ANNUAL REPORT //2014

ontario stroke network

Advancing the Ontario Stroke System

ONTARIOSTROKENETWORK.CA

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every 10 minutes someone
has a stroke in Canada

LETTERS FROM LEADERS

Since the Ontario Stroke Network (OSN) was created six years ago, our vision of fewer strokes, better outcomes has moved increasingly closer to reality. This has only been possible through the dedicated work of health care professionals and decision makers working together to enhance the stroke care system in Ontario.

In 2013, the Ontario Stroke Evaluation Report (OSER) was released, showing significant and steady improvements in health outcomes and positive trends in the rehabilitation sector. Annual health system savings are estimated to be $27 million.

The next iteration of the Local Health Integration Networks (LHIN) Stroke Report Cards was also released. The report cards, first introduced by the OSN in 2011, grade the delivery of stroke care for each of Ontario's 14 LHINs. The report cards are critical to supporting the Regional Stroke Networks in driving improvements in access to best practices and patient/health system outcomes at the LHIN level. The report cards have effectively engaged the Ontario Regional Stroke Networks (ORSN) and LHINs in a dialogue relating to stroke system improvement.

The OSER also provided the first comprehensive review of Secondary Prevention Clinic (SPC) care across the province. It included analysis of more than 16,000 patient visits across 40 SPCs in 2011/12. The report provides a spotlight on stroke prevention and identifies areas of progress and opportunities for improvement. Overall, the results show marked improvements in outcomes compared to the expected course/outcome for stroke/TIA following an emergency department (ED) visit.

The SPC audit showed us:

- 94% of stroke patients received the required brain imaging and 84% the required imaging of the carotid artery
- 80% of stroke patients with atrial fibrillation have anticoagulant therapy prescribed or recommended
- Less than 2% of patients referred to secondary stroke prevention clinics are re-admitted to hospital for stroke within 30 days, compared to 5% prior to the establishment of these clinics.

The Hypertension Management Program's (HMP) current scope includes 24 primary care clinics and 14 aboriginal health centers. That equals 38 active, participating sites. The HMP has also developed a new website with all the latest information and resources: ontariostrokenetwork.ca/hmp.

In vascular health, great progress has been made in engaging the LHINs in the development of Regional Vascular Health Collaboratives in support of integrated vascular healthcare across Ontario.

In previous Annual Reports, challenging goals and targets to improve stroke care. were established. For example, by December 2016, we aim to reduce stroke hospitalization to 1.14/1,000 of the population as well as increasing access to stroke units to 76 per cent. You can view our current progress on these goals on pages 14-15.

We invite you to peruse our third Annual Report and experience first-hand our accomplishments. Please visit our website at *ontariostrokenetwork.ca* and connect with us on Twitter (*@ONStokeNetwork*). Subscribe to our *enewsletter* for the latest information on stroke and the OSN.

Most of all, stay in touch! You can email us at *info@ontariostrokenetwork.ca*.

Malcolm Moffat
Chair

Christina O'Callaghan
Executive Director

the Ontario Stroke System
has saved hundreds of lives, thousands
of hospitalizations and hundreds
of millions of dollars

Malcolm Moffat
Chair, Ontario Stroke Network

OUR ACCOMPLISHMENTS

The Ontario Stroke Network (OSN) continues to make significant progress on its strategic directions and provincial work plan. This section outlines key OSN progress and achievements relating to the FY 13/14 work plan.

EVALUATION

2013 ONTARIO STROKE EVALUATION REPORT

The *2013 Ontario Stroke Evaluation Report* provided the first comprehensive review of secondary prevention clinic care across the province as collected through the Ontario Stroke Audit of Secondary Prevention Clinics (OSA-SPC). The OSA-SPC included more than 16,000 patient visits across 40 SPCs in 2011/12. The report provides a spotlight on stroke prevention and identifies areas of progress and opportunities for improvement. Report highlights include:

Stroke Prevention Clinics

This first-ever audit of Ontario's SPCs provides baseline data, examining and reporting on the processes and impacts of care.

Overall, the results show marked improvements in outcomes compared to the expected course/outcome for stroke/TIA following an emergency department (ED) visit. There have been improvements in rates of secondary prevention care following the establishment of SPCs clinics as follows:

- 94% of stroke patients received the required brain imaging and 84% the required imaging of the carotid artery
- 80% of stroke patients with atrial fibrillation have anticoagulant therapy prescribed or recommended
- Less than 2% of patients referred to secondary stroke prevention clinics are re-admitted to hospital for stroke within 30 days, compared to 5% prior to the establishment of these clinics.

There still appears to be significant opportunities for improvement, particularly with respect to timely access to SPCs for emergent and urgent cases. For example: less than half (47%) of urgent SPC patients are seen within a week of referral; only 14% are seen within the critical 72-hour period following stroke: and, the median time to carotid revascularization exceeds the best practice target of 14 days.

Emergency, Acute, Rehabilitation and Community Stroke Care

Significant and steady improvements in acute care outcomes and positive trends in the rehabilitation sector are being seen with annual health system savings estimated to be $27 million. In comparison to 2003, findings include:

94%

of stroke patients received the required brain imaging and 84% the required imaging of the carotid artery

80%

of stroke patients with atrial fibrillation have anticoagulant therapy prescribed or recommended

~3%

of patients referred to secondary stroke prevention clinics are re-admitted to hospital for stroke within 30 days

AVOIDED ANNUALLY

DEATHS

330

EMERGENCY DEPARTMENT VISITS

3,300

ACUTE CARE INPATIENT VISITS

4,400

ACUTE CARE INPATIENT LENGTH OF STAY

1 DAY

TIME TO CAROTID INTERVENTION

32 DAYS

- estimated 3,300 ED visits for stroke have been avoided annually
- estimated 4,400 acute care inpatient visits have been avoided annually
- estimated 330 deaths have been avoided annually
- total acute care inpatient length of stay has decreased by one day
- alternate level of care (ALC) length of stay has decreased by one day
- time to carotid intervention among admitted patients has been reduced by 32 days
- wait times for admission to inpatient rehabilitation from acute care have been reduced by three days
- access to inpatient rehabilitation for severely disabled stroke patients has increased by 2%.

Also included with the 2013 Ontario Stroke Evaluation Report are the *Ontario Stroke Report Cards*, first introduced by the OSN in 2011. The report cards grade the delivery of stroke care for each of Ontario's 14 Local Health Integration Networks. The report cards are critical to supporting the Regional Stroke Networks in driving improvements in access to best practices and patient/health system outcomes at the LHIN level.

REGIONAL ECONOMIC ASSESSMENTS

Building on the report *The Impact of Moving to Stroke Rehabilitation Best Practices*, *Regional Economic Assessments* were completed for the 14 LHINs and distributed to Regional Stroke Networks for local contextualization, dissemination and planning. These assessments have been very valuable in preparation for stroke Quality Best Procedures (QBP).

ONTARIO STROKE AUDIT

The MOHLTC provided funding in Q3 FY 13/14 to complete an Ontario Stroke Audit of 16,000 charts for FY 12/13. Data abstraction ended March 31 2014. Data analysis and validation of the CIHI 340 data elements will occur in Q1 FY 14/15.

ALPHAFIM®

Plans are in place for completion of the *AlphaFIM®* to become mandatory in the FY14/15 Discharge Abstract Database. A task team has developed coding guidelines and education package and "FAQs" to support implementation.

ADVANCING BEST PRACTICES ACROSS THE CARE CONTINUUM

QUALITY BASED PROCEDURES (QBP)

A major focus of OSNs work in FY 13/14 was to advance the development and implementation of QBP's for stroke. In follow-up to the release of the *HQO QBP Clinical Handbook for Stroke* (Phase 1 ED, acute, inpatient rehab) the OSN undertook the following activities in support of clinical engagement:

- Provided three provincial video-conferences on stroke QBP
- Supported and contributed to the development of the OHA

53.2% of Canadians aged 60 to 79 have hypertension

QBP Toolkit and Clinical Engagement sessions
- Presentations at three OHA sessions and other provincial and regional events/meetings upon request

The OSN is providing ongoing decision support to the Health System Funding Reform Branch with regard to initial best practice pricing and indicators. Activities include:

- Baseline analysis for draft QBP indicators
- Recommendations on best practice facilities to inform pricing decisions
- Identification of minimum volumes associated with reduced mortality. *Findings* were that patients seen at hospitals with annual ischemic stroke volumes < 130 are 31% more likely to die within 30-days of admission than patients seen at hospitals with >200 annual volumes
- Working with Regional Stroke Networks to provide a measureable definition and consistent application of stroke unit care

HYPERTENSION MANAGEMENT PROGRAM (HMP)

Current scope of *HMP* includes 24 primary care clinics and 14 aboriginal health centers = 38 active, participating sites. The following outreach goals were completed for this FY:

- on-site and/or web-based reorientation of active sites
- follow-up on implementation action items
- directed feedback sessions for all HMP and Aboriginal HMP sites

A key objective identified in FY13/14 was for delivery of improved, site support protocols/processes that promote clinical self-management, implementation of several on-line HMP tools was initiated, including but not limited to:

- Update of *HMP content and all resources* on HSF Clinical/ Professional Education website
- HMP process workflows for providers
- Development and delivery of practical toolkit items - each of which are linked to one of the Program lifestyle goals
- Full evaluation of HMP Personal Health Information and clinical data sharing processes and removal of legacy patient consenting process completed.

Program evaluation completed by March 31 2014. Results will be reported in FY 14/15.

VASCULAR HEALTH STRATEGY

The Primary Care Workgroup (PCWG) has made significant progress in advancing its priorities with a focus on improving quality and access to a continuum of vascular services. Activities to address the PCWG priorities include:

- Development of a Vascular Flow Sheet (VFS) including:
  - Alpha version of the VFS developed and presented to PCWG for input and feedback
  - Beta VFS developed based on PCWG feedback and incorporated *C-CHANGE* guidelines
  - on-going C-CHANGE engagement to ensure alignment of efforts;
  - Testing of beta version VFS (paper version and web based) to obtain primary care feedback re: applicability, usability and barriers. Key findings were: positive sense of receptivity: good feedback provided for implementation considerations; and, the VFS web version was felt to be very comprehensive
  - Task team established to support the development of a Vascular Health Quality Improvement Plan (QIP). The QIP will include a "patient story", and a resource / reference "inventory" to guide primary care in the development of vascular QIPs.
- Completing a LHIN scan regarding activities/plans to support integrated primary care vascular health best practices. Based on the LHIN's feedback it was identified:
  - there is the opportunity for synergy with several LHINs related to Vascular Flow Sheet and Medical Directive use
  - opportunities for future collaboration e.g. development of patient self management tools on PCWG initiatives identified
  - opportunities on PCWG initiatives identified to support priorities through Health Links has resulted in ongoing discussions with two Health Links.

The VHS Implementation Steering Committee work continues, including;

- development and refinement of VHS implementation objectives and actions
- monitoring Working Group progress
- pursuing additional stakeholder linkages to support vascular health service integration across Ontario

Progress has been made in engaging the LHINs in the development of Regional Vascular Health Collaboratives (RVHCs) in support of integrated vascular healthcare across Ontario. Progress to date includes:

- A RVHC development and implementation task group, comprised of interested LHINs, regional early adopters and VHS leadership, is exploring RVHC implementation frameworks and enablers
- A gathering of LHINs, interested in RVHC early adoption, is planned in April, 2014
- Four LHINs have expressed interest in establishing RVHCs as early adopters, 4 additional LHINs have expressed interest in RVHC implementation at a later date. Central East LHIN has a RVHC in place and is providing ongoing guidance regarding their RVHC development and implementation experience

Communication materials and presentations have been developed to support ongoing stakeholder engagement and information sharing.

EMERGENCY AND ACUTE CARE

Best Practices Acute and Secondary Prevention Subcommittee

The OSN Best Practice Sub-committee (Secondary Prevention and Acute Care) establishes and oversees the implementation of recommendations to improve quality of stroke care in secondary stroke prevention and acute care. The committee informs the development of tools and processes to support knowledge translation of best practices. The sub-committee continued its work on two areas of priority: Transient Ischemic Attack (TIA)/ minor stroke and Stroke Unit care as follows:

- Building on previous work, the provincial TIA algorithm was further refined to focus on stroke prevention clinics and will undergo regional expert review in Fall 2014
- Subcommittee members provided input and content expertise into the development of the Canadian Best Practices resource *Taking Action Towards Optimal Stroke Care* released in May 2013.
- Subcommittee members contributed to the *Canadian Best Practices Emergency Medical Services Best Practice Recommendations Update* released in May 2013

Telestroke

The OSN, Ontario Telemedicine Network and the Ontario Telestroke Steering Committee (OTSC) continue to advance planning for the provincial Telestroke program and key recommendations arising from the Telestroke program review. Progress includes:

- LHIN and Regional Stroke Network Planning for Telestroke for current and future expansion needs were completed. Three new Telestroke sites (Sioux Lookout Meno Ya Win Health Centre, Grand River Hospital - Kitchener and Guelph General Hospital) were launched in the 2013 calendar year. An additional Telestroke site (Bluewater Health - Sarnia) is planned for FY 14/15
- Telestroke consultant capacity was increased with two additional stroke neurologists recruited. There are now 12 Telestroke consultants with two more Telestroke consultants to be added FY 14/15
- A memorandum of understanding to identify Telestroke responsibilities for OSN, Ontario Telemedicine Network and CritiCall Ontario has been developed and is expected to be executed early in FY 14/15
- The *Telestroke Referring Site Toolkit* used by new sites was updated to reflect the Canadian Best Practice Recommendations released in September 2013. The Ontario Telestroke Program Telestroke Referring Site toolkit has been incorporated into the National Telestroke Implementation Toolkit
- OTSC committee members contributed to the *Canadian Best Practices Telestroke Recommendations Update* released September 2013
- Three Ontario Provincial Stroke Videoconference rounds focused on Telestroke were conducted
- Telestroke indicators were captured in the FY 12/13 Ontario Stroke Audit data collection and will be analyzed in Q1 FY 14/15 for inclusion in the 2014 Ontario Stroke Evaluation Report

REHABILITATION AND RECOVERY

Accomplishments include:

- The *OSN Stroke Rehab Resource Centre* development was completed. The centre will be will be updated regularly. Knowledge users report that the Resource Centre has been useful to engage stakeholders in the planning and implementation of stroke rehabilitation best practices.
- A pilot of the Resident Assessment Instrument (RAI) Stroke Care plans was completed. Pilot results included:
  - 95.8% of post survey respondents indicated that stroke care plans enhanced their ability to care for stroke residents to varying degrees
  - 73% of respondents to the post pilot survey combined the content of the Stroke Care Plans with other existing care plans
- The OSN collaborated with VON *Seniors Maintaining Active Roles Together* (SMART) Program Phase 2, to provide stroke content expertise for the development and delivery of functional fitness programs specifically designed to improve the health of clients coping with multiple chronic diseases or conditions
- The OSN collaborated with the *Ontario Association of Community Care Access Centres* (OACCAC) in the development of a Stroke Pathway

In order to provide leadership in the development, management and communication of provincial planning and project development in order to maximize efficiencies, improve timely communication processes, maximize access to and use of expertise and scope of practice, and to strengthen relationships, the Provincial Integrated Work Plan Committee (PIWPC) was created. Consultation with stroke region stakeholders' two priority areas were identified: Early Supported Discharge; and a Navigation Model to Support Patient Transitions to Community. Task groups and work-plans have been established with targeted completion by FY14/15.

PILOT OF THE RESIDENT ASSESSMENT INSTRUMENT

98.5%

indicated that stroke care plans enhanced their ability to care for stroke residents to varying degrees

73%

respondents to the post pilot survey combined the content of the Stroke Care Plans with other existing care plans

KNOWLEDGE TRANSLATION AND EDUCATION

HIGHLIGHTS OF PRESENTATIONS/PUBLICATIONS REPRESENTING OSN AND/OR REGIONAL STROKE NETWORK SUPPORTED PROJECTS

- Submitted work for publication on the identification of minimum volumes associated with reduced mortality in March 2014
- The results of the OSN Funded Research project *Evaluation of the Implementation of the Revised Acute Stroke Medical Redirect Paramedic Protocol (ASMRPP) in Urban and Rural Settings* has been presented at the: 2013 Canadian Stroke Congress - October 2013; MOHLTC "Research to Policy Dialogue" - February 2014; and, MOHLTC Emergency Health Services Medical Advisory Committee May 2014 (for the purposes on informing ongoing policy re acute stroke diversion policies and/or training)
- Twenty-nine (29) OSN and regional stroke network posters and eleven (11) platform presentations were presented at the2013 Canadian Stroke Congress and one (1) oral and seven (7)posters were presented at the 2014 International Stroke Congress (See Appendix A for a list of OSN, Regional Stroke Network and/or Ontario Stroke Registry publications and presentations)

EDUCATION ACTIVITIES

- The *Professional Stroke Education Inventory* was reviewed and updated
- OSN co-chaired the 2013 Stroke Collaborative Planning Task Team. The 2013 Stroke Collaborative included a comprehensive program and a highly successful event with over 600 attendees (predominantly front-line clinicians). The conference was excellent showed progress toward better care and integration. Evaluation comments include:
  - Plenary sessions vs. breakouts are often the most informative and inspiring.
  - Relevant to my nursing practice daily. Would definitely encourage others to attend
- Fifteen (15) Provincial Stroke Rounds were scheduled, seven (7) of which achieved CME accreditation. Topics included CT angiography, severe stroke and rehabilitation, quality based procedures and a series on stroke best practice recommendations update. More than 1,000 attendees including nurses and family physicians participated
- OSN contributed to National Best Practice Recommendations for Secondary Prevention, EMS, Telestroke, and Acute Best Practice Recommendations and the development of the corresponding knowledge transfer resources

RESEARCH

PROGRESS ON DIRECTED RESEARCH PROJECTS

1. The research project *Evaluation of the Implementation of the Revised Acute Stroke Medical Redirect Paramedic Protocol (ASMRPP) in Urban and Rural Settings* was completed. The goal of the ASMRPP study was to evaluate the impact and effectiveness of the implementation of the revised 2011 acute stroke redirect paramedic protocol within two Ontario stroke regions and their nine urban and rural EMS services.

   The key findings were:

   - high level of compliance (99%) of documentation by EMS responders
   - high level of accuracy (97.9%) and reliability of Paramedic interpretation of the Redirect Criteria
   - small percentage (1.4%) of patients with a > 60 minutes EMS transportation time
   - More patients received thrombolysis (increase of 33 (18%) –over 12 months)
   - No indication of increased burden on the health system

   ASMRPP Knowledge translation activities include:

   - Canadian Stroke Congress 2013 Oral Presentation, October 2013
   - MoHLTC Research to Policy Dialogue presentation, February 2014
   - Presentation to MoH Emergency Health Services Branch Medical Advisory Committee, May 2014
   - Presentation to Provincial Stroke Videoconference Rounds scheduled, June 2014
   - Submission for publication pending

2. Investigating Stroke Unit Care: Preliminary survey findings were presented at the 2013 Canadian Stroke Congress. Final results are being finalized with the final report completed May 2014
3. Optimal TIA Management: Preliminary analysis and review of findings has identified several patient and system factors

associated with admitting TIA patients. September 2014 target date for completion of final report.

OTHER RESEARCH ACTIVITIES/PROJECTS REPRESENTING OSN AND/OR REGIONAL STROKE NETWORK SUPPORTED PROJECTS

- As part of the HMP, OSN was invited to participate in a knowledge user advisory role on the *CIHR project: Transformation of Indigenous Primary Healthcare Delivery* (FORGE AHEAD) Initiative with the goal of facilitating health care access & delivery to aboriginal communities
- OSN is a co-investigator on CIHR Knowledge to Action Planning Grant that focuses on identifying knowledge translation gaps related to aphasia best practices. This grant resulted in the development of nine (9) best practice recommendations which were included in the *Canadian Best Practice Recommendations for Stroke Update 2013*
- OSN is a partner in the development of a "*National Vascular Health Network*" which was successful in achieving five- year CIHR funding (2013-2018). The OSN Best Practice Lead is the co-chair of the Knowledge Translation Subcommittee
- OSN is a collaborator on a Canadian Stroke Network grant awarded to Dr Frank Silver for an Ontario focused Telestroke project titled "Telestroke eConsult." This project will create a web-based application and business processes to enable referring health care practitioners to more efficiently exchange patient health information with Telestroke neurologists in order to better coordinate the care of their patients. Target completion is June 30 2014
- OSN is a co-investigator and knowledge user on a CIHR Planning and Dissemination grant titled "Stroke Rehabilitation and Multimorbidity Research Think Tank." This work will help to inform the decision makers on rehabilitation reform by determining priority research questions with corresponding methodological approaches

ORGANIZATIONAL

The OSN hosted the annual 'OSN Forum' on Nov. 25, 2013 with a focus on QBP. It was attended by approximately 80 Regional Stroke Network and LHIN representatives. The MOHLTC Health System Funding Reform team provided an opportunity to discuss the approach to pricing and indicators. The *OSN Forum Proceedings Report* summarizing the key discussion points and outcomes of the meeting has been finalized and distributed to the attendees.

The OSN has made significant progress in the implementation of its communications and stakeholder relations plan. Achievements include:

- *New website* designed and built on sustainable, upgradeable platform. Website developed with new technologies and materials, including a Members Only section, and sub-site(s) for *Hypertension Management Program* and *Stroke Rehabilitation Resource Centre*
- HMP website developed and includes information on hypertension management and a map of HMP, Aboriginal Hypertension Management Program and Centre for Complex Diabetes Care sites
- *Vascular Health Strategy website* being developed in collaboration with Heart and Stroke and the Cardiac Care Network of Ontario
- *2012/13 Annual Report* created, distributed to stakeholders via print and online
- Basic daily media monitoring implemented, more extensive media monitoring planned for FY 14/15
- Targeted media release(s) developed and distributed when applicable
- Developed *bi-weekly e-newsletter (e-bulletin)* and distributed to stakeholders. Subscribers have increased more than 300 per cent since June 2013
- OSN templates for press releases, briefing notes, power point, backgrounders and fact sheets reviewed and updated
- Inventory of patient stories and perspectives ongoing. 'Stroke Patient Stories' included on OSN website
- Social media strategy reviewed, updated and implemented. Social media posts have increased to between four and eight per day. Followers on Twitter have increased 426 per cent since June, 2013. Social media platforms have expanded to include *Twitter*, *Facebook*, *Google+*, *LinkedIn*, *Vimeo*, *YouTube* and an up-to-date *RSS feed*
- Regional Stroke Network sessions completed in 7/11 regions. Remaining four will be completed by August, 2014. Sessions have been well received, with the strongest desire for media and social media training. Visits will inform ongoing regional communications and stakeholder relations training and support

for every minute delay in treating a stroke, the average patient loses 1.9 million brain cells, 13.8 billion synapses, and 12 km of axonal fibres.

OSN TARGETS AND MEASURES

The OSN established challenging goals and targets to improve stroke care i.e. By December 2016 the OSN will have made an impact on the vision of "Fewer strokes. Better outcomes" by achieving the following provincial targets:

- Stroke Hospitalization: Reduce to 1.14/1,000 LHIN population.
- Stroke Units: Increase access to 76%.
- Inpatient Rehabilitation Access: Within 5 days.
- Community Re-integration: Reduce LTC admissions to 3.2% one year after stroke
- Reduce LHIN variation by half across all four targets

These targets were selected to address five underlying principles established by the OSN:

- the targets should reflect the care continuum;
- align with the Ministry of Health and Long-Term Care priorities;
- the data was readily available;
- identify goals for ongoing quality of care improvement;
- and support regional and provincial collaborations and communications for provision of stroke best practice initiatives.

METRIC EMERGENCY DEPARTMENT/ INPATIENT 30-DAY READMISSION RATE

GOAL DOUBLE 2003/04 TO 2010/11 REDUCTION IN THE INPATIENT ADMISSION RATE

BASELINE 10/11 1.47/1,000 POPULATION

CURRENT 12/13 1.28/1,000 POPULATION

TARGET 1.14/1,000 POPULATION

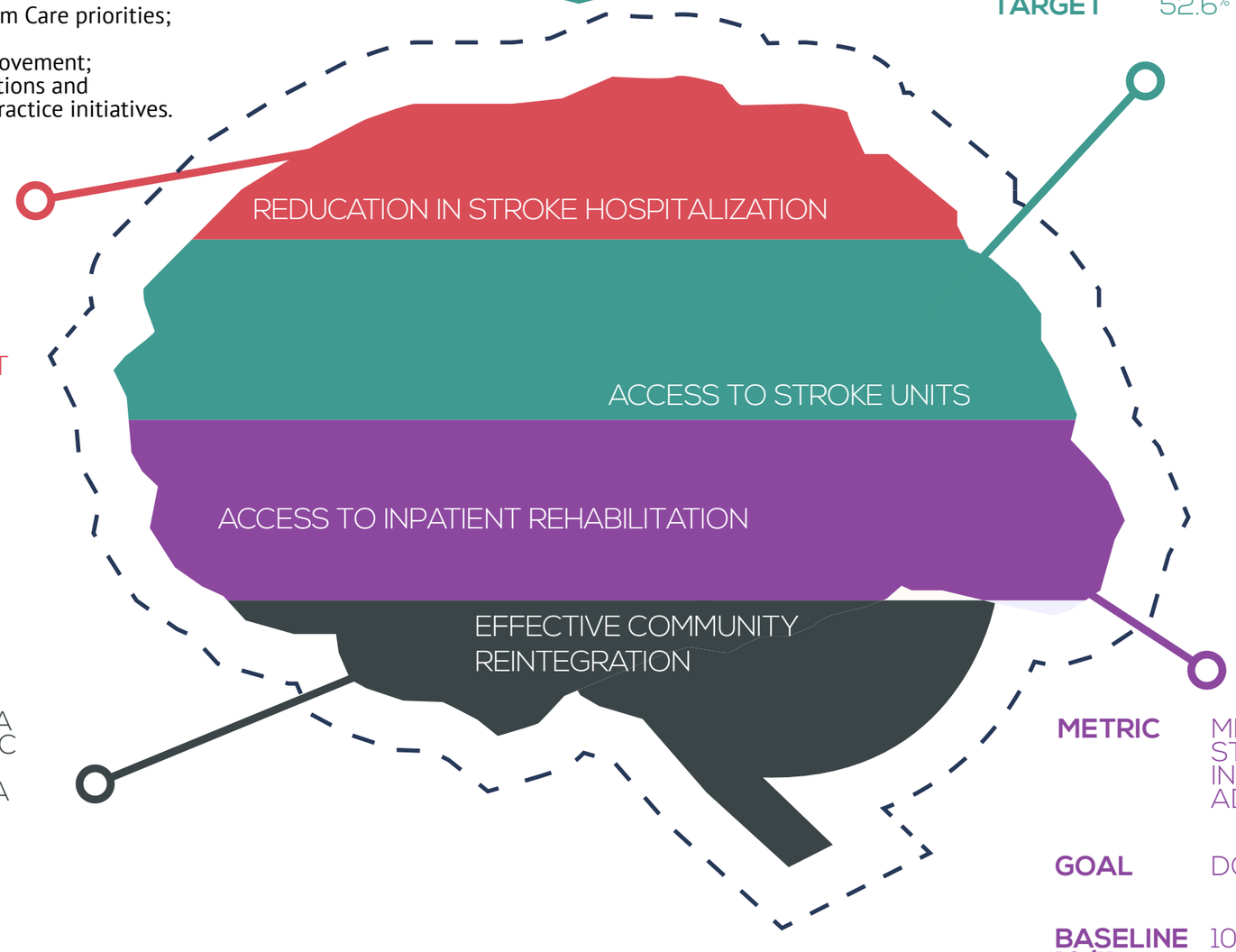
METRIC PERCENTAGE OF STROKE/TIA PATIENTS ADMITTED INTO LTC FACILITY WITHIN ONE YEAR FOLLOWING THE STROKE/TIA HOSPITALIZATION

GOAL HALF OF THE 2010/11 PERCENTAGE

BASELINE 10/11 7.5%

CURRENT 12/13 7.1%

TARGET 3.75%



** Baseline FY 12/13 used as data quality poor for prior years
*** Not currently included in report card as metrics not previously available.

METRIC PERCENTAGE OF PATIENTS ADMITTED TO AN ACUTE STROKE UNIT

GOAL DOUBLE THE 2012/13** PERCENTAGE

BASELINE/ CURRENT 12/13 26.3%

TARGET 52.6%

METRIC MEDIAN TIME FROM ISCHEMIC STROKE INPATIENT ADMISSION TO INPATIENT REHABILITATION ADMISSION

GOAL DOUBLE THE 2012/13** PERCENTAGE

BASELINE 10/11 10 DAYS

CURRENT 12/13 10 DAYS

TARGET 5 DAYS

PUBLICATIONS

(REPRESENTING OSN AND/OR REGIONAL STROKE NETWORK SUPPORTED PROJECTS)

A 5-Item Prediction Rule to Identify Severe Renal Dysfunction in Patients with Acute Stroke
M.D.I. Vergouwen, J. Fang, L.K. Casaubon, M.K. Kapral, M. Stamplecoski, A. Robertson, F.L. Silver, on behalf of the Investigators of the Registry of the Canadian Stroke Network
AJNR Am J Neuroradiology. 2012. Published April 5, 2012 as 10.3174/ajnr.A3013

Which Risk Factors Are More Associated With Ischemic Stroke Than Intracerebral Hemorrhage in Patients With Atrial Fibrillation?
McGrath ER, Kapral MK, Fang J, Eikelboom JW, Conghaile AO, Canavan M, O'Donnell MJ.
Stroke. 2012 May 22. [Epub ahead of print]

Neighborhood income and stroke care and outcomes
Kapral MK, Fang J, Chan C,Alter DA, Bronskill SE, Hill MD, Manuel DG, Tu JV, Anderson GM.
International Journal of Stroke Sept 2012

The PLAN score: A simple bedside prediction rule for death and severe disability following acute ischemic stroke
O'Donnell, Fang, D'Uva, Saposnik, Gould, McGrath, Kapral
Archives of internal medicine, Published online-October 15, 2012, doi.10.1001/2013.jamainterme d.30

Statin Therapy and Outcome After Ischaemic Stroke: Systematic Review and Meta- Analysis of Observational studies and Randomised trials
Chróinín DN, Asplund Ki, Åsberg S, Callaly E,Godia EC,Tejedor ED,Napoli MD, Engelter ST,Furie KL, Giannopoulos ST,Gotto A, Hannon N,Jonsson F, Kapral MK, Martí-Fàbregas J,Sánchez PM
Stroke. published online January 3, 2013;

Factors Associated With 90-Day Death After Emergency Department Discharge for Atrial Fibrillation
Clare L. Atzema, MD, MSc; Peter C. Austin, PhD; Alice S. Chong, MSc; Paul Dorian, MD, MSc
Annals of Emergency Medicine May 2013

Predicting Clinical Outcomes and Response to Thrombolysis in Acute Stroke Patients with Diabetes
Nikneshan, Raptis,Limei Zhou, Johnston, Saposnik
Diabetes Care July 2013, 36 (7): 2041-7

Effect of a provincial system of stroke care delivery on stroke care and outcomes
Kapral MK, Fang J, Silver FL, Hall R, Stamplecoski M, O'Callaghan C, Tu JV.
CMAJ. July 2013

The Integration of Stroke Best Practices into Long Term Care Resident Care Planning
Brown, Gwen and Tee, Alda
Ontario Long Term Care Association Magazine Summer 2013

Do Lacunar Strokes Benefit from Thrombolysis? - Evidence from the Registry of the Canadian Stroke Network
Shobha N, Fang J, Hill M.
International Journal of Stroke Oct 2013

A Population-based Description of Atrial Fibrillation in the Emergency Department, 2002-2010
Clare L. Atzema, MD, MSc; Peter C. Austin, PhD; Alice S. Chong, MSc; Paul Dorian, MD, MSc
Annals of Emergency Medicine Dec 2013

Benchmarks for acute stroke care delivery
Hall RE, Khan F, Bayley MT, Asllani E, Lindsay P, Hill MD, O'Callaghan C, Silver FL, Kapral MK.
Int J Qual Health Care. Dec 2013

PRESENTATIONS

(REPRESENTING OSN AND/OR REGIONAL STROKE NETWORK SUPPORTED PROJECTS)

Reducing readmissions through secondary stroke prevention clinics (poster)
Khan F, Hall R, Hodwitz K, Fang J, Kapral M, Silver
International Stroke Conference, Hawaii – Feb 2013

Do the CHADS2, CHA2DS2-VASc and HAS-BLED Scores Predict Recurrent Stroke and GI Bleeding in Patients with Acute Ischemic Stroke or TIA and Atrial Fibrillation (oral presentation)
Silver F, Stamplecoski M, Fang J, Kapral M.
International Stroke Conference, Hawaii – Feb 2013

Comparison of Stroke Subtype and Admission Rate between Beijing, China and Ontario, Canada - A Population-Based Approach (poster)
Fang J, Liu G, Wang Y, Zhao X, Wang C, Zhou Y, Pan Y, Xie X, Silver F, Wang Y, Kapral M
International Stroke Conference, Hawaii – Feb 2013

Effect of Statin Treatment Before and After Hospitalization on Mortality Following Acute Ischemic
Reeves MJ, PhD, Fang J, Kapral M, Smith E, Dowlatshahi D, Sharma, M.
International Stroke Conference, Hawaii – Feb 2013

Living alone at home and outcomes following stroke: Results from the Registry of the Canadian Stroke Network (poster)
Reeves MJ, PhD, Fang J, Prager M, Kapral M.
International Stroke Conference, Hawaii – Feb 2013

The Impact of Post-Stroke Rehabilitation on 2-year Healthcare Costs in Ontario, Canada: Can Rehabilitation Save Us Money?
Meyer M, O'Callaghan C,Kelloway L, Hall R, Li S, Fang J, Bayley M, Reeves M, Teasell R.
International Stroke Conference, Hawaii – Feb 2013

Patient age linked to prolonged door to needle times in stroke thrombolysis
Gould.L, Sahlas DJ, Fang J, Kapral M, Oczkowski
European stroke conference, Nice, France – May 2013

Improving patient outcome in hyperacute practices through real-time audits
MacIsaac, L
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Evaluating the impact of stroke survivor and caregiver support groups on successful community reintegration
Brown, G
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Results from the Ontario Stroke Registry's audit of Secondary Stroke Prevention Clinics
Hodwitz, K, Hall, R
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Comprehensive education of health care providers in long-term care: Improving stroke care
Thornton, M
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Distinction as a quality improvement partnership in a community hospital
Murray, J
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Positioning primary care to improve transition experience for person with stroke and caregivers
McKellar, J
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Examining Ontario Stroke report card Indicator Relationships to understand the impact of best practice implementation and inform system planning
Linkewich. B
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Stroke Units in Ontario: The 2013 Ontario Stroke Unit (OSUN) Survey
Fan, I
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Socioeconomic characteristics of Toronto neighbourhoods with high prevelence of stroke survivors
Bayley, M
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Development of the Community re-engagement cue to action trigger tool (CR CATT)
McKellar, J
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Development and evaluation of a health economics measure for quality of life in aphasia post-stroke
Kagan, A
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Walking activity during inpatient stroke rehabilitation: Exploring the relationship between amount of practice and recovery of gait control
DePaul, V
Canadian Stroke Congress, Montreal, Canada – Oct 2013

tPA door to needle reduction: The impact of Nurse stroke specialists
Tebbutt, T
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Accuracy of ICD-10-CA codes to identify pediatric stroke
Khan, F
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Rapid referral program of the Niagara Health System-District Stroke Centre
Hammond, L
Canadian Stroke Congress, Montreal, Canada – Oct 2013

PRESENTATIONS, CONTINUED

(REPRESENTING OSN AND/OR REGIONAL STROKE NETWORK SUPPORTED PROJECTS)

Influencing system change within North Simcoe Muskoka LHIN: Collaborating to Design a model for stroke rehabilitation and transition
Tee, A
Canadian Stroke Congress, Montreal, Canada – Oct 2013

From project to program: The Central LHIN Stroke Prevention Strategy
Murray, J
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Peer support for stroke survivors: A pilot evaluation
Kessler, D
Canadian Stroke Congress, Montreal, Canada – Oct 2013

A tool to assess language barriers to stroke services: The Communicative Access Measures for Stroke
Kagan, A
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Value creation from interprofessional collaboration amoung stroke healthcare providers using social media technology
Fortin, J
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Using a triage tool to facilitate access to rehabilitation for persons with stroke
Linkewich, E
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Dedicated Stroke Care reduces stroke mortality rates
Tebbut, T
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Does hospital ischemic stroke volume relate to clinical outcomes in the Ontario Stroke System
Hall, R, Fang J, Hodwitz, K, Saposnik, G, Bayley M
Canadian Stroke Congress, Montreal, Canada – Oct 2013

TIA Triage and Management
Jaspers. S
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Implementation of Volunteer-Led Evening and weekend activity program for clients with stroke in inpatient rehabilitation
French, E
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Implementation of the Revised Provincial Acute Stroke Redirect Protocol in Urban and Rural Settings
Smaggus, K
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Accreditation Canada's Stroke Distinction Program: A Quality Improvement Strategy
Martin, C , MacIssac, L
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Delivering CME accredited provincial stroke rounds in Ontario: How OREG has made it work from 2008 to present
The Ontario Regional Educators Group (OREG)
Canadian Stroke Congress, Montreal, Canada – Oct 2013

Organized Stroke Care in Ontario: Impact on Hospitalization and Mortality
Lumsden J, Hall R, Meyer M, O'Callaghan C, Khan F
Canadian Stroke Congress, Montreal, Canada – Oct 2013

A Regional Assessment of the Economics of Stroke Care in Ontario
Meyer M, Hall R, O'Callaghan C
Canadian Stroke Congress, Montreal, Canada - Oct 2013

of Ontarians admitted to hospital with a stroke, more than 3,500 will have died within one year

Peer support for stroke survivors: a pilot evaluation

PRINCIPAL INVESTIGATOR
DOROTHY KESSLER
UNIVERSITY OF OTTAWA

The pilot evaluation of an individual peer support program offered by the Stroke Survivors Association of Ottawa (SSAO) revealed benefits to both new stroke survivors and peer supporters. The SSAO Peer Support Program offers a unique and relatively low cost contribution to the recovery process for both new stroke survivors and Peer Supporters. The SSAO Peer Support Program demonstrated that it provided several important benefits to stroke survivors, care partners and peer supporters. For the stroke survivor and care partner the program provided emotional, affirmational and informational support that provided encouragement, promoted feelings of hope, validated their experiences, decreased feeling of being alone and provided useful information on resources available post discharge. This information was perceived as being more valid and useful than information provided by a health professional.

Peer supporters in the program benefited from the social support received from each other, as well the role of peer supporter provided opportunity for personal growth, a sense of purpose and ability to contribute to others. These factors promoted overall community reintegration.

Factors promoting program success included: collaboration with the Regional Stroke Team and hospital staff, training and ongoing support for the Peer Supporters, and the knowledge and skills of the primary program coordinator. This study concluded that individual peer support programs have the advantage over group programs of being able to address individual needs of new stroke survivors. Individual programs are particularly well-suited to the acute care setting where stroke survivors may not feel well enough to attend a group and to those in rehabilitation or the community who are not as comfortable talking about their needs in a group setting or who have difficulty getting to a group setting.

Communicative Access Measures for Stroke: Evaluation of Reliability and Usefulness

PRINCIPAL INVESTIGATOR
AURA KAGAN
APHASIA INSTITUTE

This project has resulted in the development of a *web based tool (CAMS)* for health care facilities to understand their level of communication access to information and decision making for individuals with stroke induced communication disorders and be able to identify opportunities for improvement and monitor change initiatives. Improved communication between health care providers and patients improves the quality of health services but also positively impacts patient satisfaction and participation in health care decision making.

Evaluation of the Implementation of the Revised Acute Stroke Medical Redirect Protocol in Urban and Rural Settings in Eastern Ontario

PRINCIPAL INVESTIGATOR
IAN STIELL
UNIVERSITY OF OTTAWA

The goal of the *Acute Stroke Medical Redirect Paramedic Protocol* (ASMRPP) study was to evaluate the impact and effectiveness of the implementation of the revised acute stroke redirect paramedic protocol within two Ontario stroke regions and their nine urban and rural EMS services. The key findings demonstrated that there was excellent accuracy and reliability by paramedics using the protocol, very good predictive values, no significant adverse events or additional burden to the health system. The results and learnings of this study were presented to the Ministry of Health and Long Term Care and Emergency Health Services Branch and will inform recommendations for follow-up. E.g. training, education resources.

Improving Safety and Preventing Falls in Stroke Survivors through the Continuum of Care

PRINCIPAL INVESTIGATOR
ALEKSANDRA ZECEVIC
UNIVERSITY OF WESTERN ONTARIO

The purpose of this study was to identify systemic factors that contribute to falls of stroke survivors across the continuum of care. After research was completed, each participating organization and OSN representatives were provided with a comprehensive Falls Reports of investigations conducted in acute, rehab, and community settings participating in the research.. This allows unit managers to share relevant information with point of care providers, administrators, or risk management departments.

Assessing the Impact of the Southwest LHINs Community Stroke Rehabilitation Teams: An Economic Analysis

PRINCIPAL INVESTIGATOR
ROBERT TEASELL
UNIVERSITY OF LONDON

In 2009, the Southwest Local Health Integration Network (LHIN) funded the development of the *Community Stroke Rehabilitation Teams* (CSRT). These interdisciplinary teams consist of a registered nurse, occupational therapist, physiotherapist, speech language pathologist, social worker, therapeutic recreation therapist, and rehabilitation therapist who work together to provide best-practice based, individualized care to stroke survivors directly in their own homes. These teams aim to provide rehabilitation to individuals for whom traditional outpatient services are unavailable or inaccessible. The results of this study suggested that the community stroke rehabilitation team (CRST) model is a cost effective way to provide community rehabilitation services. Clients accessing the CSRT program appear to use fewer health care resources during the first 12 months of service provision and report a better quality of life in all health states.

AUDITOR'S REPORT

June 16, 2014

To the Board of Directors of the Ontario Stroke Network

We have audited the accompanying financial statements of Ontario Stroke Network, which comprise the statement of financial position as at March 31, 2014 and the statements of revenue and expenditures, changes in fund balances and cash flows for the year then ended, and the related notes, which comprise a summary of significant accounting policies and other explanatory information.

Management's responsibility for the financial statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of Ontario Stroke Network as at March 31, 2014 and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

PricewaterhouseCoopers LLP
Chartered Accountants, Licensed Public Accountants

FINANCIAL STATEMENTS

Statements of Financial Position

As of March 14, 2014

	2014	2013
	$	$
Assets		
Current assets		
Cash	535,478	652,875
Accounts receivable	102,163	-
Grants receivable	-	21,399
HST recoverable	54,295	37,808
	691,936	712,082
Liabilities		
Current liabilities		
Accounts payable and accrued liabilities	314,299	69,648
Repayable to Ministry of Health and Long-Term Care (note 3)	43,884	304,630
Payable to Heart and Stroke Foundation	135,458	60,651
Research grants and awards payable	-	98,247
	493,641	533,176
Fund Balances		
Unrestricted funds	98,974	109,474
Internally restricted fund	99,321	69,432
	198,295	178,906
	691,936	712,082

FINANCIAL STATEMENTS

Statements of Revenue, Expenditures and Changes in Fund Balances

For the year ended March 31, 2014

	2014	2013
	$	$
Revenue		
Government grants (note 3)	2,792,709	3,128,698
Other contributions (note 3)	100,689	175,000
Cost recovery from Canadian Stroke Network (note 3)	29,202	30,298
Interest Income	5,455	5,436
	2,928,055	3,339,432
Expenditures		
Grant disbursements	1,062,796	954,661
Salaries	823,140	904,992
General administration	736,582	482,421
Consultants	198,203	220,418
Meeting and travel	64,448	27,681
Training and education	23,497	12,460
Research and awards	-	734,333
	2,908,666	3,336,966
Excess of revenue over expenditures for the year	19,389	2,466
Fund balances - Beginning of year	178,906	176,440
Fund balances - End of year	198,295	178,906

The accompanying notes are an integral part of these financial statements

FINANCIAL STATEMENTS

Statement of Changes in Fund Balances

For the year ended March 31, 2014

	Internally restricted $	Unrestricted $	2014 Total $	2013 Total $
Fund balances - Beginning of Year	69,432	109,474	178,906	176,440
Excess of revenue over expenditures for the year	-	19,389	19,389	2,466
Transfer from unrestricted to internally restricted fune (note 2)	29,889	(29,889)	-	-

Statements of Cash Flows

For the years ended March 31, 2014

	2014 $	2013 $
Cash provided by (used in)		
Operating activities		
Excess of revenue over expenditures for the year	19,389	2,466
Changes in working capital		
Accounts receivable	(102,163)	-
Grants receivable	21,399	(21,399)
HST recoverable	(16,487)	33,287
Prepaid expenses	-	23,772
Accounts payable and accrued liabilities	244,651	(287,222)
Repayable to Ministry of Health and Long-Term Care (note 3)	(260,746)	(99,501)
Payable to Heart and Stroke Foundation	74,807	(802,182)
Research grants and awards payable	(96,247)	(151,583)
Deferred contributions (note 3)	-	(25,232)
	(136,786)	(1,330,060)
Decrease in cash during the year	(117,397)	(1,327,594)
Cash - Beginning of year	652,875	1,980,469
Cash - End of year	535,478	652,875

The accompanying notes are an integral part of these financial statements

NOTES TO FINANCIAL STATEMENTS

March 31, 2014

1 Nature of the organization

The Ontario Stroke Network (OSN) was incorporated under the Ontario Corporations Act as a corporation without share capital on June 12, 2008. It is a not-for-profit organization in accordance with the Income Tax Act (Canada Revenue Agency business number 857555296) and accordingly is exempt from income taxes, provided certain requirements of the Income Tax Act are met. OSN is funded primarily by the Ministry of Health and Long-Term Care (MoHLTC). Other funding is provided by the Heart and Stroke Foundation of
Canada and the Heart and Stroke Foundation of Ontario (collectively HSF).

The purpose of OSN is to provide leadership and support of system coordination across the continuum of stroke care in Ontario, including health promotion, primary, secondary and tertiary prevention, pre-hospital care, emergency, diagnostic and acute care, rehabilitation, long-term care, and community reintegration.

Funded through the MoHLTC Health System Accountability and Performance Division (Ontario Diabetes Strategy), OSN also has responsibility for the Heart and Stroke Hypertension Management Program (HMP) which is an evidence-informed, chronic disease management program designed to improve the diagnosis, management and control of hypertension according to clinical best practice guidelines.

OSN also provides provincial leadership and coordination for the Ontario Stroke System (OSS), including the following functions:

- support accountability, performance measurement, evaluation, and reporting on the progress of OSS;
- recommend and implement province-wide goals and standards for the continuum of stroke care, including
- health promotion and stroke prevention, acute care, recovery and reintegration processes;
- conduct ongoing strategic and operational planning, including trend and needs analysis;
- coordinate and enable relationships and initiatives across the continuum of stroke care to carry out the strategic and operational plans; and
- facilitate regional and provincial roles, responsibilities, activities and interfaces.

2 Summary of significant accounting policies

The financial statements are prepared in accordance with Canadian accounting standards for not-for-profit organizations (ASNPO) and include the following significant accounting policies.

Revenue recognition

OSN uses the deferral method of accounting for contributions. Accordingly, unrestricted contributions are recognized as revenue when received or receivable if the amount can be reasonably estimated and collection reasonably assured.

Restricted contributions, arising primarily from government grants, are recognized as revenue in the year in which the related expenditures are incurred.

Interest income represents interest amounts accumulated on the unrestricted cash balance during the year and is recognized as revenue when earned.

Research grants and awards

Research grants and awards are awarded on an annual basis for up to a two-year period and are expensed when the amounts are committed.

At the discretion of the funder, any unspent funds of terminated

grants will become due on demand or are adjusted against instalments of future grants.

Internally restricted fund balances

The internally restricted fund balances represent funds that have been restricted by OSN's Board of Directors (the Board) as a contingency fund in the event that OSN ceases to exist. The purpose of the fund is to ensure that OSN has sufficient funds to pay costs related to adverse future circumstances. In the current year, the Board approved a transfer of $29,889 (2013 - $69,432) to the internally restricted fund.

Financial instruments and risk management

OSN initially measures its financial assets and financial liabilities at fair value. OSN subsequently measures all financial assets and financial liabilities at amortized cost. Amortization is recorded on a straight-line basis.

Financial assets measured at amortized cost include cash, accounts receivable, grants receivable and HST recoverable.

Financial liabilities measured at amortized cost include accounts payable and accrued liabilities, repayable to MoHLTC, payable to HSF and research grants and awards payable.

Unless otherwise noted, it is management's opinion that OSN is not exposed to significant liquidity or credit risks arising from its financial instruments.

Use of estimates

The preparation of financial statements in accordance with ASNPO requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenditures during the reporting period. Actual results could differ from those estimates.

3 Deferred contributions

Deferred contributions include amounts that have been advanced by the MoHLTC and Central East Stroke Network for various projects. These projects are managed and executed by OSN in partnership with other health organizations and stakeholders in Ontario. The contributions are recorded as deferred until the designated costs have been incurred.

The changes in the deferred contributions balance during the year are as follows:

	2014	2013
	$	$
Balance - Beginning of year	-	25,232
Amounts received or receivable during the year	2,866,484	3,613,394
Amounts recognized as government grants	(2,792,709)	(3,128,698)
Amounts recognized as other contributions	(689)	(175,000)
Amounts recognized as cost recovery from Canadian Stroke Network	(29,202)	(30,298)
Amounts repayable in the year	(43,884)	(304,630)
Balance - End of year	-	-

4 Comparative figures

Certain comparative figures have been reclassified to conform to the current year's presentation.

OSN BOARD OF DIRECTORS

Malcolm Moffat
Chair

Ilsa Blidner
Vice-Chair

Lori Marshall
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Mark Bayley
Champion, Evaluation

Leanne Casaubon
Champion, Best Practice

Sandra Black
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Mary Lewis
Board Member

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Executive Director

Linda Kelloway
Best Practice Leader

Jennifer Jackson
Manager, Business Operations

Patrick Moore
Manager, Communications

Linda Nutbrown
Senior Administrative Assistant

Tracey Carter
Project Manager, Ontario Integrated Vascular Health Strategy

HYPERTENSION MANAGEMENT PROGRAM

Stephen Sundquist
Senior Program Manager

Chris Beaudoin
Sr. Specialist, Program Outreach and Support

Jodie Sutcliffe
Sr. Specialist, Program Outreach and Support

Linda LeDuc
Manager, Living with Stroke, Ontario & OSN HMP-AHMP Outreach and Practice Support

Colleen Murphy
Project Manager, Primary Care Working Group

Malaena Lynch
Senior Administrative Assistant

ontario stroke network

Advancing the Ontario Stroke System

2300 Yonge Street

Suite 1300

P.O. Box 2414

Toronto, ON

M4P 1E4

Ph. 647.943.3198

Fax. 416.489.9343

email: info@ontariostrokenetwork.ca

www.ontariostrokenetwork.ca

ONTARIO STROKE NETWORK

We provide provincial leadership and planning for the Ontario Stroke System by measuring performance, partnering to achieve best practices, and creating innovations for stroke prevention, care, recovery and reintegration.