STROKE NETWORK of Southeastern Ontario

Areas of Progress

Summary (Superscript denotes report indicator number)

- Three indicators[10,11,13] moved from red to yellow performance levels from last report with gains seen in most indicators.

Stroke Prevention

- Downward trends continue in stroke admission[2] and in 30 day mortality rates[3]; *Interpretation Caution*: Despite 4% decrease in SE mortality rates, high variance is an ongoing concern; higher rates associated with smaller annual stroke volumes.
- Relatively strong in access to Stroke Prevention Clinics, anticoagulation for atrial fibrillation, and vascular imaging (results from first provincial Stroke Prevention Clinic Audit); areas to target in 2013-15: although the SE rates are higher than those of the province, access needs ongoing attention; timely SPC assessment and completion of cognitive screening. stroke prevention report card

Acute Stroke Management

- Increased access to tPA[7] and stroke unit care[8] at QHC Belleville and KGH; swallowing screening protocols[9] implemented at all acute hospitals except PSFDH. *Interpretation caution*: inequity in stroke unit access[8] contributes to variable mortality rates.[3]
- Significant reduction in proportion of ALC days to total LOS in acute care[10] (decreased from 34% to 20%).

Stroke Rehabilitation

- SE LHIN named as exemplary top performer for CCAC rehabilitation visit rates.[17] *Interpretation Caution*: This only partially compensates for the significantly limited access to outpatient rehabilitation.[12]
- Improvement in % discharged from acute care to rehabilitation[11]and in median wait times to rehabilitation[13] with gains seen in FIM efficiency[16]. *Interpretation Caution*: Although wait times[13] and efficiency[16] improved to *exemplary* levels in Belleville, rates worsened in Kingston & Brockville. Lack of outpatient day rehab and slow paced rehab inpatient programs in these areas limit progress.

Community Reintegration

- Decrease in proportion discharged from acute care directly to LTC/CCC[19] (by 2%) but remains in the red performance level.

Areas for Improvement	Regional Stroke Steering Committee Priorities Identified in the 2013-15 Regional Workplan
Access to Rehabilitation: ***Transitions, Flow and System Change***	**1. Lead the development of a regional plan to implement provincial rehabilitation expert panel best practice recommendations (early access from acute care, intensification of rehabilitation, outpatient and community services).** • Leverage Rehabilitation to Improve Patient Flow and Quality Outcomes: deliver 3 local workshops to assist patient flow/ best practice solutions identified at Nov 2012 forum. Include education to support greater access to acute stroke unit care and options for rehabilitation; economic analyses, new HR models. • Align planning with Quality Based Funding, strategic plans of organizations, the SE LHIN Restorative Care Roadmap and Resource Matching and Referral (RM&R) plans. • In partnership with SE CCAC, sustain the delivery of the SE CCAC *Discharge Link* Rehabilitation Service
Community Reintegration: ***Facilitated Self-management***	**2. Support the Community Reintegration Leadership Team to investigate and pilot ways of funding stroke survivor and caregiver support groups** • Build/sustain a comprehensive regional approach to community stroke survivor/ caregiver support groups including: psychosocial facilitation, peer visiting, self-management and system navigation • Pilot a community approach to functional communication groups with Kingston Seniors and SE CCAC • Extend the pilot for LTC best practice care plans from Pine Meadow, Northbrook to 2-3 other LTC homes
Prevention: ***Vascular Health and Chronic Disease Management***	**3. Collaborate with other networks to build capacity within primary care for vascular health** • Address vascular health priorities for action in partnership with SEO Health Collaborative/SE Health Links (including implementing integrated vascular health programs and harmonized guidelines) • Pilot tools and resources developed by the Ontario Integrated Vascular Health Strategy. • Pilot a community hypertension awareness program with the SE Indigenous Health Council. • Assist Stroke Prevention Clinics to implement quality improvement plans that target clinic audit gaps.
Acute Stroke Management: ***Acute Stroke Unit Care***	**4. Set and monitor regional expectations for stroke unit care** • Assist hospitals to cluster acute stroke unit care with a minimum target annual volume of 130 ischemic stroke patients. • Maintain updated standardized best practice order sets at each facility with clustered stroke care • Implement a dysphagia screening tool at PSFDH to complete regional implementation • Implement Alpha FIM triage tool to rehabilitation at Brockville GH and PSFDH; sustain at all other sites.

Opportunities for LHIN Collaboration

1. System change to improve patient flow and prepare for Quality Based Funding: Early access to clustered acute stroke unit care; access to intensive stroke rehabilitation with outpatient/community follow-up

- Promote/ support the uptake of best practices outlined in the Quality Based Procedures Clinical Handbook for Stroke;
- Support collaborative planning and implementation of system changes to support best practices and patient transitions;
- Consider implications of local economic analyses and innovative human resource models;
- Implement the Restorative Care Roadmap that includes regional standards for rehabilitation access and service provision.

2. Facilitated self-management for stroke survivors and caregivers in the community

- Sustain base funding to community agencies to build a regional approach for stroke and caregiver support groups.

3. Collaborative work in vascular health, chronic disease prevention and management

- Recognize the vital partnership of the South East Health Collaborative with Health Links, promoting the importance of global vascular risk identification/management in the effective prevention and management of chronic disease.
- Support Health Links to pilot tools being developed by the Ontario Integrated Vascular Strategy (e.g. harmonized guidelines, risk identification flow sheets, medical directives.)

Appendix: SE LHIN Stroke Report Card Interpretation by Indicator (including trends from last report where available):

Prevention of Stroke

1. **Public awareness measured by rate of arrival in the ED in < 3.5 hours (red last year):** No new data from previous report. FY10-11 showed reduction in variance across the SE LHIN (23-49% versus 8-55% in FY09-10; still lower in most rural areas.
2. **Stroke/TIA admission per 1000 (yellow):** Rate decreased from 1.4 to1.3; equal to the provincial mean. Variance within the LHIN of ongoing concern: rates vary from 0.5 to 2 with high rates in Brockville and Leeds/Grenville.
3. **SE 30-day mortality rate per 100:** significantly improved from 17.8 to 13.8 though still higher than the provincial rate of 12.2, indicating an ongoing need to implement best practices: acute stroke units, dysphagia screening and access to rehabilitation.
4. **Anticoagulation for atrial fibrillation (red last year):** No new data from previous report when the rate fell from 75% to 72% (same as provincial mean). Community follow-up through anticoagulation clinics needed in primary care.
5. **Access to carotid imaging (yellow last year):** No new data from previous report when rate fell from 91% to 79% (same as provincial mean). Many follow up tests are booked *after* discharge given earlier discharges so timeliness of follow-up is critical.

Acute Stroke Management

6. **Access to CT/MRI imaging within 24 hours (yellow last year):** No new provincial data reflected in this report card. Last report indicated an increase from 73% to 82% with regional variance from 0 to 96% indicating room for improved regional access. More recent CIHI 340 stroke data indicate ongoing variance with much higher rates at KGH and QHC Belleville.
7. **Regional access to tPA (yellow last year; now showing improved access):** No new provincial data reflected in this current report card however, 2011-12 CIHI 340 stroke data indicate tPA rate for acute ischemic stroke patients arriving within 3.5 hours to be high at **67%** at both KGH and QHC compared to a rate of 52% across Ontario stroke centres.
8. **Acute stroke unit utilization rate (red last year; this HSAA indicator now showing gains):** No new provincial data reflected in this report card but 2011-12 CIHI 340 stroke data indicate high stroke unit utilization rates of 81% at KGH and QHC (Belleville site). However, significant regional inequity in acute stroke unit care continues. Recent provincial analysis indicates a minimum annual volume of 130 ischemic stroke patients needed to impact mortality rates. Ongoing regional work to cluster stroke unit care is vital to delivering equitable care and to reducing mortality rates and health system costs.
9. **Dysphagia swallowing screening (yellow last year):** No new provincial data reflected in this report card. Last report indicated a low rate of 58% with a provincial mean of 65%. Dysphagia screening tools have been implemented at all acute hospitals across SEO with exception of PSFDH; ongoing attention to sustained screening practices at all sites is needed.
10. **ALC days/total LOS in acute (improved from red to yellow):** An encouraging decrease from last report's rate of 34% down to 20% in FY11-12, now comparing favorably to a provincial mean of 27%. However, continued progress is needed to remove the ongoing barriers to stroke patient flow.

Stroke Rehabilitation and Community Care:

11. **The percent discharged from acute care to inpatient rehabilitation (this HSAA indicator improved from red to yellow):** Access improved from 29.4% to 31.7% compared to a provincial rate of 31.5% and benchmark of 43%. While the rate has improved, the variance remains high (6.7- 50.0%), indicating an ongoing need for rehab system change to improve access.
12. **Access to outpatient rehabilitation (red last year)** at 5%. No new data from previous report but FY 10-11 data indicated high variance across the region with a rate of 0% in Brockville, again pointing to the need for system change to improve access.
13. **The median length of time from stroke onset to rehab admission (improved from red to yellow).** The regional wait time improved from 13 to 10.5 days (provincial rate of 10 days) moving the region to a yellow performance rating for the first time. However, this improvement is largely attributable to the excellent QHC rates of only 6 days compared to high waits of 21 days for SMOL and 13 for Brockville. Much work needs to be done to attain best practice recommendation of 5 to 7 days.
15. **ALC days /total LOS in rehab:** rates increased from 6.9 to 8.8%, higher than the provincial rate of 5.2% with much higher ALC rates of 15% at SMOL compared to 4% in Belleville pointing to the ongoing need for outpatient options to improve flow.
16. **Functional Independence Measure (FIM) Efficiency for those with moderate stroke (remains yellow):** improved from 0.7 to 0.9, now above the provincial mean of 0.8 however, high SE variance with rates of 0.4 in Kingston and Brockville yet benchmark rates of 1.1 at QHC. The lack of day rehabilitation options in Kingston and Brockville contributes to this variance.
17. **The mean number of rehabilitation CCAC visits (remains green- SE LHIN named as a high performer):** Improved rates are associated with improved outcomes and reduced LOS. The visit rate is now 10.9, almost double the provincial rate of 5.7.
18. **Proportion with severe stroke within inpatient rehabilitation (remains yellow)**: improved slightly from 36.7 to 37.2%. There is an ongoing need to provide rehab access to both moderate and severe stroke survivors, as all will benefit from rehabilitation.

Integration of care

19. **Proportion discharged from acute care directly to LTC or CCC (remains red)** decreased from 11 to 9% but still high. Again, system change is critical to improving access to inpatient rehabilitation particularly for the severely disabled survivor.
20. **All-cause 30 day stroke readmission rate (HSAA indicator)**: worsened from 5.6 to 8.1% - similar to provincial rate of 8%, though SE regional variance decreased from last report (now 5 to 11%).

Stroke Prevention Clinic Audit - This was the first audit of all SPCs across the province. SPC Report Card results include:

1. **Access to SPC- % of stroke/TIA patients discharged alive from the ED who received a SPC first visit:** 27% rate compared to 21% provincial rate- despite the low rate, SE is third highest provincial performer.
2. **Assessment time within guidelines- proportion of emergent &urgent patients seen within the recommended 24-72 hours from SPC referral:** Limited numbers deemed urgent or semi-urgent across SE Clinics – perhaps because many TIA patients that visit the EDs have already been assessed and managed per ED TIA pathways such that urgency may be reduced by the time of referral to SPC. Only 7% of the limited numbers of urgent/emergent patients referred to the SE clinics are seen within the recommended timelines (compared to 16% provincially).
3. **Vascular Imaging- proportion of visits with ischemic stroke/TIA that receive vascular imaging at any time:** SE rate of 91.4% is close to provincial rate of 92.7% with encouraging low variance of only 89 to 97%.
4. **Medications for atrial fibrillation - proportion of ischemic stroke/TIA patients with atrial fibrillation that are prescribed or recommended anticoagulation at any time:** high rates seen across SE at 88.4 % compared to provincial rate of 80%. SE has second highest provincial rate.
5. **Cognitive screening: proportion of patients screened for cognitive deficits at first SPC visit:** low rates observed across the province at 10.4%– with SE rates of 1.3%; an emerging area for continued discussion and a potential improvement plan.

2012-13 SE Regional Stroke Workplan progress in relation to the above Report Card observations

Priority 1. Stroke Rehabilitation - ***Development of a regional plan to implement best practice recommendations***

- Ongoing participation in the Ontario Stroke Reference Panel, investigating the impact of Rehab/CCC on ED/ALC and patient flow including the publication in June of the provincial economic analysis of the impact of rehabilitation best practices.
- A Regional Rehabilitation Team successfully planned and delivered a Regional Forum Nov 2012 entitled *Leveraging Rehabilitation to Improve Patient Flow and Quality Outcomes.* Planning included review of patient flow data, rehabilitation best practice regional gap analysis, identification of roadblocks and a regional economic analysis of the impact of rehabilitation system change. Forum participants identified key solutions to patient flow including acute stroke unit care; implementation of local solutions is now a key activity in the 2013-15 regional stroke workplan. Report available at http://www.strokenetworkseo.ca/projnewprojects
- In partnership with SE CCAC, sustained coordination and delivery of *Discharge Link* enhanced community rehabilitation services.
- Sustained use of Alpha FIM rehab triage tool at L&ACGH; KGH and QHC; use of standardized rehabilitation outcomes measures.

Priority 2. Community Re-integration/LTC – ***Investigate funding for stroke survivor and caregiver support groups***

- Support to *Kingston Seniors'* Community Support Agency in making the case for funding a professional facilitator to sustain their 4 community stroke and caregiver support groups, telephone outreach group and system navigation services. 2012-13 funding was granted by the SE LHIN with a requirement for a comprehensive evaluation. Report submitted Jan 2013 detailing positive evaluation findings: positive effects on well-being, coping with anxiety, depression and stressors for caregivers and stroke survivors; improved scores in the Stroke Impact Scale in areas of communication, memory, thinking and perceived recovery; decreased caregiver burden; strong participant satisfaction. Report available at http://www.strokenetworkseo.ca/projnewprojects On the basis of this positive evaluation, the SE LHIN requested another proposal be submitted by Feb 2013.
- Successful proposal to SE LHIN to fund *Community Primary Health Care* (Brockville and Smiths Falls) and *Community Care for South Hastings* (Belleville) to deliver similar services. Facilitator recruitment and selection completed; orientation now underway.
- In partnership with St Lawrence College, sustained delivery of *Brain Body and You* educational program.
- Completion of a pilot study on the implementation of stroke best practices in LTC settings using the RAI-MDS assessment tool.

Priority 3. Stroke Prevention - ***Collaborate with other networks to build capacity within primary care for vascular health***

- Completion of an environmental scan of all SE primary care FHTs, CHCs and NP-led Clinics to identify common needs and to build partnerships in global vascular health risk reduction; Primary Care *Think Tanks* held in Brockville, Kingston and Belleville in 2012 in partnership with the Southeastern Ontario Health Collaborative; Report available at http://www.strokenetworkseo.ca/projnewprojects
- Southeastern Ontario Health Collaborative identified joint priorities for action as an outcome of this report and is now actively engaged as a partner in both the Quinte and Thousand Islands Health Links.
- Participation in the Primary Care Workgroup of the Ontario Integrated Vascular Health Strategy specifically in the development of an integrated vascular risk identification flow sheet and vascular health medical directives for use by primary care.

Priority 4. Acute Stroke Management ***Set and monitor regional expectations for stroke unit care***

- In Dec 2012, Kingston General Hospital became the second acute care centre in Canada to receive the National Stroke Distinction award. KGH achieved a 20% increase in stroke unit utilization to 81% and a 5% decrease in in-hospital stroke mortality.
- Quinte Health Care is now positioned to implement a consolidated corporate stroke unit in April 2013 at the Belleville site.
- Other acute sites: In anticipation of quality based funding, consideration has been given to a provincial analysis of the impact of critical mass on stroke mortality recommending clustering to attain annual volumes of 130 ischemic stroke patients; discussion with leaders is ongoing at PSFDH, BrGH and L&ACGH. Dysphagia screening and new order sets implemented in Brockville.
- In partnership with EMS providers, the Regional Paramedic Program of Eastern Ontario and the Champlain region completed a study funded by the Ontario Stroke Network on the impact of the revised paramedic prompt card indicating very positive results.