offering blood pressure clinics at all sites in the DHA over a 10-day period.
- Encouraging staff to "lead by example" and have their blood pressure checked.
- Obtaining financial support from the Health Services Foundation to purchase prizes (4-$25 gift cards).

For more information contact satkinson@ssdha.nshealth.ca or sswinemar@ssdha.nshealth.ca.

Just Released:

***New* Universal Definition for Myocardial Infarction**.

Thygesen K, Alpert J, Jaffe AS, et al. Third universal definition of myocardial infarction. *European Heart Journal.* 2012; 33(20): 2251-2567

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