



Ontario and LHIN 2016/17 Stroke Report Cards and Progress Reports

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Executive Summary

Since 2011, annual stroke report cards and progress reports have been a key resource for Ontario's 11 regional stroke networks. The information they provide drives system change and allows for consistent planning across the province.

This 2018 report marks the eighth edition of the provincial and LHIN report cards, capturing data from 2016/17 fiscal year. The quality of stroke care continues to improve in Ontario. Performance in 2016/17 compared to 2015/16 demonstrates the following:

- The median door to needle time decreased by 3 minutes to 47 minutes and the rate of tPA (12.5%) exceeded the minimum rate understood to impact disability at a population level (12%)
- The proportion of individuals with stroke or TIA discharged from the ED and referred to secondary prevention care increased to 77.3%
- The proportion of inpatient stroke rehabilitation patients achieving a length of stay target appropriate to their disability increased by almost 4 percentage points to 66.4%
- The 30-day readmission rate for any reason following a stroke/TIA decreased from 7.6% in 2015/16 to 7.0% in 2016/17

The report includes a comprehensive annual update on the acute stroke infrastructure in Ontario. In 2016/17, Ontario had 10 hospitals offering comprehensive stroke service, including endovascular therapy (EVT),^a thrombolysis, also known as tissue plasminogen activator (tPA), and stroke unit care.^b Stroke is a time-sensitive condition with two key hyperacute interventions, EVT and tPA, to restore blood flow to the brain. In 2016/17, there were 45 Ontario hospitals that provided tPA on a 24/7^c basis, resulting in 12.5% of ischemic stroke patients in Ontario receiving tPA. This is a significant improvement from 11.7% in the previous three-year period from 2013/14 to 2015/16 and above the 12% rate considered to be the minimum intravenous tPA utilization rate to achieve population effects on disability.¹

Stroke unit care is associated with better patient outcomes,² and it is encouraging that the proportion of stroke patients receiving stroke unit care increased from 43.3% in 2015/16 to 45.6% in 2016/17. Seven stroke units were established in 2016/17, resulting in 35 acute hospitals in Ontario providing stroke unit care. The collaborative efforts of the Regional Stroke Networks and the LHINs resulted in significant improvements across most LHINs and are the main drivers for this provincial change.

^a An Ontario Health Technology Advisory Committee (OHTAC) review of EVT considered mechanical thrombectomy to be a cost-effective intervention and recommended public funding of EVT for eligible patients with acute ischemic stroke in selected stroke centres.

^b A stroke unit is defined as a geographical unit with identifiable co-located beds (e.g. 5A-7, 5A-8, 5A-9, 5A-10, 5A-11) that are occupied by stroke patients 75% of the time and has a dedicated inter-professional team with expertise in stroke care with the following professionals at a minimum nursing, physiotherapy, occupational therapy, speech language pathologist.

^c The use of Telestroke through CriticalCall and the Ontario Telemedicine Network enabled 28 sites to provide 24/7 access to stroke expertise in advising on tPA.

All acute hospitals admitting stroke patients routinely provide early assessment of rehabilitation needs using the AlphaFIM tool. There was a one-day increase in the time patients needing inpatient rehabilitation begin therapy to achieve their rehabilitation goals, from a median of 8 days in 2015/16 to 9 days in 2016/17. Rehabilitation in the outpatient setting is recommended for patients with mild stroke (AlphaFIM score greater than 80), and in 2016/17, 72.6% of such patients were discharged home³; however, a lack of available data prevents an accurate evaluation of the provision of outpatient rehabilitation for them.

Among stroke/TIA patients with atrial fibrillation, 72% had their secondary prevention medication filled within 90 days of discharge from acute stroke care, which represents an increase from the previous three-year performance and what was reported in 1998 and an earlier Ontario study⁴. Similarly, more than three-quarters of ischemic stroke/TIA patients (77.3%) not admitted to hospital were referred to stroke secondary prevention clinics. However, lack of clinic data prevents an assessment of access and care provided.

The proportion of stroke/TIA patients arriving to hospital by ambulance (59.2%) is an indirect measure of public awareness and efforts to improve public education of stroke signs and symptoms needs to continue. The rate of inpatient admission for stroke/TIA has remained stable (1.3 admissions per 1000 population), despite the aging population, which suggests that further work is needed to examine the ambulatory care management of patients with TIA and non-disabling strokes.

Despite improvements, Ontario's stroke report card identified wide variation across the province in delivering best practices on many indicators, which means that people receive different quality of care depending on where they live or receive that care. For example, the proportion of stroke/TIA patients who received care on a stroke unit varied almost eight-fold between LHINs. Additionally, Ontario's stroke rehabilitation sector is under pressure to provide the 180 minutes per day of direct therapy that is recommended by stroke quality-based procedures (QBPs).³ Current performance is only 65 minutes per day.

It is estimated that if all LHINs performed at benchmark levels:

- 6,039 more patients would have access to stroke unit care,
- 743 more patients would receive tPA, and
- 827 more severe stroke patients would have access to inpatient rehabilitation.

In summary, the report cards and progress reports revealed Ontario's stroke system is continuing to improve the delivery of best practice care and the benchmarks for high quality care are being set higher in the absence of financial incentives.

Introduction

CorHealth Ontario is an entity created by the 2016 merger of the Ontario Stroke Network and the Cardiac Care Network of Ontario with a mandate spanning cardiac, stroke and vascular care in the province.

In 2009, the Ontario Stroke Network (OSN) commissioned stakeholder consultations to assist the Stroke Evaluation Quality Committee (SEQC) in creating an effective tool for communicating the status of the OSN to its key stakeholders. Based on the results of these consultations, in which stakeholders indicated their preference for a concise reporting mechanism, the SEQC created one provincial and 14 Local Health Integration Network (LHIN) report cards in 2011. The Ontario report card presents a provincial overview of the quality of stroke care across the care continuum that identifies where the system is working well and where improvements are needed.

Through a series of internal reviews, and using the Canadian Stroke Strategy's Performance Measurement Manual,⁵ the SEQC identified 20 key indicators for the report cards; seven population-based and thirteen facility-based. These indicators were considered integral to system efficiency and effectiveness. The report cards serve as a valuable stakeholder tool that facilitates consistent planning across Ontario's 11 Regional Stroke Networks and the implementation of Quality-Based Procedures (QBPs).³

In 2015, the SEQC also developed a progress report for each LHIN. In contrast to the report card, where LHIN performance is compared to provincial high performers, the progress report evaluates each LHIN's progress in achieving best practice by comparing their current year performance to their previous three-year performance.

The Knowledge Translation and Implementation Subcommittee of the SEQC also established a report card dissemination strategy— an active knowledge translation strategy that has increased the awareness of stroke system initiatives and piqued the interest of funders in monitoring the system and targeting gaps. The strategy includes:

- An individualized interpretation of the report card to enable system improvement within each LHIN.
- Distribution of report cards and interpretations to the CEO and board chair of each LHIN.
- Scheduled meetings between regional directors and LHIN representatives to review report card data.
- The development of quality improvement plans.

The annual report cards and progress reports act as a foundation for active knowledge exchange and stroke best practice implementation strategy previously developed by the OSN. The Knowledge Translation and Implementation Subcommittee of the SEQC reviews the indicators every year to assess data availability, system impact, and the knowledge translation strategy. A collaborative process between the 11 regional stroke networks and the LHINs has resulted in ongoing improvements in access to and delivery of stroke best practices for Ontarians. In addition, an annual inventory to provide a snapshot of the stroke-related infrastructure across the province is conducted.

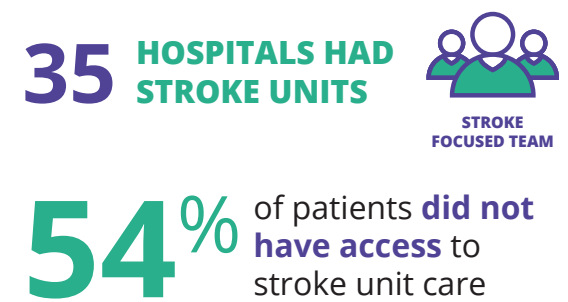
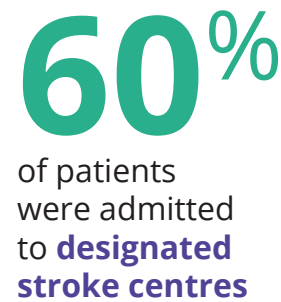
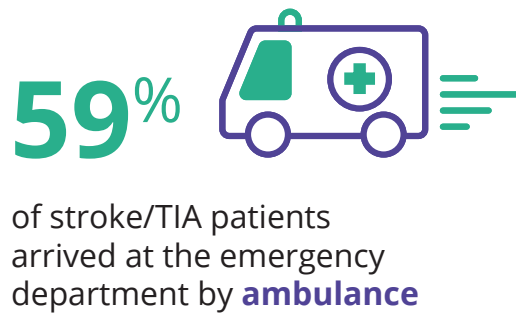
About This Report

This 2018 report marks the eighth edition of the provincial and LHIN report cards, capturing data from 2013/14 to 2016/17 fiscal years. Changes to the report cards and progress reports in this edition include:

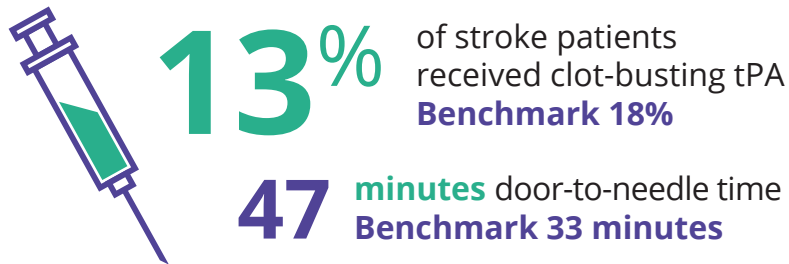
1. Calculations have been revised for the amount of direct therapy received each day by inpatient stroke rehabilitation patients (Indicator 14).
2. The provincial benchmark reported for each indicator is the best between 2014/15 and 2016/17.
3. Provincial, national and international targets set for stroke care practices have been provided where available. Targets are included for 6 indicators (Indicators **6, 7, 8, 11, 14, 20**) and provide additional context to assist with interpretation of current performance across Ontario. In some cases, the methods used to set a target may differ from the corresponding indicator as defined in this report. For example, the target of 75% set for stroke unit admission is facility-based while stroke unit admission rates shown in this report are population-based. Users are encouraged to consult the target reference sources for further information.

Stroke Care in Ontario, 2016/17

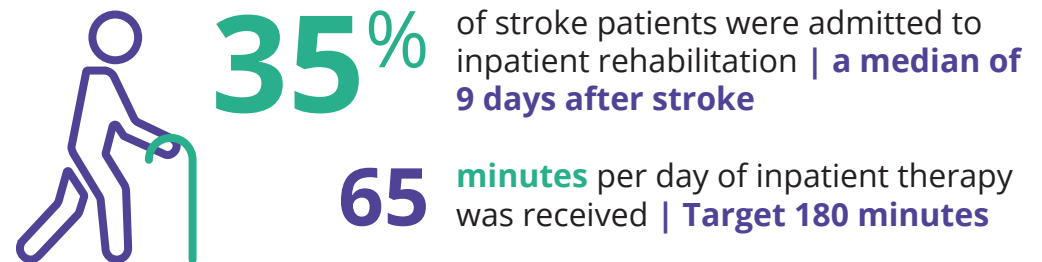
Stroke patients require specialized care



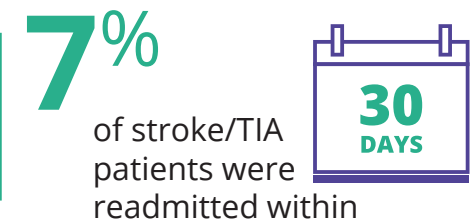
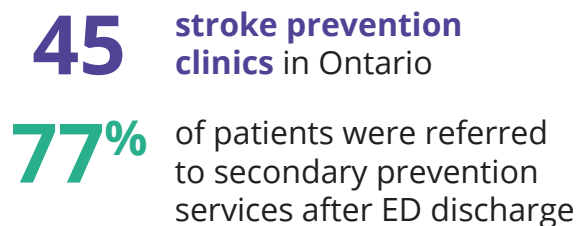
"Time is brain" and tPA restores blood flow



Rehabilitation begins in hospital



Preventing another stroke is critical



Organization of the Report Cards and Progress Reports

The indicators cross the care continuum and cover access, effectiveness, efficiency, and integration domains. Indicator calculations and data sources can be found in Appendix A, including the specifics of the risk-adjustment mortality model (Indicator 3).

Indicator No.	Care Continuum Category	Domain	Definition
1	Public Awareness and Patient Education	Access	Proportion of stroke/TIA patients who arrived at the emergency department (ED) by ambulance.
2	Prevention of Stroke	Effectiveness	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).
3	Prevention of Stroke	Effectiveness	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).
4	Prevention of Stroke	Effectiveness	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.
5	Prevention of Stroke	Access	Proportion of ischemic stroke inpatients who received carotid imaging.
6	Acute Stroke Management	Efficiency	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target: 30 minutes ⁶
7	Acute Stroke Management	Access	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target: >12% ¹
8	Acute Stroke Management	Effectiveness	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay (HSAA indicator). Target: >75% ⁶

9	Prevention of Stroke	Effectiveness	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.
10	Acute Stroke Management	Efficiency	Proportion of alternate level of care (ALC) days to total length of stay (LOS) in acute care.
11	Acute Stroke Management	Integration	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target: >30% ⁶
12	Stroke Rehabilitation	Efficiency	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM >80) discharged home.
13	Stroke Rehabilitation	Efficiency	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.
14	Stroke Rehabilitation	Effectiveness	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target: 180 minutes/day ³
15	Stroke Rehabilitation	Efficiency	Proportion of inpatient stroke rehabilitation patients achieving rehabilitation patient group (RPG) active LOS target.
16	Stroke Rehabilitation	Efficiency	Median FIM efficiency for moderate stroke in inpatient rehabilitation.
17	Stroke Rehabilitation	Access	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.
18	Stroke Rehabilitation	Access	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).
19	System Integration	Integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).

20	System Integration	Integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target: 10.0 ⁶
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Performance Indicators

Performance was analyzed at the facility, sub-LHIN, LHIN and provincial level. The minimum and maximum performance was also included for each indicator. The provincial report card includes the range of performance results across 14 LHINs, and each LHIN report card includes the range of performance within the LHIN (facilities or sub-LHINs).

Provincial benchmarks were calculated using the Achievable Benchmarks of Care (ABC) methodology⁷, which summarizes the performance among the highest performing facilities or sub-LHINs representing at least 20% of all patients eligible for the appropriate care.

Colour Banding for Performance

Report Cards

Green, yellow and red colour bands were used to distinguish levels of regional performance relative to the benchmark for each indicator. Green bands indicate exemplary performance (benchmark achieved or within 5% of the benchmark), yellow bands represent acceptable performance (at or above the 50th percentile and greater than 5% absolute or relative difference from the benchmark), and red bands indicate poor performance (below the 50th percentile).

Progress Reports

Teal, purple and coral colour bands were used to distinguish degrees of provincial/LHIN progress from the previous three-year average performance for each indicator. Teal bands indicate that the province/LHIN is progressing well (statistically significant improvement), purple bands indicate progress (improving performance but not statistically significant), and coral bands indicate no progress (no change or performance decline).

High Performers or Greatest Change

Sub-LHINs or facilities with the highest performance in the 2016/17 fiscal year were identified, where possible, for each report card indicator, in order to highlight achievements made across the province, facilitate dialogue among regions and drive system improvement. Sub-LHINs or facilities with the greatest change in performance in 2016/17 from the previous three years were identified for each indicator on the progress report. LHINs with the highest performance and greatest change from the previous three years were also identified.

Methods

Acute Hospital Resource Inventory

As in previous years, an inventory to quantify the distribution of key health system resources needed to implement stroke best practices in Ontario was conducted. Inventories were distributed to the regional directors at each of the 11 regional stroke networks, who were asked to report on the locations of stroke units and secondary prevention clinics, diagnostic imaging (CT, MR, CTA, MRA) capability, and thrombolysis and EVT capacity, in the acute hospitals of their respective regions.

Stroke Cohort

Stroke cohorts for adults aged 18 and older were generated from administrative databases held at the Institute for Clinical Evaluative Sciences, using codes from the International Classification of Diseases, 10th Revision, Canada (ICD-10-CA). These codes included: G45 (excluding G45.4), H34.0, H34.1, I60 (excluding I60.8), I61, I63 (excluding I63.6) and I64. The most responsible or main problem diagnosis was used to identify stroke or TIA records for adults aged 18 and older in the CIHI-DAD and NACRS databases, respectively.

Only unique patients for each 12-month period, from April 1, to March 31 were included. Community Care Access Centre data were based on patient visits, and multiple patient visits were included if they occurred in different LHINs. Patients considered palliative (ICD-10-CA, code Z51.5 with prefix 8) as part of their initial treatment plan were excluded. Stroke inpatient rehabilitation patients, classified as RCG-1 and without a readmission within the same day, were included.

Datasets were linked using unique encoded identifiers and analyzed at the Institute for Clinical Evaluative Sciences (ICES).

Indicator Analyses

Most indicators reflect the proportion of patients receiving the care among all patients expected to receive the care, and are reported as percentages. Indicators are reported at LHIN levels. Seven of the indicators are population-based (Indicators 1, 2, 4, 7, 8, 11, 19). The remaining indicators (Indicators 3, 5, 6, 9, 10, 12–18) are facility-based (i.e., they examine how well the facilities in a given LHIN perform on various indicators). Time-based indicators are reported as median values. The median time is the time required for half of the patients to receive a given service (e.g., inpatient rehabilitation; Indicators 13, 14). The mean is the sum of all services divided by the number of patients discharged from acute or rehabilitation care (e.g., Indicator 17; CCAC rehabilitation services).

For admission rates, direct standardization was used to compare rates between regions, as if they had similar population

compositions. The direct standardized rates were calculated using the 2003/04 Ontario adult population (aged 18 and older) to examine provincial and regional rates over time. Indirect standardization was used to calculate readmission and mortality rates. A readmission rate represents patients who survived the initial emergency department (ED) visit or hospitalization, but were readmitted to hospital at least once within 30 days of the index visit or admission for any cause. An age-sex regression model was used to calculate an expected revisit/readmission rate for each region; the crude (observed) rate for each region was divided by the expected rate and multiplied by the annual Ontario rate to provide the age- and sex-adjusted rate. For the progress reports, the same approach was used except that the ratio of the observed to expected rate was multiplied by the overall previous three-year LHIN rate. The readmission rate is a good indicator of whether there was appropriate discharge planning to prevent complications, or another stroke or TIA event.

Thirty-day mortality rates relate to patients who were alive when they arrived at the ED and admitted to hospital. A risk-adjusted regression model was used to calculate an expected mortality rate for each region; the crude (observed) rate for each region was divided by the expected rate and multiplied by the overall annual Ontario rate to provide the risk-adjusted mortality rate. For the progress reports, the same approach was used except that the ratio of the observed to expected rate was multiplied by the overall previous three-year LHIN rate. Further details on the risk-adjustment model are found in Appendix A.

Progress Colour Banding Analysis

Statistically significant differences in performance were determined by comparing the current year's performance to the combined average performance for the previous three years. This comparison was completed using a chi-square test for categorical variables, and a Wilcoxon rank-sum test or t-test for continuous variables. For calculating mortality and readmission rates, bootstrapping 200 times was used to generate a standard error around the estimates in order to assess statistical significance of the difference between the current risk-adjusted rate and the overall combined risk-adjusted rate for the previous three-years.

Benchmark Calculations

Provincial benchmarks are provided for each indicator and represent the top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology⁷ as follows:

1. Care providers (facilities or sub-LHINs) were ranked in descending order of performance on the indicator.
2. Beginning with the highest-performing care provider, the providers were added until at least 20% of the total number of patients were represented (in the denominator). It is important to note that low performance results are desired for Indicators 2, 3, 6, 10, 13, 19 and 20.

3. The benchmark was calculated using only the providers selected in step 2 (20%), by dividing the total number of patients who received appropriate care by the total number of patients eligible for the care in the subset.

To ensure that high-performing care providers with low numbers of patients did not unduly influence the benchmark rates, the performance results of facilities or sub-LHINs with small sample sizes and high performance levels were adjusted and rank order was based on the adjusted performance results. The benchmarks were calculated by ranking sub-LHIN performance, not facilities, for population-based indicators (Indicators 1, 2, 4, 7, 8, 11, 19). Benchmarks for Indicators 3 and 20 (mortality and readmission rates) are not included because the current risk-adjustment models do not adequately capture stroke severity; a key predictor of stroke outcomes.⁸ A benchmark for Indicator 12 will be reported once more years of data become available and data quality improves.

High Performers and Greatest Improvement

To be considered high performing or greatest change, acute care facilities had to have annual volumes of more than 100 stroke/TIA patients per year, and rehabilitation facilities had to have sample sizes greater than the median number of patients admitted to inpatient rehabilitation in that year (approximately 60 patients each year). High-performing sub-LHINs had to have at least 30 stroke/TIA patients for each indicator. The two highest-performing LHINs for each indicator were also identified. These LHINs had performance rates within 5% of the provincial benchmark, with the exception of indicators 2, 3 and 20, for which the highest-performing LHIN had a performance rate that was lower than the provincial average by a statistically significant amount. For some indicators, no single LHIN had exemplary performance; in these cases, no LHINs were identified. These results were not unexpected, as each LHIN's performance is an aggregate of the performance results of all facilities in the LHIN. The two LHINs with the greatest change and statistically significant performance compared to the three-year average were identified on the progress report.

Results

Acute Hospital Stroke Resources Inventory

Exhibit 1 presents an inventory of Ontario's acute care institutional resources for stroke/TIA in 2016/17. These resources support stroke best practice delivery, stroke QBP implementation and system planning. Among 168 Ontario institutions, 154 admitted 17,499 stroke/TIA patients, ranging from less than five admissions in some institutions to more than 800 in others. Sixty percent of admissions were to designated stroke centres; 35% to regional stroke centres and 25% were to district stroke centres. This represents a four percent increase in the proportion of patients receiving care in a designated stroke centre compared to 2012/13⁹.

There were 54 hospitals with over 100 admissions, and 53 hospitals with less than 50 admissions. Secondary stroke prevention services were available at 47 sites and ten sites offered rapid TIA assessment clinics and expedited access to stroke expertise and diagnostic imaging to potentially avoid hospitalization for TIA patients and those with minor non-disabling ischemic stroke.

Hyperacute stroke care

Stroke is a time-sensitive condition. Hyperacute services are those that are time-dependent and are provided within the first few hours after the onset of stroke symptoms. In 2016/17, 98 hospitals had neuroimaging available; 62 had magnetic resonance imaging (MRI) and 98 had computed tomography (CT). Forty-five hospitals provided tPA, 28 of which provided tPA with the support of Telestroke service.

Recently, large clinical trials demonstrated a reduction in mortality of nearly 50%, and a 25% increase in positive outcomes from a clot retrieval intervention for acute ischemic stroke due to large artery occlusion (compared to standard tPA)^{10, 11}. This game-changing intervention, referred to as endovascular treatment (EVT), involves mechanical clot disruption (embolectomy) carried out by a specialist with neuro-interventional expertise, the use of advanced imaging and specialized monitoring after treatment. There were 10 hospitals (admitting an average 593 stroke patients in 2016/17) that provided this highly-specialized procedure; nine of which offered 24/7 access. Advanced carotid imaging including computed tomography angiography (CTA) or magnetic resonance angiography (MRA), is needed to evaluate patient eligibility for EVT. CTA or MRA was available at 78 hospitals^d, however not all sites provided 24/7 access to this hyperacute imaging.

^d 55 hospitals have magnetic resonance angiography and 78 hospitals have computed tomography angiography

Acute stroke care

Over the past three years, several regional stroke networks have worked with the LHINs to establish and maintain dedicated stroke units as a means of consolidating stroke care in hospitals where there is critical mass. In 2016/17, Ontario had 35 stroke units compared to 14 in 2012/13.

LHIN/Institution (Site)	Institution No.	Location	Ontario Stroke Network Region	Inpatient Volume	Stroke Unit as per CorHealth Ontario Definition ²	CT Scanner	MRI Scanner	CTA/CTP	MRA	Administers tPA	Telestroke Centre ³	Stroke Prevention Clinic
Woodstock General Hospital	1716	Woodstock	Southwestern Ontario	68		X	X	X	X			
3. Waterloo Wellington LHIN												
Cambridge Memorial Hospital	1905	Cambridge	Central South	26		X	X					
Grand River Hospital (Kitchener-Waterloo)	3734	Kitchener	Central South	606	X	X	X	X	X	X	X	X
Groves Memorial Community Hospital	1936	Fergus	Central South	13		X						
Guelph General Hospital	1946	Guelph	Central South	267	X	X	X	X	X	X	X	
North Wellington Health Care (Louise Marshall)	4323	Mount Forest	Central South	11								
North Wellington Health Care (Palmerston and District)	4326	Palmerston	Central South	≤5								
St. Mary's General Hospital	1921	Kitchener	Central South	31		X	X					
4. Hamilton Niagara Haldimand Brant LHIN												
Brant Community Health Care System (Brantford)	4675	Brantford	Central South	302	X	X	X	X	X	X	X	X
Haldimand War Memorial Hospital	1146	Dunnville	Central South	11		X						
Hamilton Health Sciences Corp (General)	1982	Hamilton	Central South	812	X	X	X	X	X	X ⁴		X
Hamilton Health Sciences Corp (Juravinski)	1983	Hamilton	Central South	134		X	X	X	X			
Hamilton Health Sciences Corp (West End)	4737	Hamilton	Central South	n/a								
Joseph Brant Hospital	1160	Burlington	Central South	203		X	X	X	X	X	X	X
Niagara Health System (Douglas Memorial)	4210	Fort Erie	Central South	n/a								
Niagara Health System (Greater Niagara)	4213	Niagara Falls	Central South	315	X	X	X	X	X	X	X	X
Niagara Health System (Port Colborne)	4219	Port Colborne	Central South	n/a								
Niagara Health System (St. Catharines General)	4224	St. Catharines	Central South	165	X	X	X	X	X			
Niagara Health System (Welland County)	4227	Welland	Central South	72		X			X			
Norfolk General Hospital	1591	Simcoe	Central South	23		X						X
St. Joseph's Health Care System (Hamilton)	2003	Hamilton	Central South	115		X	X	X	X			
West Haldimand General Hospital	1149	Hagersville	Central South	≤5								
West Lincoln Memorial Hospital	4788	Grimsby	Central South	13								
5. Central West LHIN												
Headwaters Health Care Centre (Dufferin)	3684	Orangeville	West GTA	76		X						
William Osler Health System (Brampton Civic)	4681	Brampton	West GTA	428		X	X	X	X	X	X	X ⁵
William Osler Health System (Etobicoke)	3929	Etobicoke	West GTA	256		X	X	X	X	X	X	X ⁵
William Osler Health System (Peel Memorial)	4827	Brampton	West GTA	n/a								
6. Mississauga Halton LHIN												
Halton Healthcare Services (Georgetown)	4622	Georgetown	West GTA	54								
Halton Healthcare Services (Milton)	4022	Milton	West GTA	53		X						
Halton Healthcare Services (Oakville)	3926	Oakville	West GTA	143	X	X	X	X	X	X		
Trillium Health Partners (Mississauga)	4752	Mississauga	West GTA	800	X	X	X	X	X	X ⁴		X
Trillium Health Partners (Queensway)	4759	Toronto	West GTA	n/a		X						
Trillium Health Partners (Credit Valley)	4747	Mississauga	West GTA	265		X	X	X	X	X		
7. Toronto Central LHIN												
Sinai Health System (Mount Sinai)	4804	Toronto	Toronto West	85		X	X	X	X			
St. Joseph's Health Centre	1443	Toronto	Toronto West	192	X	X	X	X	X			
St. Michael's Hospital	1444	Toronto	Toronto - Southeast	418	X	X	X	X	X	X ⁴		X
Sunnybrook Health Sciences Centre	3936	Toronto	Toronto - North and East	595	X	X	X	X	X	X ⁴		X ⁶
Michael Garron Hospital	1302	Toronto	Toronto - Southeast	194		X	X					X
University Health Network (Toronto General)	3910	Toronto	Toronto West	n/a		X	X	X	X			

LHIN/Institution (Site)	Institution No.	Location	Ontario Stroke Network Region	Inpatient Volume	Stroke Unit as per CorHealth Ontario Definition ²	CT Scanner	MRI Scanner	CTA/CTP	MRA	Administers tPA	Telestroke Centre ³	Stroke Prevention Clinic
The Ottawa Hospital (Civic)	4046	Ottawa	East - Champlain	732	X	X	X	X	X	X ⁴		X
The Ottawa Hospital (General)	4048	Ottawa	East - Champlain	120		X	X	X	X	X		
Pembroke Regional Hospital Inc.	1804	Pembroke	East - Champlain	126	X	X	X	X	X	X	X	X
Queensway-Carleton Hospital	1681	Ottawa	East - Champlain	128		X	X	X	X			X
Renfrew Victoria Hospital	1813	Renfrew	East - Champlain	8		X						
St. Francis Memorial Hospital	1801	Barry's Bay	East - Champlain	n/a								
University of Ottawa Heart Institute	4164	Ottawa	East - Champlain	6		X	X	X	X			
Winchester District Memorial Hospital	1885	Winchester	East - Champlain	14		X		X				
12. North Simcoe Muskoka LHIN												
Collingwood General and Marine Hospital	1833	Collingwood	Central East	113		X		X				
Georgian Bay General Hospital (Midland)	1844	Midland	Central East	111		X		X				
Muskoka Algonquin Healthcare (Bracebridge)	4619	Bracebridge	Central East	69		X		X				
Muskoka Algonquin Healthcare (Huntsville)	4616	Huntsville	Central East	93		X		X		X		
Orillia Soldiers' Memorial Hospital	1853	Orillia	Central East	120		X	X	X	X			
Royal Victoria Regional Health Centre	1825	Barrie	Central East	297	X	X	X	X	X	X	X	X
13. North East LHIN												
Anson General Hospital	2084	Iroquois Falls	Northeast	6								
Blind River District Health Centre/Pavillon Santé	2057	Blind River	Northeast	6								
North Shore Health Network (Blind River)	4768	Chapleau	Northeast	n/a								
North Shore Health Network (Thessalon)	4770	Thessalon	Northeast	≤5								
Englehart and District Hospital	2204	Englehart	Northeast	≤5								
Espanola Regional Hospital and Health Centre	2174	Espanola	Northeast	10								
Health Sciences North/Horizon Santé-Nord	4059	Sudbury	Northeast	285		X	X	X	X	X	X	X
Hornepayne Community Hospital	2061	Hornepayne	Northeast	≤5								
Kirkland and District Hospital	2211	Kirkland Lake	Northeast	18								
Lady Dunn Health Centre	2076	Wawa	Northeast	≤5								
The Lady Minto Hospital	2078	Cochrane	Northeast	6								
Manitoulin Health Centre (Little Current)	2121	Little Current	Northeast	13								
Manitoulin Health Centre (Mindemoya)	2123	Mindemoya	Northeast	15								
Mattawa General Hospital	2126	Mattawa	Northeast	≤5								
North Bay Regional Health Centre	4730	North Bay	Northeast	160	X	X	X	X	X	X	X	X
Notre Dame Hospital	2082	Hearst	Northeast	10		X						
Sault Area Hospital	4407	Sault Ste. Marie	Northeast	185		X	X	X	X	X	X	X
Sensenbrenner Hospital	2088	Kapuskasing	Northeast	15								
Service de Santé de Chapleau Health Service	2173	Chapleau	Northeast	≤5								
Smooth Rock Falls Hospital	2094	Smooth Rock Falls	Northeast	≤5								
St. Joseph's General Hospital	2058	Elliot Lake	Northeast	35								
Temiskaming Hospital	2207	New Liskeard	Northeast	23		X				X	X	
Timmins and District General Hospital	3414	Timmins	Northeast	92	X	X	X	X	X	X	X	X
Weeneebayko Area Health Authority - Attawapiskat	4702	Attawapiskat	Northeast	≤5								
Weeneebayko Area Health Authority - Moose Factory	4698	Moose Factory	Northeast	≤5								
Weeneebayko Area Health Authority - Moosonee	4692	Moosonee	Northeast	n/a								
West Nipissing General Hospital	2812	Sturgeon Falls	Northeast	19								
West Parry Sound Health Centre	3729	Parry Sound	Northeast	56		X						

LHIN/Institution (Site)	Institution No.	Location	Ontario Stroke Network Region	Inpatient Volume	Stroke Unit as per CorHealth Ontario Definition ²	CT Scanner	MRI Scanner	CTA/CTP	MRA	Administers tPA	Telestroke Centre ³	Stroke Prevention Clinic
14. North West LHIN												
Atikokan General Hospital	2147	Atikokan	Northwest	≤5								
Dryden Regional Health Centre	2103	Dryden	Northwest	15		X		X		X	X	
Geraldton District Hospital	2175	Geraldton	Northwest	≤5								
Lake-of-the-Woods District Hospital	2110	Kenora	Northwest	32		X		X		X	X	X
Manitouawadge General Hospital	2176	Manitouawadge	Northwest	≤5								
North of Superior Healthcare Group - McCausland Hospital	4822	Terrace Bay	Northwest	n/a								
Nipigon District Memorial Hospital	2178	Nipigon	Northwest	≤5								
The Red Lake Margaret Cochenour Memorial Hospital	2115	Red lake	Northwest	7								
Riverside Health Care Facilities (La Verendrye)	2150	Fort Frances	Northwest	23		X		X		X	X	X
Riverside Health Care Facilities (Rainy River)	2153	Rainy River	Northwest	≤5								
Sioux Lookout Meno-Ya-Win Health Centre (District)	4353	Sioux Lookout	Northwest	10		X		X		X	X	X
Thunder Bay Regional Health Sciences Centre	3853	Thunder Bay	Northwest	341	X	X	X	X	X	X ⁴		X
North of Superior Healthcare Group - Wilson Memorial	4819	Marathon	Northwest	7								X

Notes:

1 Based on CorHealth Ontario's annual acute stroke care resource survey (as of April 2018). Survey includes facilities (e.g. emergency departments, urgent care centres, inpatient care) that had at least one stroke/TIA ED visit or DAD discharge in 2016/17.

2 Stroke unit (revised definition, February 2014): A geographical unit with identifiable co-located† beds (eg 5A -7, 5A-8, 5A-9, 5A-10, 5A-11) that are occupied by stroke patients 75%

3 Funded Ontario Telemedicine Network site in 2016/17.

4 Also provides endovascular therapy (EVT).

5 Cardiovascular clinic, not specific to stroke.

6 Also has a rapid transient ischemic attack (TIA) and minor ischemic stroke clinic.

7 Patients from Peterborough Regional Health Centre have access to a stroke prevention clinic through the Peterborough Regional Vascular Health Network.

8 Urgent TIA patients have access to the Scarborough Stroke Clinic.

9 CT scanner at Smiths Falls site is shared with Perth site (Perth and Smith Falls District).

n/a = not applicable (i.e., no stroke/TIA admissions, or institution does not provide inpatient care).



Ontario Stroke Report Cards, Progress Reports and Interpretations

Ontario Stroke Report Card, 2016/17

Local Health Integration Networks (LHINs)

- | | | |
|--|-----------------------|--------------------------|
| 1. Erie St. Clair | 5. Central West | 10. South East |
| 2. South West | 6. Mississauga Halton | 11. Champlain |
| 3. Waterloo Wellington | 7. Toronto Central | 12. North Simcoe Muskoka |
| 4. Hamilton Niagara
Haldimand Brant | 8. Central | 13. North East |
| | 9. Central East | 14. North West |

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Limited Data

Indicator No.	Care Continuum Category	Indicator ⁴	Ontario FY 2016/17 (2015/16)	Variance Across LHINs (Min-Max)	Provincial Benchmark ⁵	High Performers ⁶	
						Sub-LHIN/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	59.2% (58.8%)	53.2 - 63.9%	65.9%	Essex Sub-LHIN	1, 11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.3 (1.3)	1.1 - 1.8	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] ■	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	10.8 (11.1)	10.9 - 16.4	-	-	7
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	72.0% (71.3%)	64.9 - 78.7%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	82.2% (81.9%)	76.1 - 87.4%	92.4%	Bluewater Health, Sarnia	5
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁷ : 30 minutes	47.0 (50.0)	35.0 - 125.5	33.0	The Ottawa Hospital, Civic	11
7 [§] ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁷ : >12%	12.5% (12.3%)	8.9 - 15.5%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁸ at any time during their inpatient stay. Target ⁷ : >75%	45.6% (43.3%)	10.5 - 82.9%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	77.3% (73.9%)	50.2 - 87.8%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	30.7% (26.8%)	14.2 - 41.0%	8.2%	Bluewater Health, Sarnia	None
11 [§] ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁷ : >30%	35.2% (35.5%)	28.5 - 44.8%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	72.6% (71.8%)	62.0 - 92.2%	-	-	14, 3
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	9.0 (8.0)	6.0 - 15.0	5.0	Pembroke Regional Hospital	None
14 [§] □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁷ : 180 minutes/day	64.8 (60.0)	23.8 - 92.3	101.7	West Park Healthcare Centre	None
15 [§] ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	66.4% (62.6%)	41.0 - 85.5%	85.4%	Providence Healthcare	3
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (1.1)	0.8 - 1.6	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ●	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16-2016/17.	8.2 (8.2)	5.1 - 15.7	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	41.2% (42.2%)	29.0 - 56.3%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	6.8% (6.3%)	2.5 - 10.8%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] ●	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁷ : 10.0	7.0 (7.6)	5.3 - 11.2	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18 - 108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. *J Eval Clin Pract* 1999; 5(3):269 -81) on sub-LHIN or facility data.

⁶ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁷ Targets based on international, national and provincial targets, please refer to full report for details.

⁸ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16 and 35 in 2016/17.

Overview

Compared to three-year average rates (2013/14 – 2015/16):

9 indicators significantly improved in 2016/17

Compared to benchmarks set for 2015/16:

7 performance thresholds improved in 2016/17

Areas of Progress

This edition of the provincial report card documents significant improvement for nine performance indicators compared to their previous three-year average including carotid imaging, access to and timeliness of thrombolysis (tPA), stroke unit care, referral to secondary prevention services, achievement of target length of stay (LOS) for inpatient rehabilitation, functional outcome of patients receiving inpatient rehabilitation, receipt of outpatient rehabilitation services, and 30-day all-cause readmission to hospital.

A significantly higher rate of tPA observed in 2016/17 may be associated with better functional outcome in patients who, without this treatment, may have required inpatient rehabilitation services. Indeed, the proportion of patients with stroke considered mild and discharged home has increased since 2015/16. Availability of the novel clot retrieval therapy known as Endovascular therapy (EVT) and an increase in access to outpatient rehabilitation services may also account for higher rates of discharge to the community following stroke.

The proportion of stroke patients admitted to inpatient rehabilitation and achieving an active LOS at or less than the target LOS appropriate to their level of disability increased in 2016/17 compared to the three-year average rate (66.4% vs 56.9%). Additionally, patients with moderately severe stroke admitted to inpatient rehabilitation experienced greater improvement in activities of daily living independence at discharge (median FIM efficiency) compared to prior years. Taking these indicators together, greater efficiency in resource use by rehabilitation facilities and better functional outcomes following inpatient rehabilitation care have been observed.

The 30-day readmission rate after acute stroke continues to track lower in 2016/17 (7.0%) and was almost half the readmission rate reported for the general population following a medical (non-surgical) hospitalization (13.8%).¹²

Areas for Improvement

There were five indicators in which the reported values were unchanged or worsened in 2016/17 compared to the three-year average and include the overall rate of admission for stroke and TIA, the ratio of ALC days to total LOS, admission to inpatient rehabilitation from acute care, the time between stroke onset and admission to inpatient rehabilitation, and the admission of patients with severe stroke to inpatient rehabilitation.

The increase in the overall rate of admission for stroke and TIA may be the result of greater awareness by the population of the signs and symptoms of stroke and their likelihood to present to the ED. It could also be an indicator of lack of access to secondary prevention services following discharge from the ED and while referral rates are improving, there is marked variability across the province and most regions still fall well below the provincial benchmark of 95%.

Although not shown in this report, the rate of in-hospital death among patients admitted with acute stroke or TIA has declined in each year since 2007 resulting in an increasing demand for inpatient rehabilitation services over time. This greater proportion of stroke and TIA patients surviving to discharge has implications for almost all of the indicators that did not improve. For example, the time between stroke onset and admission to inpatient rehabilitation is affected by a larger pool of eligible patients attempting to access an inelastic and static rehabilitation infrastructure. Patients unable to progress to rehabilitation from acute care may contribute to higher ALC days as a proportion of LOS. While Ontario's overall rate of admission to inpatient rehabilitation following stroke of any severity exceeds the national target of 30%, the 2016/17 rate represented a decline from the prior three-year average. The need for additional investment in rehabilitation services should be examined.

Between year variation in performance across LHINs was measured using the Extremal Quotient (EQ) which is the ratio of the highest LHIN value (rate, ratio, proportion or median) to the lowest LHIN value in each of 2015/16 and 2016/17. There were three indicators in which the EQ was 50% or higher in 2016/17 compared to 2015/16 and includes DTN time, 30-day readmission and the proportion of patients discharged to LTC/CCC. Year over year fluctuations may represent random variation or data quality issues. For example, while the DTN median time demonstrated a statistically significant five minute reduction in 2016/17 compared to the previous 3-year average (47 minutes and 52 minutes, respectively), a larger EQ in the most recent year compared to 2015/16 suggests continued effort is needed to ensure that the time variables are accurately recorded. Time to thrombolysis is a critical component for establishing treatment eligibility criteria and for evaluating outcomes; it is essential that this be measured without error.

Current or Planned Activities

CorHealth Ontario will continue its vital collaboration with Ontario's 11 Regional Stroke Networks to align operating plans, education, knowledge translation approaches and implementation strategies to advance access to best practices with a goal of improving performance measured by the report card indicators.

CorHealth Ontario will continue to coordinate the implementation of best practices. In 2018/19, there will be a greater focus on implementation of QBP recommendations for TIA, community-based rehabilitation and EVT.

CorHealth Ontario will continue to work with the MOHLTC and CIHI to inform a sustainable stroke data collection and data quality strategy. This strategy will aim to inform report card indicators that include EVT, and to support the work of the Rehabilitative Care Alliance in addressing availability of outpatient rehabilitation data.

The CorHealth Ontario Stroke Evaluation Quality Committee will continue to review the report card indicators in the context of stroke best practices and evolving data availability and quality.

Ontario Stroke Report Card, 2016/17: Erie St. Clair Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	63.9% (62.9%)	52.0 - 70.1%	65.9%	Essex Sub-LHIN	1, 11
2 ■	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.4 (1.5)	1.6 - 2.0	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.2 (12.4)	9.6 - 17.2	-	-	7
4 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	64.9% (73.6%)	58.1 - 69.4%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	87.2% (88.0%)	38.9 - 100%	92.4%	Bluewater Health, Sarnia	5
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	57.0 (63.0)	49.0 - 85.0	33.0	The Ottawa Hospital, Civic	11
7 [§] ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	11.6% (8.8%)	9.7 - 12.2%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ▲	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	34.1% (35.5%)	1.0 - 74.2%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	87.8% (83.3%)	83.0 - 100%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	27.3% (31.3%)	0.0 - 38.3%	8.2%	Bluewater Health, Sarnia	None
11 [§] ●	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	44.8% (45.6%)	40.0 - 55.7%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	69.6% (72.6%)	43.6 - 81.5%	-	-	14, 3
13 [§] ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (7.0)	6.0 - 11.0	5.0	Pembroke Regional Hospital	None
14 [§] ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	71.9 (69.7)	68.7 - 74.5	101.7	West Park Healthcare Centre	None
15 [§] ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	69.0% (65.4%)	61.9 - 73.5%	85.4%	Providence Healthcare	3
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.3 (1.0)	1.3 - 1.5	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	5.1 (5.4)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	40.8% (42.9%)	38.0 - 48.8%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	3.9% (3.3%)	2.1 - 5.4%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	6.9 (8.1)	0.0 - 8.5	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: Erie St. Clair Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	63.9% (62.3%)	52.0% (56.6%)	70.1% (65.4%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.4 (1.3)	1.6 (1.6)	2.0 (2.1)	Milton Sub-LHIN	None
3 ⁵ ■	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	11.1 (13.1)	10.1 (9.9)	17.9 (22.2)	-	10, 2
4 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	64.9% (65.0%)	58.1% (58.5%)	69.4% (64.6%)	Cochrane Sub-LHIN	6, 7
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	87.2% (83.0%)	38.9% (52.5%)	100% (87.1%)	Brockville General Hospital	10, 11
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	57.0 (69.0)	49.0 (54.5)	85.0 (103.0)	Thunder Bay Regional Health Sciences Centre	14, 1
7 ⁵ ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	11.6% (8.1%)	9.7% (4.1%)	12.2% (10.6%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 ⁵ ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	34.1% (24.0%)	1.0% (1.3%)	74.2% (71.7%)	Thunder Bay City Sub-LHIN	14, 2
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	87.8% (80.0%)	83.0% (45.5%)	100% (80.0%)	North Bay Regional Health Centre	10, 1
10 ⁵ ■	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	27.3% (32.1%)	0.0% (10.2%)	38.3% (64.3%)	Trillium Health Partners, Credit Valley	None
11 ⁵ ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	44.8% (42.8%)	40.0% (34.4%)	55.7% (55.7%)	Timiskaming Sub-LHIN	None
12 ⁵ □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	69.6% (-)	43.6% (-)	81.5% (-)	-	-
13 ⁵ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (8.0)	6.0 (3.0)	11.0 (11.0)	Mackenzie Health	4, 14
14 ⁵ □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	71.9 (-)	68.7 (-)	74.5 (-)	-	-
15 ⁵ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	69.0% (61.7%)	61.9% (45.2%)	73.5% (73.9%)	Hotel Dieu Shaver	5, 12
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.3 (1.1)	1.3 (0.9)	1.5 (1.3)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	5.1 (5.7)	-	-	Waterloo Wellington CCAC	3, 13
18 ⁵ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	40.8% (40.9%)	38.0% (18.2%)	48.8% (38.4%)	Grand River Hospital Corp., Freeport	11
19 ⁵ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	3.9% (4.5%)	2.1% (3.3%)	5.4% (6.2%)	Perth Sub-LHIN	11
20 ⁵ ■	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	6.8 (7.3)	0.0 (0.0)	8.7 (9.1)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



Southwestern Stroke Network

Interpretation of LHIN Stroke Report Card - Erie St. Clair

2016/17

RD Contact Information

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Performance Overview

Acceptable or exemplary performance on 10 of 16 indicators & significant improvement on 7 of 19 indicators. Provincial High Performer on 4 indicators: 1, 5, 10 & 11; recognized provincially as most significant improvement on 6, 7, 9.

Opportunities for LHIN and Stroke Network Collaboration:

Southwestern Stroke Network is an active partner in ESC LHIN supporting spread & evaluation of eRehab, leading the journey towards Stroke Distinction and committed to focused work to support quality improvement and Best Practice care (ie: funding training to support 24/7 access to CT/CTA (CK), tPA clock (SL) and building team integration (WE)).

Areas of Progress:

Acute Stroke Management

#6 Door to Needle significantly improved: 57min (1617) vs 69min (3yr avg)

Stroke Rehabilitation

#15 Length of Stay significantly improved: 69% (1617) vs 61.7% (3yr avg)

Stroke Prevention

#9 Referral to prevention clinic significantly imp: 88% (1617) vs 80% (3yr avg)

Stroke Rehabilitation

#16 FIM efficiency significantly improved: 1.3 (1617) vs 1.1 (3yr avg)

Areas for Improvement:

Access

Mean # CCAC visits post-acute or post-inpatient rehab is below 50th percentile and not progressing. ESC (5.1) is well below provincial benchmark of 12.4 visits

Access

Proportion of ischemic stroke receiving tPA is below 50th percentile but 1617 shows sig improvement to prev 3yr avg. 1617 Prov BM: 17.7% Erie St. Clair: 11.6%

Appropriateness

Proportion of inpatient rehab pts with severe stroke is below the 50th percentile and not progressing. 16/17 Prov Benchmark: 58.7% Erie St. Clair: 40.8%

Value

Proportion of ALC days to total LOS in acute is below 50th percentile but 16/17 progressing from 3yr average. Prov Benchmark: 8.2% Erie St. Clair: 27.3%

Associated Current or Planned Activities:

Community Outreach Team implemented in Windsor Essex (Aug 2016). eRehab program implemented in Windsor Essex (17/18) with anticipated spread throughout Erie St. Clair LHIN 18/19.

SWOSN hosted Hyperacute Forum (March 2018) and prioritized Door to Needle time within 18/19 work plan. Windsor Essex piloting EMS-neurologist call from the field. Partnering with Heart & Stroke and EMS for public awareness.

Discussing severe stroke pathway to align with Rehab Care Alliance Bedded Definitions. Windsor Regional and Hotel Dieu Grace implementing integrated score card and building on transitions work. eRehab supporting capacity.

WE Comm Outreach & ESC eRehab supports hosp flow. BW (Prov High Performer) sharing lessons learned. WE opened ASU April 2017 with access / flow focus.

Ontario Stroke Report Card, 2016/17:

South West Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	55.2% (58.7%)	46.1 - 63.5%	65.9%	Essex Sub-LHIN	1, 11
2 ■	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.4 (1.5)	1.4 - 2.1	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.7 (13.4)	0.0 - 22.3	-	-	7
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	76.1% (72.9%)	58.3 - 94.4%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	80.5% (80.6%)	33.3 - 100%	92.4%	Bluewater Health, Sarnia	5
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	46.0 (50.0)	39.0 - 75.0	33.0	The Ottawa Hospital, Civic	11
7 [§] ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	15.1% (13.0%)	8.9 - 18.8%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ■	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	62.6% (51.5%)	35.1 - 84.6%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	76.3% (75.3%)	14.3 - 96.2%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	23.6% (20.8%)	0.0 - 55.4%	8.2%	Bluewater Health, Sarnia	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	34.3% (33.4%)	29.5 - 50.5%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	74.6% (73.3%)	0.0 - 81.4%	-	-	14, 3
13 [§] ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (9.0)	6.0 - 12.0	5.0	Pembroke Regional Hospital	None
14 [§] ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	83.8 (71.1)	0.0 - 94.4	101.7	West Park Healthcare Centre	None
15 [§] ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	76.0% (64.6%)	57.3 - 85.5%	85.4%	Providence Healthcare	3
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (0.9)	0.9 - 1.8	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	5.6 (5.3)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	40.4% (46.7%)	28.7 - 57.8%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	4.6% (4.4%)	1.5 - 7.3%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	8.1 (7.5)	0.0 - 14.9	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: South West Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	55.2% (58.0%)	46.1% (49.5%)	63.5% (63.7%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.4 (1.2)	1.4 (1.2)	2.1 (1.9)	Milton Sub-LHIN	None
3 ⁵ ●	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	9.7 (11.6)	0.0 (0.0)	24.2 (42.7)	-	10, 2
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	76.1% (70.7%)	58.3% (68.8%)	94.4% (76.5%)	Cochrane Sub-LHIN	6, 7
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	80.5% (75.9%)	33.3% (12.5%)	100% (86.8%)	Brockville General Hospital	10, 11
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	46.0 (52.0)	39.0 (53.0)	75.0 (92.5)	Thunder Bay Regional Health Sciences Centre	14, 1
7 ⁵ ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	15.1% (11.8%)	8.9% (6.3%)	18.8% (13.0%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 ⁵ ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	62.6% (20.9%)	35.1% (0.0%)	84.6% (5.9%)	Thunder Bay City Sub-LHIN	14, 2
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	76.3% (68.0%)	14.3% (0.0%)	96.2% (86.1%)	North Bay Regional Health Centre	10, 1
10 ⁵ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	23.6% (21.3%)	0.0% (0.0%)	55.4% (32.5%)	Trillium Health Partners, Credit Valley	None
11 ⁵ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	34.3% (35.0%)	29.5% (32.7%)	50.5% (47.1%)	Timiskaming Sub-LHIN	None
12 ⁵ □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	74.6% (-)	0.0% (-)	81.4% (-)	-	-
13 ⁵ ●	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (9.0)	6.0 (6.0)	12.0 (11.0)	Mackenzie Health	4, 14
14 ⁵ □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	83.8 (-)	0 (-)	94.4 (-)	-	-
15 ⁵ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	76.0% (57.8%)	57.3% (40.9%)	85.5% (70.1%)	Hotel Dieu Shaver	5, 12
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (0.8)	0.9 (0.7)	1.8 (1.1)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ■	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	5.6 (5.4)	-	-	Waterloo Wellington CCAC	3, 13
18 ⁵ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	40.4% (44.1%)	28.7% (33.3%)	57.8% (65.1%)	Grand River Hospital Corp., Freeport	11
19 ⁵ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	4.6% (5.4%)	1.5% (1.0%)	7.3% (13.2%)	Perth Sub-LHIN	11
20 ⁵ ▲	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	8.6 (7.8)	0.0 (2.7)	15.3 (22.1)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



Southwestern Stroke Network

Interpretation of LHIN Stroke Report Card - South West

2016/17

RD Contact Information

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Performance Overview

Acceptable or exemplary performance was demonstrated on 11 of 16 indicators. Statistically significant improvement was achieved on 9 of 18 indicators & the LHIN was recognized for greatest provincial improvement on indicators #3, 7, 8 & Perth region for #19.

Opportunities for LHIN and Stroke Network Collaboration:

In full partnership with the LHIN, the Southwestern Stroke Network continues to lead large system change via the Stroke Project for acute realignment and post hospital care including an 18/19 Early Supportive Discharge Pilot in Huron Perth. In 17/18 SWOSN also continued planning for Community Hubs, Stroke Prevention, Emergency Dept and Rehab Facilitators.

Areas of Progress:

Acute Stroke Management

3 of 5 acute indicators show statistically significant improvement (#6, 7, 8)

Stroke Rehabilitation

3 of 7 rehab indicators show significant improvement (#13, 15, 16)

Stroke Rehabilitation

Proportion of rehab inpts achieving RPG target LOS: 76% (16/17) vs 57.8%

Stroke Prevention

Stroke mortality significantly improved: 9.7% (16/17) vs 11.6% (3yr avg)

Areas for Improvement:

Associated Current or Planned Activities:

Access

Proportion of stroke/TIA pts who arrive at ED by ambulance: 16/17 perf is below 50th percentile and not progressing. 16/17 Prov BM 65.9% SW 55.2%

Public awareness of FAST and local stroke system is an 18/19 SWOSN work plan priority. Opportunity to monitor access metrics in "real" time via the IDS Dashboard. Engaging partners: Heart & Stroke, EMS, South West Oversight Committee

Effectiveness

Median FIM Efficiency: performance is below 50th percentile but 16/17 showed significant improvement from 3yr avg. Provincial Benchmark = 1.6 SW 1.0

Rehab FIM Efficiency is part of LHIN 16-19 IHSP Performance Measurement. Monitoring metrics in "real" time via IDS Dashboard. 18/19 Early Supportive Discharge Pilot will support access / flow in Huron Perth. UH/PKWD leading process improvement.

Appropriateness

Proportion of ALC days to total LOS in acute is below 50th percentile and not progressing compared to 3yr avg. 16/17 Prov Benchmark: 8.2% SW: 23.6%

Stroke Project Phase II (including 18/19 Huron Perth ESD Pilot) supports hospital access / flow. University Hospital and Parkwood Institute has operationalized an Integrated Dashboard to support decision making. London Middlesex Oxford benefiting from Stroke Navigator (17/18).

Appropriateness

Proportion of rehabilitation patients with severe stroke is below the 50th percentile and is not progressing. 16/17 Provincial Benchmark: 58.7% SW: 40.4%

SWOSN discussing severe stroke journey that includes CCC pathway. UH/PKWD implementing integrated scorecard & transitions work. HP ESD pilot for access.

Ontario Stroke Report Card, 2016/17: Waterloo Wellington Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	60.3% (59.9%)	57.6 - 67.6%	65.9%	Essex Sub-LHIN	1, 11
2 ■	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.6)	1.5 - 2.2	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	12.6 (13.1)	4.7 - 18.0	-	-	7
4 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	67.8% (63.5%)	42.9 - 84.2%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	86.4% (85.1%)	42.9 - 91.6%	92.4%	Bluewater Health, Sarnia	5
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	52.0 (61.0)	52.0 - 55.5	33.0	The Ottawa Hospital, Civic	11
7 [§] ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	11.5% (9.8%)	8.7 - 17.6%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	82.9% (81.4%)	66.2 - 90.6%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	64.1% (65.0%)	6.4 - 100%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	14.2% (14.4%)	0.0 - 14.2%	8.2%	Bluewater Health, Sarnia	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	36.0% (40.3%)	28.1 - 37.5%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	84.2% (78.9%)	81.5 - 85.2%	-	-	14, 3
13 [§] ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (7.0)	7.0 - 8.0	5.0	Pembroke Regional Hospital	None
14 [§] ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	89.4 (85.1)	70.5 - 103.5	101.7	West Park Healthcare Centre	None
15 [§] ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	85.5% (83.4%)	83.0 - 89.5%	85.4%	Providence Healthcare	3
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.6 (1.7)	1.5 - 2.4	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ●	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	15.7 (15.0)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ●	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	56.3% (52.6%)	42.1 - 60.5%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	2.5% (3.4%)	0.7 - 4.6%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	8.9 (7.2)	4.0 - 11.7	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: Waterloo Wellington Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	60.3% (60.0%)	57.6% (54.3%)	67.6% (65.0%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.3)	1.5 (1.1)	2.2 (2.0)	Milton Sub-LHIN	None
3 [§] ■	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	11.1 (11.4)	4.7 (8.7)	14.3 (34.2)	-	10, 2
4 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	67.8% (69.0%)	42.9% (61.5%)	84.2% (83.3%)	Cochrane Sub-LHIN	6, 7
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	86.4% (82.1%)	42.9% (25.0%)	91.6% (88.0%)	Brockville General Hospital	10, 11
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	52.0 (57.0)	52.0 (55.0)	55.5 (57.5)	Thunder Bay Regional Health Sciences Centre	14, 1
7 [§] ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	11.5% (10.6%)	8.7% (9.3%)	17.6% (17.0%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 [§] ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	82.9% (75.0%)	66.2% (20.7%)	90.6% (80.2%)	Thunder Bay City Sub-LHIN	14, 2
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	64.1% (62.0%)	6.4% (3.0%)	100% (100%)	North Bay Regional Health Centre	10, 1
10 [§] ■	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	14.2% (16.4%)	0.0% (9.4%)	14.2% (37.0%)	Trillium Health Partners, Credit Valley	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	36.0% (35.3%)	28.1% (29.1%)	37.5% (35.7%)	Timiskaming Sub-LHIN	None
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	84.2% (-)	81.5% (-)	85.2% (-)	-	-
13 [§] ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (8.0)	7.0 (7.0)	8.0 (9.0)	Mackenzie Health	4, 14
14 [§] □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	89.4 (-)	70.5 (-)	103.5 (-)	-	-
15 [§] ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	85.5% (75.3%)	83.0% (58.1%)	89.5% (72.7%)	Hotel Dieu Shaver	5, 12
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.6 (1.4)	1.5 (0.9)	2.4 (1.5)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ●	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	15.7 (10.5)	-	-	Waterloo Wellington CCAC	3, 13
18 [§] ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	56.3% (51.7%)	42.1% (39.7%)	60.5% (51.6%)	Grand River Hospital Corp., Freeport	11
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	2.5% (3.9%)	0.7% (0.0%)	4.6% (5.5%)	Perth Sub-LHIN	11
20 [§] ▲	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	8.8 (7.9)	4.0 (6.1)	12.1 (9.5)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



Central South Regional Stroke Network

Interpretation of LHIN Stroke Report Card -

Waterloo Wellington

2016/17

RD Contact Information

Stefan Pagliuso, Regional Stroke Program Director, Central South Regional Stroke Network, pagliuso@hhsc.ca, 905 521-2100 ext. 44127

Performance Overview

WW LHIN progressed on 15 indicators and was a high performer on 6 indicators. At a sub-LHIN/facility level WW is a provincial leader on 4 indicators. WW LHIN showed the greatest improvement provincially on indicator 17.

Opportunities for LHIN and Stroke Network Collaboration:

The WW LHIN continues to fully support the Central South Regional Stroke Network's efforts to facilitate the implementation of best practice stroke care across the continuum. Improvement of hyperacute management of persons with stroke including expedient delivery of tPA and access to prevention services remain a top priority.

Areas of Progress:

Community Reintegration	There was a substantial improvement in the mean number of CCAC visits provided to stroke pts on discharge from inpt acute care or inpt rehab. The WW LHIN is the provincial leader on this indicator.
Acute Stroke Management	There was significant progress in the proportion of stroke/TIA pts treated on a SU in WW. The LHIN is a provincial leader on this indicator. Urban Guelph is the top performing Sub-LHIN in ON for SU access.
Stroke Rehabilitation	The WW LHIN progressed in the proportion of pts admitted to inpt rehab with severe stroke. The largest improvement at an organizational level across the province was demonstrated by Grand River Hospital.
Stroke Rehabilitation	Improvement continues in the WW LHIN related to the proportion of patients achieving RPG active length of stay targets. The WW LHIN is the top performing LHIN across the province related to this indicator.

Areas for Improvement:

Effectiveness

Proportion of ischemic stroke/TIA patients over 65 years of aged with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days

Access

Median door-to-needle time among patients who received acute thrombolytic therapy (tPA)(minutes).

Access

Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.

Appropriateness

Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA).

Associated Current or Planned Activities:

Further investigation of this indicator is required to identify the root cause of the lack of prescription fulfillment post discharge. Based on the findings, quality improvement initiatives and targeted patient education will be developed to address the gaps.

Quality improvement projects related to hyperacute mapping processes are currently under way in the Waterloo Wellington LHIN. This work will aim to reduce the median door-to-needle time among patients who receive tPA.

Educating ED staff on the benefits and impact of timely assessment and intervention of patients in stroke prevention clinics will improve the number of referrals received from the ED to secondary prevention services. This improvement will positively impact timely intervention for persons with stroke/TIA.

As mentioned above, the quality improvement projects related to hyperacute stroke care are not only aimed at improving efficiency but also on improving access to hyperacute stroke interventions including tPA and EVT.

Ontario Stroke Report Card, 2016/17: Hamilton Niagara Haldimand Brant Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	62.3% (61.7%)	56.7 - 73.9%	65.9%	Essex Sub-LHIN	1, 11
2 ●	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.3 (1.4)	1.2 - 3.3	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	13.3 (12.6)	3.9 - 32.8	-	-	7
4 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	66.4% (75.4%)	41.7 - 87.5%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	80.0% (78.7%)	14.3 - 90.0%	92.4%	Bluewater Health, Sarnia	5
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	40.0 (36.0)	35.0 - 87.0	33.0	The Ottawa Hospital, Civic	11
7 [§] ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	13.7% (14.3%)	6.8 - 23.7%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ■	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	52.7% (51.9%)	10.1 - 84.5%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	84.3% (85.1%)	58.0 - 98.0%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	26.3% (21.8%)	0.0 - 43.1%	8.2%	Bluewater Health, Sarnia	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	35.1% (35.4%)	17.6 - 52.6%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	67.1% (68.0%)	8.3 - 88.5%	-	-	14, 3
13 [§] ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (7.0)	6.0 - 11.0	5.0	Pembroke Regional Hospital	None
14 [§] ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	50.4 (41.4)	40.5 - 84.4	101.7	West Park Healthcare Centre	None
15 [§] ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	67.1% (62.9%)	47.1 - 79.7%	85.4%	Providence Healthcare	3
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (1.0)	0.8 - 1.4	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ■	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	8.3 (8.6)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	36.8% (33.0%)	9.1 - 54.2%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	10.8% (9.2%)	4.2 - 20.1%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	7.4 (7.0)	0.0 - 15.2	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: Hamilton Niagara Haldimand Brant Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	62.3% (61.0%)	56.7% (53.7%)	73.9% (72.1%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.3 (1.2)	1.2 (0.9)	3.3 (3.4)	Milton Sub-LHIN	None
3 [§] ■	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	13.8 (13.8)	4.2 (0.0)	36.0 (24.3)	-	10, 2
4 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	66.4% (70.5%)	41.7% (46.2%)	87.5% (80.0%)	Cochrane Sub-LHIN	6, 7
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	80.0% (76.4%)	14.3% (16.7%)	90.0% (85.0%)	Brockville General Hospital	10, 11
6 ▲	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	40.0 (35.0)	35.0 (29.0)	87.0 (90.5)	Thunder Bay Regional Health Sciences Centre	14, 1
7 [§] ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	13.7% (13.6%)	6.8% (0.0%)	23.7% (20.7%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 [§] ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	52.7% (48.5%)	10.1% (7.8%)	84.5% (62.7%)	Thunder Bay City Sub-LHIN	14, 2
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	84.3% (82.3%)	58.0% (22.9%)	98.0% (92.0%)	North Bay Regional Health Centre	10, 1
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	26.3% (25.6%)	0.0% (9.4%)	43.1% (60.8%)	Trillium Health Partners, Credit Valley	None
11 [§] ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	35.1% (37.0%)	17.6% (24.0%)	52.6% (52.6%)	Timiskaming Sub-LHIN	None
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	67.1% (-)	8.3% (-)	88.5% (-)	-	-
13 [§] ●	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (9.0)	6.0 (6.5)	11.0 (11.0)	Mackenzie Health	4, 14
14 [§] □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	50.4 (-)	40.5 (-)	84.4 (-)	-	-
15 [§] ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	67.1% (52.0%)	47.1% (22.2%)	79.7% (62.3%)	Hotel Dieu Shaver	5, 12
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (0.9)	0.8 (0.7)	1.4 (1.1)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ●	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	8.3 (7.0)	-	-	Waterloo Wellington CCAC	3, 13
18 [§] ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	36.8% (34.8%)	9.1% (5.6%)	54.2% (54.7%)	Grand River Hospital Corp., Freeport	11
19 [§] ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	10.8% (9.8%)	4.2% (0.0%)	20.1% (19.5%)	Perth Sub-LHIN	11
20 [§] ▲	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	7.4 (7.1)	0.0 (0.0)	15.8 (12.9)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



Central South Regional Stroke Network

Interpretation of LHIN Stroke Report Card -

Hamilton Niagara Haldimand Brant

2016/17

RD Contact Information

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Performance Overview

The HNHB LHIN progressed on 11 indicators. HNHB LHIN demonstrated the greatest improvement in the province on indicators 13 and 16. At the facility level, the HNHB LHIN was the provincial leader for indicator 9.

Opportunities for LHIN and Stroke Network Collaboration:

The HNHB LHIN continues to fully support the Regional Stroke Network's efforts to facilitate the implementation of best practice stroke care across the continuum. Collaboration continues to ensure equitable access to stroke unit care across the LHIN. Access to intensive community stroke rehabilitation remains an area of top priority.

Areas of Progress:

Stroke Rehabilitation	Significant progress related to stroke rehab indicators (eg onset days, target LOS & FIM efficiency) were achieved in HNHB. A focus on optimizing rehab intensity in HNHB will help this improvement.
Acute Stroke Management	Access to SU care is a key component of the regional strategic plan. Quality improvement projects in Hamilton, Niagara, Burlington and Brant Haldimand Norfolk are either completed or in progress.
Acute Stroke Management	Focus on hyperacute stroke intervention access & delivery across LHIN led to progress on the proportion of ppl w/ stroke who receive tPA. Improving telestroke utilization will facilitate continued progress.
Public Awareness & Patient Education	Progress made related to proportion of pts who arrived at ED by ambulance in HNHB. Focus on public awareness related to the FAST, Stroke Month & World Stroke Day have facilitated improvement.

Areas for Improvement:

Associated Current or Planned Activities:

Access

Median door-to-needle time among patients who received acute thrombolytic therapy (tPA).

Quality improvement initiatives and process mapping exercises related to delivery of hyperacute stroke intervention are underway at every organization across the LHIN. This work will improve expedient delivery of tPA and access to Endovascular Therapy across the LHIN.

Access

Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation.

Several projects related to quality improvement for established community stroke rehab models as well as capacity planning for new potential community and outpatient stroke rehab models are all underway in the LHIN. These projects will facilitate equitable access to intensive and appropriate community stroke rehab.

Appropriateness

Proportion of patients admitted to inpatient rehabilitation with severe stroke; Proportion of stroke patients discharged from acute care to LTC/CCC.

Access to stroke unit care across the LHIN will facilitate optimization of referrals to inpatient rehab and reduce admissions to LTC for persons with severe stroke. Access to OP and Community Rehab will increase capacity for persons with severe stroke to inpatient rehabilitation by facilitating flow of persons with mild stroke.

Effectiveness

Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses.

Several projects in the HNHB LHIN are underway related to the development and implementation of intensive community stroke rehabilitation, community stroke navigation and peer support models.

Ontario Stroke Report Card, 2016/17: Central West Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	55.2% (54.1%)	38.6 - 66.0%	65.9%	Essex Sub-LHIN	1, 11
2 ■	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.4 (1.4)	1.4 - 2.2	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.1 (12.8)	9.3 - 12.2	-	-	7
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	73.6% (67.2%)	57.1 - 100%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	87.4% (85.7%)	82.1 - 92.7%	92.4%	Bluewater Health, Sarnia	5
6 ▲	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	125.5 (-)	130.0 - 130.0	33.0	The Ottawa Hospital, Civic	11
7 [§] ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	12.3% (11.4%)	5.9 - 16.0%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ▲	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	17.1% (18.5%)	11.1 - 25.9%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	50.2% (37.9%)	35.2 - 77.0%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	29.3% (15.0%)	20.3 - 36.1%	8.2%	Bluewater Health, Sarnia	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	35.3% (29.4%)	20.9 - 37.4%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	66.0% (58.7%)	61.9 - 72.2%	-	-	14, 3
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	14.0 (11.0)	13.0 - 14.0	5.0	Pembroke Regional Hospital	None
14 [§] ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	35.3 (15.9)	0.0 - 35.6	101.7	West Park Healthcare Centre	None
15 [§] ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	50.7% (48.5%)	25.0 - 51.7%	85.4%	Providence Healthcare	3
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (0.9)	1.0 - 1.0	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ■	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	7.1 (6.1)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	48.5% (46.9%)	0.0 - 50.2%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.0% (5.0%)	2.2 - 23.6%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	7.3 (8.1)	6.8 - 7.7	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: Central West Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	55.2% (53.8%)	38.6% (49.1%)	66.0% (63.4%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.4 (1.2)	1.4 (1.0)	2.2 (1.6)	Milton Sub-LHIN	None
3 [§] ■	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	10.3 (11.7)	8.6 (11.4)	11.9 (15.3)	-	10, 2
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	73.6% (68.2%)	57.1% (61.5%)	100% (72.7%)	Cochrane Sub-LHIN	6, 7
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	87.4% (85.6%)	82.1% (80.0%)	92.7% (87.4%)	Brockville General Hospital	10, 11
6 □	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	125.5 (-)	130.0 (-)	130.0 (-)	Thunder Bay Regional Health Sciences Centre	14, 1
7 [§] ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	12.3% (10.4%)	5.9% (6.8%)	16.0% (18.2%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 [§] ▲	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	17.1% (17.6%)	11.1% (5.9%)	25.9% (26.7%)	Thunder Bay City Sub-LHIN	14, 2
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	50.2% (41.3%)	35.2% (31.3%)	77.0% (65.6%)	North Bay Regional Health Centre	10, 1
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	29.3% (22.3%)	20.3% (11.4%)	36.1% (29.9%)	Trillium Health Partners, Credit Valley	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	35.3% (33.1%)	20.9% (16.3%)	37.4% (44.1%)	Timiskaming Sub-LHIN	None
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	66.0% (-)	61.9% (-)	72.2% (-)	-	-
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	14.0 (13.0)	13.0 (15.5)	14.0 (21.0)	Mackenzie Health	4, 14
14 [§] □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	35.3 (-)	0.0 (-)	35.6 (-)	-	-
15 [§] ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	50.7% (35.0%)	25.0% (7.7%)	51.7% (10.2%)	Hotel Dieu Shaver	5, 12
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (0.7)	1.0 (0.6)	1.0 (0.6)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ●	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	7.1 (5.7)	-	-	Waterloo Wellington CCAC	3, 13
18 [§] ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	48.5% (44.0%)	0.0% (33.3%)	50.2% (92.3%)	Grand River Hospital Corp., Freeport	11
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.0% (6.9%)	2.2% (4.0%)	23.6% (22.2%)	Perth Sub-LHIN	11
20 [§] ■	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	7.3 (7.7)	6.8 (6.2)	7.6 (8.4)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



West GTA Stroke Network

Interpretation of LHIN Stroke Report Card - Central West

2016/17

RD Contact Information

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Performance Overview

The Central West LHIN progressed in 13 of the 17 performance indicators. The greatest progress is found for referral to Stroke Prevention Clinic, Proportion of patients with Rehabilitation Length of Stay on Target, FIM Efficiency and CCAC visits.

Opportunities for LHIN and Stroke Network Collaboration:

The Central West LHIN and the West GTA Stroke Network needs to continue supporting stroke care throughout the entire continuum. Starting from ED with the management of hyper acute strokes, followed with acute stroke units for WOHS and finally increased inpatient and community rehabilitation access to enable flow and reintegration.

Areas of Progress:

Stroke Prevention	Proportion referred to Stroke Prevention Clinic from ED from 41.3% to 50.2%. Etobicoke increased their referral up 26.4%
Stroke Rehabilitation	Proportion of inpatient stroke rehab patients achieving RPG active LOS increased from 35% to 50.7%.
Stroke Rehabilitation	Mean number of CCAC visits increased from 5.7 visits to 7.1 visits
Stroke Rehabilitation	Proportion of severe stroke patients admitted to inpatient rehab increased from 44% to 48.5%

Areas for Improvement:

Associated Current or Planned Activities:

Access

Stroke Unit

Stroke Units are a priority as there are none in LHIN 5 and patients are repatriated post thrombolysis and endovascular treatment. WOHS is now clustering all stroke patients on neurology unit and formalizing care

Access

ALC days

The proportion of ALC has increased from 15% to 29.3%. The West GTA Stroke Network will be working with the organizations on a root-cause analysis and identifying opportunities for improvement.

Access

Mild Stroke patients

The number of mild stroke patients discharged home from acute care is only 66%. A Community Outreach Stroke Rehab Program for mild stroke patients is being piloted in Central West to increase this population.

Access

Admission to inpatient rehab

The wait time to access inpatient rehabilitation has increased from 13 to 14 days more than the provincial benchmark of 5 days and QBP target of 5 to 7 days. Work is needed in this area.

Ontario Stroke Report Card, 2016/17:

Mississauga Halton Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	55.7% (56.4%)	48.4 - 63.9%	65.9%	Essex Sub-LHIN	1, 11
2 ●	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.1 (1.2)	0.9 - 2.0	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	12.6 (12.0)	9.3 - 15.4	-	-	7
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	78.7% (71.1%)	54.5 - 87.0%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	82.6% (84.4%)	70.0 - 86.4%	92.4%	Bluewater Health, Sarnia	5
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	42.0 (38.0)	42.0 - 42.0	33.0	The Ottawa Hospital, Civic	11
7 [§] ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	13.0% (11.9%)	9.3 - 22.9%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ▲	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	42.6% (39.6%)	17.1 - 58.9%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	80.1% (65.6%)	60.0 - 88.9%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	26.7% (28.2%)	11.4 - 45.4%	8.2%	Bluewater Health, Sarnia	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	35.9% (35.5%)	25.0 - 42.6%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	71.4% (69.1%)	50.0 - 79.6%	-	-	14, 3
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	9.0 (8.0)	8.0 - 9.5	5.0	Pembroke Regional Hospital	None
14 [§] ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	38.6 (39.2)	21.5 - 61.8	101.7	West Park Healthcare Centre	None
15 [§] ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	68.3% (70.1%)	49.2 - 77.0%	85.4%	Providence Healthcare	3
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.2 (1.2)	0.9 - 1.3	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ■	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	9.8 (9.7)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	41.2% (51.6%)	38.3 - 47.8%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	9.8% (6.4%)	8.1 - 13.2%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	6.1 (7.5)	3.7 - 11.1	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: Mississauga Halton Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	55.7% (57.0%)	48.4% (52.4%)	63.9% (64.1%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.1 (1.0)	0.9 (1.0)	2.0 (2.3)	Milton Sub-LHIN	None
3 [§] ■	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	12.4 (12.5)	10.0 (6.8)	16.4 (17.5)	-	10, 2
4 ●	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	78.7% (70.4%)	54.5% (56.3%)	87.0% (80.0%)	Cochrane Sub-LHIN	6, 7
5 ▲	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	82.6% (84.8%)	70.0% (66.7%)	86.4% (86.1%)	Brockville General Hospital	10, 11
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	42.0 (51.0)	42.0 (65.0)	42.0 (65.0)	Thunder Bay Regional Health Sciences Centre	14, 1
7 [§] ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	13.0% (11.0%)	9.3% (4.9%)	22.9% (13.3%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 [§] ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	42.6% (37.4%)	17.1% (7.7%)	58.9% (56.5%)	Thunder Bay City Sub-LHIN	14, 2
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	80.1% (65.9%)	60.0% (28.6%)	88.9% (71.7%)	North Bay Regional Health Centre	10, 1
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	26.7% (24.7%)	11.4% (9.1%)	45.4% (46.8%)	Trillium Health Partners, Credit Valley	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	35.9% (33.4%)	25.0% (20.0%)	42.6% (36.3%)	Timiskaming Sub-LHIN	None
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	71.4% (-)	50.0% (-)	79.6% (-)	-	-
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	9.0 (9.0)	8.0 (8.0)	9.5 (13.0)	Mackenzie Health	4, 14
14 [§] □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	38.6 (-)	21.5 (-)	61.8 (-)	-	-
15 [§] ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	68.3% (62.7%)	49.2% (21.1%)	77.0% (72.3%)	Hotel Dieu Shaver	5, 12
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.2 (1.1)	0.9 (0.5)	1.3 (1.4)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ●	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	9.8 (8.0)	-	-	Waterloo Wellington CCAC	3, 13
18 [§] ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	41.2% (51.7%)	38.3% (31.3%)	47.8% (64.4%)	Grand River Hospital Corp., Freeport	11
19 [§] ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	9.8% (6.7%)	8.1% (3.4%)	13.2% (18.1%)	Perth Sub-LHIN	11
20 [§] ●	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	6.2 (7.6)	3.8 (3.8)	10.9 (14.6)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



West GTA Stroke Network

Interpretation of LHIN Stroke Report Card - Mississauga Halton

2016/17

RD Contact Information

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Performance Overview

The Mississauga Halton LHIN progressed in 11 of the 18 performance indicators within the last three years. There is progress at every stage of the stroke care continuum. Opportunities are related to access to inpatient rehab.

Opportunities for LHIN and Stroke Network Collaboration:

The West GTA Stroke Network and the MH LHIN continues to work collaboratively to improve stroke care within the LHIN. The greatest opportunities for the MH LHIN remains to provide better access to inpatient rehabilitation and continue improving community services to enable reintegration of our stroke population going home.

Areas of Progress:

Stroke Prevention	Proportion referred to Stroke Prevention Clinic from ED from 65.6% to 80.1%. THP increased their referral by 19%
Acute Stroke Management	Median door-to-needle time from 51 minutes to 42 minutes. (Target<30 mins)
Stroke Rehabilitation	Proportion at inpt. rehab RPG LOS target improved from 62.7 to 68.3%.
Community Reintegration	30 days readmission rate continues to decrease from 7.6% to 6.2%

Areas for Improvement:

Associated Current or Planned Activities:

Access

Stroke Unit

The addition of the Acute Stroke Unit in Oakville has given better access to a stroke unit within the MH LHIN. THP is currently looking at expanding their comprehensive stroke unit to meet the high demands.

Access

ALC days

The proportion of ALC increased from 24.7% to 26.7%. The West GTA Stroke Network will be working with the organizations go through a root-cause analysis and identify opportunities (Rehab vs LTC).

Access

Referrals to Inpatient Rehabilitation

Proportion of acute stroke patients admitted to inpatient rehab is 35.9% compared provincial benchmark of 47.8%. There was a decrease in referral of severe stroke patients to active rehabilitation. The West GTA SN will be working with partners to undertake a root-cause analysis

Access

Admission to inpatient rehab

The wait time to access inpatient rehab is 9 days which is longer than Stroke QBP 5 and 7 days and provincial benchmark of 5 days. Continuous work is being done to improve access to inpatient rehabilitation.

Ontario Stroke Report Card, 2016/17: Toronto Central Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	59.5% (60.0%)	54.8 - 63.9%	65.9%	Essex Sub-LHIN	1, 11
2 ●	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.1 (1.2)	1.1 - 1.4	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	10.9 (11.5)	9.3 - 12.5	-	-	7
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	73.9% (64.6%)	63.2 - 79.6%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	85.4% (88.7%)	75.4 - 90.4%	92.4%	Bluewater Health, Sarnia	5
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	48.0 (50.0)	43.5 - 59.0	33.0	The Ottawa Hospital, Civic	11
7 [§] ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	9.8% (10.9%)	3.4 - 13.0%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ▲	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	48.4% (52.2%)	18.0 - 62.6%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	82.2% (73.9%)	33.3 - 94.9%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	34.3% (25.3%)	21.4 - 56.1%	8.2%	Bluewater Health, Sarnia	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	34.5% (34.3%)	21.1 - 41.7%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	64.6% (64.9%)	55.9 - 88.2%	-	-	14, 3
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	10.0 (10.0)	8.0 - 12.0	5.0	Pembroke Regional Hospital	None
14 [§] ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	92.3 (91.0)	66.4 - 145.3	101.7	West Park Healthcare Centre	None
15 [§] ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	69.3% (62.6%)	60.1 - 91.5%	85.4%	Providence Healthcare	3
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.2 (1.2)	0.9 - 1.7	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	6.2 (5.9)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	36.3% (37.6%)	26.3 - 52.4%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	10.7% (9.0%)	7.1 - 14.0%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	7.7 (9.1)	6.6 - 11.1	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: Toronto Central Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	59.5% (59.6%)	54.8% (55.0%)	63.9% (62.4%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.1 (1.0)	1.1 (0.9)	1.4 (1.2)	Milton Sub-LHIN	None
3 ⁵ ■	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	12.5 (12.7)	11.0 (11.4)	14.7 (13.1)	-	10, 2
4 ●	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	73.9% (66.0%)	63.2% (60.0%)	79.6% (79.2%)	Cochrane Sub-LHIN	6, 7
5 ▲	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	85.4% (87.3%)	75.4% (71.1%)	90.4% (91.5%)	Brockville General Hospital	10, 11
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	48.0 (56.0)	43.5 (61.0)	59.0 (66.0)	Thunder Bay Regional Health Sciences Centre	14, 1
7 ⁵ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	9.8% (11.1%)	3.4% (6.4%)	13.0% (15.8%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 ⁵ ■	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	48.4% (47.7%)	18.0% (31.3%)	62.6% (64.9%)	Thunder Bay City Sub-LHIN	14, 2
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	82.2% (75.3%)	33.3% (4.9%)	94.9% (95.5%)	North Bay Regional Health Centre	10, 1
10 ⁵ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	34.3% (28.8%)	21.4% (19.6%)	56.1% (41.8%)	Trillium Health Partners, Credit Valley	None
11 ⁵ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	34.5% (34.5%)	21.1% (28.6%)	41.7% (39.0%)	Timiskaming Sub-LHIN	None
12 ⁵ □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	64.6% (-)	55.9% (-)	88.2% (-)	-	-
13 ⁵ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	10.0 (10.0)	8.0 (9.0)	12.0 (18.0)	Mackenzie Health	4, 14
14 ⁵ □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	92.3 (-)	66.4 (-)	145.3 (-)	-	-
15 ⁵ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	69.3% (56.1%)	60.1% (30.5%)	91.5% (63.5%)	Hotel Dieu Shaver	5, 12
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.2 (1.0)	0.9 (0.7)	1.7 (1.3)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ■	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	6.2 (5.7)	-	-	Waterloo Wellington CCAC	3, 13
18 ⁵ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	36.3% (35.2%)	26.3% (21.2%)	52.4% (41.1%)	Grand River Hospital Corp., Freeport	11
19 ⁵ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	10.7% (10.3%)	7.1% (8.9%)	14.0% (16.9%)	Perth Sub-LHIN	11
20 ⁵ ●	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	7.8 (9.0)	6.6 (7.7)	11.0 (13.5)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



North & East GTA, South East Toronto and Toronto West Stroke Networks

Interpretation of LHIN Stroke Report Card -

Toronto Central

2016/17

RD Contact Information

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Performance Overview

Exemplary performance on 1 indicator and poor on 7. Significant progress on 6 indicators; no noted improvement on 8 indicators. Continued TC LHIN leadership is needed in cross-LHIN planning to further improve performance.

Opportunities for LHIN and Stroke Network Collaboration:

Support cross system planning for improved access to rehab and flow for complex stroke patients. Continued leadership and collaboration with GTA LHINs to improve seamless transitions and advance the community based stroke rehab. Lead the planning for broader spread of bundled stroke care. Support TSN patient experience survey.

Areas of Progress:

Stroke Prevention	Inpatient admission rates remain exemplary-high performer(#2); Significant improvement in proportion of patients referred to secondary prevention from ED(#9); proportion of patients >65 filling their anticoagulant prescription-greatest improved(#4)
Acute Stroke Management	Significant improvement in door to needle times for tPA (#6) and progress on access to stroke unit care (#8); high performing LHIN for 30-day mortality (#3)
Stroke Rehabilitation	Significant improvement on the proportion of patients achieving RPG LOS(#15) and FIM efficiency for moderate stroke patients - greatest improved (#16); High performing facility for rehab intensity - West Park (#14)
Community Reintegration	Significant improvement on 30-day readmission rates (#20)

Areas for Improvement:

Access	Equitable access to high quality community-based stroke rehabilitation.
Appropriateness	Optimal access to timely and appropriate rehabilitation.
Appropriateness	Optimal systems in place to enhance access to Endovascular Treatment (EVT) and seamless transitions.
Appropriateness	Access to stroke unit care (aligning with the QBP definition) to improve patient outcomes and quality care.

Associated Current or Planned Activities:

Continue cross-LHIN planning to implement a best practice model for community-based stroke rehab. Advance community-based stroke rehab by building on and spreading bundled care initiatives, early-supported discharge, and designated community stroke teams.
Engage cross system planning, build capacity for rehab, streamline processes, promote shared accountability to optimize patient outcomes and flow with focus on severe/complex patients. Work with stroke rehabilitation teams to enhance intensity of rehab.
Implement a streamlined process for accessing EVT in the GTA (flow across LHINs). Develop inpatient protocols and work collaboratively with EVT referral sites to improve flow.
Work with organizations in the East end of Toronto to improve access to acute and rehab stroke unit care. Collaborate with system stakeholders across the LHIN to sustain stroke unit care in acute and rehab.

Ontario Stroke Report Card, 2016/17: Central Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	57.3% (57.2%)	47.8 - 64.4%	65.9%	Essex Sub-LHIN	1, 11
2 ●	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.1 (1.1)	1.1 - 1.7	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	13.4 (12.1)	9.2 - 22.7	-	-	7
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	73.4% (74.8%)	61.5 - 83.3%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	80.5% (81.9%)	72.4 - 91.3%	92.4%	Bluewater Health, Sarnia	5
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	44.0 (36.0)	44.0 - 44.0	33.0	The Ottawa Hospital, Civic	11
7 [§] ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	11.1% (10.6%)	8.5 - 13.8%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ▲	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	45.4% (47.7%)	12.2 - 65.8%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	82.5% (82.0%)	46.2 - 94.9%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	41.0% (29.6%)	11.6 - 55.5%	8.2%	Bluewater Health, Sarnia	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	35.8% (34.0%)	23.0 - 46.3%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	70.1% (72.8%)	56.7 - 77.7%	-	-	14, 3
13 [§] ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (6.0)	6.0 - 8.0	5.0	Pembroke Regional Hospital	None
14 [§] ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	23.8 (26.5)	14.1 - 32.5	101.7	West Park Healthcare Centre	None
15 [§] ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	70.2% (59.5%)	64.7 - 71.6%	85.4%	Providence Healthcare	3
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (1.0)	0.9 - 1.4	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	6.3 (8.3)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	45.6% (46.4%)	11.1 - 53.5%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	8.4% (7.4%)	3.7 - 16.1%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	7.9 (7.8)	4.7 - 17.0	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: Central Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	57.3% (58.5%)	47.8% (51.9%)	64.4% (65.3%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.1 (0.9)	1.1 (1.1)	1.7 (1.4)	Milton Sub-LHIN	None
3 [§] ▲	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	11.9 (11.4)	8.4 (8.7)	20.9 (16.5)	-	10, 2
4 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	73.4% (73.6%)	61.5% (57.7%)	83.3% (87.1%)	Cochrane Sub-LHIN	6, 7
5 ▲	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	80.5% (80.6%)	72.4% (72.1%)	91.3% (84.8%)	Brockville General Hospital	10, 11
6 ▲	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	44.0 (40.0)	44.0 (42.5)	44.0 (42.5)	Thunder Bay Regional Health Sciences Centre	14, 1
7 [§] ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	11.1% (10.6%)	8.5% (7.5%)	13.8% (14.4%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 [§] ■	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	45.4% (42.9%)	12.2% (10.8%)	65.8% (54.5%)	Thunder Bay City Sub-LHIN	14, 2
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	82.5% (77.4%)	46.2% (37.5%)	94.9% (90.0%)	North Bay Regional Health Centre	10, 1
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	41.0% (30.3%)	11.6% (9.0%)	55.5% (50.3%)	Trillium Health Partners, Credit Valley	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	35.8% (33.8%)	23.0% (25.0%)	46.3% (51.9%)	Timiskaming Sub-LHIN	None
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	70.1% (-)	56.7% (-)	77.7% (-)	-	-
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (6.0)	6.0 (4.0)	8.0 (13.0)	Mackenzie Health	4, 14
14 [§] □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	23.8 (-)	14.1 (-)	32.5 (-)	-	-
15 [§] ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	70.2% (61.9%)	64.7% (39.1%)	71.6% (81.6%)	Hotel Dieu Shaver	5, 12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (1.1)	0.9 (0.9)	1.4 (1.1)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	6.3 (6.7)	-	-	Waterloo Wellington CCAC	3, 13
18 [§] ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	45.6% (51.1%)	11.1% (44.3%)	53.5% (61.5%)	Grand River Hospital Corp., Freeport	11
19 [§] ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	8.4% (8.3%)	3.7% (4.2%)	16.1% (15.9%)	Perth Sub-LHIN	11
20 [§] ■	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	7.7 (8.0)	4.7 (6.6)	17.2 (16.3)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



Toronto West, North & East GTA, and Central East Stroke Networks

Interpretation of LHIN Stroke Report Card - Central

2016/17

RD Contact Information

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Performance Overview

Exemplary performance on 1 indicator and poor on 8. Significant progress on 1 indicator; no noted improvement on 12. Variation remains an issue. System planning within and across LHINs is necessary to improve performance.

Opportunities for LHIN and Stroke Network Collaboration:

Advance Central LHIN Stroke Prevention Planning & Care Council workplan, aligned with above areas. Ongoing Central LHIN Leadership support to advance system-wide access to best practice stroke care. Collaborate with GTA LHINs to improve seamless transitions and advance the community based stroke rehab model.

Areas of Progress:

Stroke Prevention	<u>Referrals from ED to secondary prevention clinics; with variation across LHIN</u>
Acute Stroke Management	<u>Improvement in proportion of patients receiving tPA (#7 - red indicator)</u>
Acute Stroke Management	<u>Proportion of patients treated on a stroke unit (#8 - red indicator);</u>
Stroke Rehabilitation	<u>Wait time for inpatient rehab better; more rehab patients on RPG LOS target</u>

Areas for Improvement:

Appropriateness

Equitable access to stroke unit care to improve patient outcomes and quality care as only 3/6 sites meeting QBP definition

Integration

Equitable access high quality community-based stroke rehabilitation.

Effectiveness

Optimal systems in place to enhance access to Endovascular Treatment (EVT) and seamless transitions.

Value

Consistent best practice secondary stroke prevention care.

Associated Current or Planned Activities:

- Develop an implementation plan to support access to stroke unit care for patients in the Alliston catchment area. Develop a comprehensive plan to improve best practice stroke unit rehab, including increased intensity, for all Central LHIN residents. definition in 16
- Continue cross-LHIN planning to implement common model for community-based rehab aligned with best practice. Explore opportunities to advance implementation of this model, building on bundled care initiatives.
- Refine processes at EVT referring sites and finalize LHIN-wide walk-in protocols. Develop inpatient protocols, and work collaboratively with EVT delivery sites to support flow.
- Support local quality improvement initiatives developed through completion of the provincial SPC self-assessment (e.g. refine referral processes).

Ontario Stroke Report Card, 2016/17: Central East Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	60.4% (59.7%)	57.8 - 62.4%	65.9%	Essex Sub-LHIN	1, 11
2 ●	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.2 (1.2)	1.2 - 1.6	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	12.4 (11.5)	0.0 - 17.6	-	-	7
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	76.0% (74.6%)	72.5 - 80.8%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	79.1% (76.7%)	55.6 - 95.0%	92.4%	Bluewater Health, Sarnia	5
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	59.0 (59.0)	58.0 - 58.5	33.0	The Ottawa Hospital, Civic	11
7 [§] ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	11.8% (13.5%)	11.5 - 11.9%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ▲	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	50.9% (55.7%)	47.4 - 53.5%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	79.0% (72.0%)	51.2 - 93.8%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	35.5% (30.8%)	10.6 - 54.1%	8.2%	Bluewater Health, Sarnia	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	36.8% (42.7%)	32.2 - 44.5%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	72.0% (66.2%)	53.8 - 77.8%	-	-	14, 3
13 [§] ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	6.0 (6.0)	5.0 - 9.0	5.0	Pembroke Regional Hospital	None
14 [§] ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	41.2 (37.1)	37.2 - 53.9	101.7	West Park Healthcare Centre	None
15 [§] ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	69.2% (69.1%)	52.0 - 79.4%	85.4%	Providence Healthcare	3
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.2 (1.2)	0.6 - 1.4	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	5.7 (5.9)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	52.5% (49.0%)	28.6 - 63.8%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	7.5% (7.9%)	3.8 - 12.2%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	7.1 (7.5)	0.0 - 9.8	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: Central East Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	60.4% (58.9%)	57.8% (56.1%)	62.4% (59.2%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.2 (1.0)	1.2 (1.2)	1.6 (1.6)	Milton Sub-LHIN	None
3 [§] ▲	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	11.9 (11.6)	0.0 (3.7)	17.4 (25.3)	-	10, 2
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	76.0% (72.1%)	72.5% (67.9%)	80.8% (78.3%)	Cochrane Sub-LHIN	6, 7
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	79.1% (73.5%)	55.6% (27.3%)	95.0% (89.9%)	Brockville General Hospital	10, 11
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	59.0 (63.0)	58.0 (52.0)	58.5 (68.0)	Thunder Bay Regional Health Sciences Centre	14, 1
7 [§] ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	11.8% (12.4%)	11.5% (10.4%)	11.9% (13.5%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 [§] ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	50.9% (45.6%)	47.4% (17.8%)	53.5% (49.4%)	Thunder Bay City Sub-LHIN	14, 2
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	79.0% (65.4%)	51.2% (2.5%)	93.8% (85.3%)	North Bay Regional Health Centre	10, 1
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	35.5% (28.0%)	10.6% (4.4%)	54.1% (54.8%)	Trillium Health Partners, Credit Valley	None
11 [§] ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	36.8% (41.5%)	32.2% (26.7%)	44.5% (49.3%)	Timiskaming Sub-LHIN	None
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	72.0% (-)	53.8% (-)	77.8% (-)	-	-
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	6.0 (6.0)	5.0 (5.0)	9.0 (9.5)	Mackenzie Health	4, 14
14 [§] □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	41.2 (-)	37.2 (-)	53.9 (-)	-	-
15 [§] ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	69.2% (66.0%)	52.0% (42.5%)	79.4% (63.0%)	Hotel Dieu Shaver	5, 12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.2 (1.2)	0.6 (0.9)	1.4 (1.3)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	5.7 (6.0)	-	-	Waterloo Wellington CCAC	3, 13
18 [§] ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	52.5% (50.1%)	28.6% (26.5%)	63.8% (58.1%)	Grand River Hospital Corp., Freeport	11
19 [§] ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	7.5% (7.5%)	3.8% (4.7%)	12.2% (11.8%)	Perth Sub-LHIN	11
20 [§] ■	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	7.1 (7.8)	0.0 (4.2)	9.9 (11.8)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



South East Toronto, North & East GTA, and Central East Stroke Networks

Interpretation of LHIN Stroke Report Card - Central East

2016/17

RD Contact Information

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Performance Overview

Exemplary performance on 1 indicator and poor performance on 6. Progressing well on 3 indicators linked to local efforts. No notable progress on 9 indicators. Variation remains an issue. System and cross LHIN planning required.

Opportunities for LHIN and Stroke Network Collaboration:

Inform/make recommendations via the Central East LHIN Stroke Sub-Committee to optimize organization of stroke services and collaboratively develop a Stroke Workplan based on the identified needs above. Collaborate with GTA LHINs to improve seamless transitions and advance the community based stroke rehabilitation model.

Areas of Progress:

Stroke Prevention	<u>Significant improvement in patients receiving carotid imaging (#5 - yellow);</u>
Stroke Prevention	<u>Referrals from ED to stroke prevention (#9 - yellow); Variation across LHIN</u>
Acute Stroke Management	<u>Significant improvement in patients treated on a stroke unit (#8 but still in red);</u>
Stroke Rehabilitation	<u>Proportion of pts at RPG LOS target & severe strokes in rehab(#15&18-yellow)</u>

Areas for Improvement:

Appropriateness

Equitable access to stroke unit care to improve patient outcomes and quality care.

Integration

Equitable access to high quality community-based stroke rehabilitation.

Effectiveness

Optimal systems in place to enhance access to Endovascular Treatment (EVT) and seamless transitions.

Value

Consistent best practice secondary stroke prevention care.

Associated Current or Planned Activities:

Develop implementation plan for reorganization of acute and rehab stroke services to achieve critical mass and enable access to stroke units. Develop comprehensive plan to implement best practice stroke rehab, including increased intensity, for all Central East LHIN residents.

Continue cross-LHIN planning to implement a common model for community-based stroke rehab in alignment with best practices. Explore opportunities to advance implementation of this model, building on bundled care initiatives.

Refine processes at EVT referring sites and finalize LHIN-wide walk-in protocols. Develop inpatient protocols; Work collaboratively with EVT delivery sites to support flow.

Support local quality improvement initiatives developed through completion of the provincial SPC self-assessment (i.e.refine referral, assessment and education processes).

Ontario Stroke Report Card, 2016/17:

South East Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	62.1% (59.5%)	48.4 - 78.0%	65.9%	Essex Sub-LHIN	1, 11
2 ■	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.6)	1.4 - 2.5	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.3 (11.7)	10.3 - 63.8	-	-	7
4 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	69.1% (70.1%)	46.7 - 100%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	85.1% (79.4%)	42.9 - 91.4%	92.4%	Bluewater Health, Sarnia	5
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	42.0 (52.0)	33.0 - 72.0	33.0	The Ottawa Hospital, Civic	11
7 [§] ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	15.4% (13.2%)	3.4 - 29.4%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	77.0% (72.3%)	60.9 - 90.0%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	74.7% (76.8%)	26.3 - 94.7%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	32.2% (23.5%)	0.0 - 65.9%	8.2%	Bluewater Health, Sarnia	None
11 [§] ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	28.5% (29.6%)	4.4 - 50.0%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	80.0% (75.2%)	74.8 - 93.0%	-	-	14, 3
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	11.0 (8.0)	6.0 - 15.0	5.0	Pembroke Regional Hospital	None
14 [§] ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	71.3 (71.0)	59.2 - 85.2	101.7	West Park Healthcare Centre	None
15 [§] ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	52.2% (43.4%)	26.7 - 64.3%	85.4%	Providence Healthcare	3
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.8 (0.8)	0.6 - 1.1	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ●	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	12.8 (13.3)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	43.3% (45.6%)	36.8 - 46.9%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	6.0% (5.4%)	0.0 - 13.3%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	5.3 (7.1)	0.0 - 13.7	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: South East Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	62.1% (61.5%)	48.4% (45.0%)	78.0% (79.5%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.3)	1.4 (1.3)	2.5 (2.1)	Milton Sub-LHIN	None
3 ⁵ ●	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	11.7 (15.0)	10.2 (14.7)	48.8 (42.7)	-	10, 2
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	69.1% (67.9%)	46.7% (44.4%)	100% (88.2%)	Cochrane Sub-LHIN	6, 7
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	85.1% (76.4%)	42.9% (33.3%)	91.4% (84.8%)	Brockville General Hospital	10, 11
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	42.0 (53.0)	33.0 (47.0)	72.0 (67.0)	Thunder Bay Regional Health Sciences Centre	14, 1
7 ⁵ ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	15.4% (13.2%)	3.4% (0.0%)	29.4% (25.0%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 ⁵ ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	77.0% (60.2%)	60.9% (3.8%)	90.0% (79.5%)	Thunder Bay City Sub-LHIN	14, 2
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	74.7% (62.8%)	26.3% (5.9%)	94.7% (90.9%)	North Bay Regional Health Centre	10, 1
10 ⁵ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	32.2% (21.4%)	0.0% (0.0%)	65.9% (42.0%)	Trillium Health Partners, Credit Valley	None
11 ⁵ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	28.5% (28.9%)	4.4% (2.9%)	50.0% (52.2%)	Timiskaming Sub-LHIN	None
12 ⁵ □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	80.0% (-)	74.8% (-)	93.0% (-)	-	-
13 ⁵ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	11.0 (9.0)	6.0 (7.0)	15.0 (15.0)	Mackenzie Health	4, 14
14 ⁵ □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	71.3 (-)	59.2 (-)	85.2 (-)	-	-
15 ⁵ ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	52.2% (45.2%)	26.7% (28.6%)	64.3% (70.0%)	Hotel Dieu Shaver	5, 12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.8 (0.8)	0.6 (0.7)	1.1 (1.0)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	12.8 (13.9)	-	-	Waterloo Wellington CCAC	3, 13
18 ⁵ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	43.3% (45.8%)	36.8% (34.8%)	46.9% (50.8%)	Grand River Hospital Corp., Freeport	11
19 ⁵ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	6.0% (6.8%)	0.0% (0.0%)	13.3% (18.2%)	Perth Sub-LHIN	11
20 ⁵ ●	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	5.0 (6.9)	0.0 (3.2)	14.2 (10.5)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



Stroke Network of Southeastern Ontario

Interpretation of LHIN Stroke Report Card - South East

2016/17

RD Contact Information

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Performance Overview

Exemplary performance in arrival by ambulance, thrombolysis rate, acute stroke unit utilization and community based rehab. Decreasing mortality & low readmission rates. Persisting ALC concerns; limited inpatient rehab flow.

Opportunities for LHIN and Stroke Network Collaboration:

1. Work together to create a rehabilitation action plan in response to the SE rehabilitation capacity assessment.
2. Ensure adequate volume-based funding for EVT; support capacity for telestroke thrombolysis in Brockville.
3. Continue to focus on prevention and community practices to lower stroke incidence & sustain low readmit rates.

Areas of Progress:

Stroke Prevention	<u>Lowest readmission rate of all LHINs & low compared to other diseases</u>
Acute Stroke Management	<u>Region-wide access to EVT, thrombolysis & Acute Stroke Unit Care</u>
Stroke Rehabilitation	<u>Community Stroke Rehab Program growth; progress in rehab LOS targets</u>
Community Reintegration	<u>Low % discharged to LTC; increased access to Stroke Support Groups</u>

Areas for Improvement:

Access

SE access to inpatient rehabilitation is 28.5% (ON 35.2%); Kingston stroke onset to rehab is 14 days vs 5-7 day target; 32% of acute LOS is designated ALC.

Effectiveness

Barriers persist in flow through rehabilitation. Despite gains in attainment of RPG LOS targets for more severe patients, FIM efficiency remains low.

Value

Acute Stroke Units have demonstrated value with ongoing reduction in mortality rate (11.3 %); must sustain gains while access to EVT/thrombolysis grow.

Integration

While readmission rates are low, admission rates are growing with large variation from rates of 1.5/1.6 in Kingston/Belleville to 2.3/2.5 in Brockville/Napanee.

Associated Current or Planned Activities:

Kingston requires a new approach: increased medical support at PCH and automated referral pathways. QHC & BrGH will be creating integrated acute-rehab units in 2018/19. BrGH rehab to expand to 17 beds by 2020.

The rehabilitation capacity assessment will be reviewed for Stroke Network action including ways of building more robust outpatient programs. Implement changes to the Community Stroke Rehab Program.

Acute Stroke Unit expertise and standardized care will be sustained in Belleville, Kingston & Brockville. EVT will be monitored for continuous improvement. 24/7 CTA will be the focus to prepare for telestroke in Brockville.

Self-assessment survey of each Stroke Prevention Clinic. Continue work with primary care to explore the factors influencing use of anticoagulants for atrial fibrillation. Support adoption of prevention best practices.

Ontario Stroke Report Card, 2016/17: Champlain Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	62.6% (59.5%)	59.4 - 65.4%	65.9%	Essex Sub-LHIN	1, 11
2 ●	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.1 (1.1)	1.1 - 1.6	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.2 (9.7)	0.0 - 26.9	-	-	7
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	72.8% (74.3%)	61.5 - 86.8%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	82.5% (81.7%)	0.0 - 96.4%	92.4%	Bluewater Health, Sarnia	5
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	35.0 (39.5)	31.0 - 74.0	33.0	The Ottawa Hospital, Civic	11
7 [§] ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	15.5% (15.2%)	9.3 - 18.9%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ▲	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	15.6% (10.7%)	4.2 - 62.0%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	85.9% (87.5%)	0.0 - 95.0%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	31.1% (30.2%)	0.0 - 40.7%	8.2%	Bluewater Health, Sarnia	None
11 [§] ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	32.3% (30.7%)	16.3 - 50.0%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	79.6% (78.0%)	48.1 - 89.2%	-	-	14, 3
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	15.0 (15.0)	4.0 - 24.0	5.0	Pembroke Regional Hospital	None
14 [§] ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	58.2 (53.4)	53.3 - 88.0	101.7	West Park Healthcare Centre	None
15 [§] ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	58.6% (67.6%)	50.0 - 76.5%	85.4%	Providence Healthcare	3
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (0.9)	0.8 - 1.3	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	6.3 (6.9)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	41.4% (35.6%)	0.0 - 50.0%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.2% (6.1%)	0.0 - 9.3%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	6.9 (7.7)	0.0 - 25.3	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: Champlain Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	62.6% (60.2%)	59.4% (58.0%)	65.4% (67.1%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.1 (0.9)	1.1 (1.0)	1.6 (1.6)	Milton Sub-LHIN	None
3 ⁵ ▲	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	12.0 (11.8)	0.0 (0.0)	22.7 (21.0)	-	10, 2
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	72.8% (72.6%)	61.5% (53.4%)	86.8% (82.1%)	Cochrane Sub-LHIN	6, 7
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	82.5% (77.1%)	0.0% (25.0%)	96.4% (83.6%)	Brockville General Hospital	10, 11
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	35.0 (43.0)	31.0 (40.5)	74.0 (68.5)	Thunder Bay Regional Health Sciences Centre	14, 1
7 ⁵ ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	15.5% (13.5%)	9.3% (7.3%)	18.9% (17.1%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 ⁵ ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	15.6% (4.0%)	4.2% (0.0%)	62.0% (0.6%)	Thunder Bay City Sub-LHIN	14, 2
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	85.9% (87.2%)	0.0% (40.0%)	95.0% (93.7%)	North Bay Regional Health Centre	10, 1
10 ⁵ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	31.1% (28.4%)	0.0% (0.0%)	40.7% (53.2%)	Trillium Health Partners, Credit Valley	None
11 ⁵ ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	32.3% (29.9%)	16.3% (14.3%)	50.0% (40.9%)	Timiskaming Sub-LHIN	None
12 ⁵ □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	79.6% (-)	48.1% (-)	89.2% (-)	-	-
13 ⁵ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	15.0 (15.0)	4.0 (5.0)	24.0 (21.0)	Mackenzie Health	4, 14
14 ⁵ □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	58.2 (-)	53.3 (-)	88.0 (-)	-	-
15 ⁵ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	58.6% (65.2%)	50.0% (28.6%)	76.5% (85.6%)	Hotel Dieu Shaver	5, 12
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (0.9)	0.8 (0.7)	1.3 (1.2)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ■	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	6.3 (6.2)	-	-	Waterloo Wellington CCAC	3, 13
18 ⁵ ●	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	41.4% (34.8%)	0.0% (0.0%)	50.0% (45.3%)	Grand River Hospital Corp., Freeport	11
19 ⁵ ●	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.2% (7.7%)	0.0% (2.5%)	9.3% (14.8%)	Perth Sub-LHIN	11
20 ⁵ ■	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	5.9 (6.6)	0.0 (0.0)	25.0 (26.1)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



Champlain Regional Stroke Network

Interpretation of LHIN Stroke Report Card - Champlain

2016/17

RD Contact Information Lisa McDonnell, Director, Champlain Regional Stroke Network
613-798-5555 ext. 16167

Performance Overview

Improvement on 12/20 indicators over 2015/16. Continued high performance in several areas of prevention and acute stroke care. Timely access to rehabilitative services delivered according to best practice remains a challenge.

Opportunities for LHIN and Stroke Network Collaboration:

The CRSN and LHIN will continue joint efforts to improve stroke care especially in relation to the LHIN Sub-Acute Capacity Plan, which can help address challenges related to timely and appropriate access to best practice rehab, community and home care services. Regional organization of Endovascular Therapy is also a priority.

Areas of Progress:

Acute Stroke Management	Sites in the LHIN deliver tPA in 35 minutes (target 30 min; Civic 31 min)
Acute Stroke Management	5% increase in patients receiving stroke care on a Stroke Unit
Stroke Rehabilitation	41.4% of rehabilitation inpatients had severe stroke (6% better than 15/16)
Community Reintegration	Proportion of pts with mild disability discharged home from acute care (79.6%)

Areas for Improvement:

Access

In the LHIN, wait time is 15 days (median) for patients to access inpatient stroke rehab after stroke. This is three times the benchmark of 5 days.

Effectiveness

Stroke patients should be treated on a stroke unit. Although our performance on this indicator improved from 10 to 15%, it is still well below the target of 75%.

Effectiveness

Intensity of inpatient rehab, QBP recommends patients receive 180 minutes of therapy per day. Patients in Champlain LHIN receive 58 minutes/day.

Access

Access to rehab in the community for stroke survivors is variable across the LHIN. After discharge patients received 6.3 CCAC visits (average performance).

Associated Current or Planned Activities:

Adding inpatient stroke rehab beds to our system, as part of LHIN Sub-Acute Capacity Planning, should improve timely access to rehab. Pembroke Regional Hospital is a high performer, meeting the benchmark.

Continue work with The Ottawa Hospital Civic Campus to ensure stroke patients are admitted to one of the designated Stroke Unit beds. Work with other acute centres to implement stroke units.

Continue quality improvement and process design initiatives with inpatient stroke rehab programs to increase therapy provided to patients. Implement Sub-Acute Recommendation to achieve 120 mins.

Community Stroke Rehab is provided by CCAC. It is available in Eastern Counties (2016) and Renfrew County (2018) and should be implemented LHIN-wide.

Ontario Stroke Report Card, 2016/17:

North Simcoe Muskoka Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	56.3% (56.7%)	46.5 - 63.7%	65.9%	Essex Sub-LHIN	1, 11
2 ■	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.5)	1.6 - 1.9	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	15.4 (13.1)	12.6 - 19.6	-	-	7
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	78.6% (71.4%)	64.3 - 85.7%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	76.1% (72.6%)	24.4 - 100%	92.4%	Bluewater Health, Sarnia	5
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	53.0 (58.0)	51.5 - 59.5	33.0	The Ottawa Hospital, Civic	11
7 [§] ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	8.9% (12.1%)	4.8 - 10.3%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ▲	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	27.4% (5.4%)	3.7 - 62.2%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	54.4% (54.6%)	2.3 - 87.3%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	28.3% (27.5%)	16.5 - 42.1%	8.2%	Bluewater Health, Sarnia	None
11 [§] ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	29.5% (20.3%)	19.0 - 33.3%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	82.6% (82.5%)	75.9 - 92.9%	-	-	14, 3
13 [§] ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (10.0)	5.0 - 9.0	5.0	Pembroke Regional Hospital	None
14 [§] ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	47.1 (39.8)	31.3 - 64.1	101.7	West Park Healthcare Centre	None
15 [§] ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	78.2% (57.3%)	62.5 - 83.6%	85.4%	Providence Healthcare	3
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.6 (1.9)	1.6 - 1.8	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ■	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	8.1 (8.2)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	45.5% (41.4%)	32.7 - 54.5%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	2.9% (3.6%)	1.1 - 7.2%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	6.0 (8.5)	3.6 - 7.4	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: North Simcoe Muskoka Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	56.3% (57.2%)	46.5% (52.8%)	63.7% (64.0%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.2)	1.6 (1.3)	1.9 (1.8)	Milton Sub-LHIN	None
3 ⁵ ▲	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	13.4 (11.9)	11.1 (9.6)	17.8 (20.1)	-	10, 2
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	78.6% (75.0%)	64.3% (69.2%)	85.7% (88.9%)	Cochrane Sub-LHIN	6, 7
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	76.1% (71.4%)	24.4% (15.4%)	100% (86.3%)	Brockville General Hospital	10, 11
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	53.0 (55.0)	51.5 (58.0)	59.5 (58.0)	Thunder Bay Regional Health Sciences Centre	14, 1
7 ⁵ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	8.9% (11.8%)	4.8% (5.3%)	10.3% (15.6%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 ⁵ ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	27.4% (5.0%)	3.7% (3.3%)	62.2% (6.5%)	Thunder Bay City Sub-LHIN	14, 2
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	54.4% (52.3%)	2.3% (0.0%)	87.3% (78.9%)	North Bay Regional Health Centre	10, 1
10 ⁵ ■	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	28.3% (29.6%)	16.5% (16.6%)	42.1% (48.7%)	Trillium Health Partners, Credit Valley	None
11 ⁵ ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	29.5% (25.8%)	19.0% (13.2%)	33.3% (38.6%)	Timiskaming Sub-LHIN	None
12 ⁵ □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	82.6% (-)	75.9% (-)	92.9% (-)	-	-
13 ⁵ ●	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (10.0)	5.0 (7.0)	9.0 (16.0)	Mackenzie Health	4, 14
14 ⁵ □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	47.1 (-)	31.3 (-)	64.1 (-)	-	-
15 ⁵ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	78.2% (54.6%)	62.5% (17.9%)	83.6% (69.0%)	Hotel Dieu Shaver	5, 12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.6 (1.6)	1.6 (1.0)	1.8 (2.3)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	8.1 (9.2)	-	-	Waterloo Wellington CCAC	3, 13
18 ⁵ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	45.5% (42.8%)	32.7% (35.0%)	54.5% (50.0%)	Grand River Hospital Corp., Freeport	11
19 ⁵ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	2.9% (4.2%)	1.1% (0.6%)	7.2% (11.0%)	Perth Sub-LHIN	11
20 ⁵ ●	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	6.0 (8.8)	3.7 (8.1)	7.5 (12.6)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



Central East Stroke Network

Interpretation of LHIN Stroke Report Card - North Simcoe Muskoka

2016/17

RD Contact Information

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Performance Overview

Significant progress on 5 indicators; no noted improvement on 6. Compared to other LHINs, exemplary performance on 1 indicator and poor on 7. Variation within the LHIN remains an issue for all indicators.

Opportunities for LHIN and Stroke Network Collaboration:

Inform/make recommendations/monitor work plan progress via the NSM Stroke Committee and NSM Integrated Vascular Steering Committee. Priority work plan items based on the identified needs above.

Areas of Progress:

Stroke Prevention	Significant improvement in carotid imaging; continued variability across LHIN
Acute Stroke Management	Proportion of stroke patients treated on a stroke unit increased
Stroke Rehabilitation	Decrease in wait time to inpatient rehab but variation of 4 days across LHIN
Stroke Rehabilitation	Proportion of stroke rehabilitation patients achieving RPG length of stay target

Areas for Improvement:

- Appropriateness
Equitable access to stroke unit care to improve patient outcomes and quality care (acute and rehab).
- Integration
Equitable access to high quality community-based stroke rehabilitation.
- Effectiveness
Optimal systems in place to enhance access to Endovascular Treatment (EVT) and seamless transitions.
- Value
Coordinated and timely access to urgent secondary stroke prevention services

Associated Current or Planned Activities:

- Establish transitional plan to advance stroke unit best practices in alignment with NSM LHIN IFM plan. Develop a comprehensive plan to ensure access to high intensity stroke rehab for all NSM LHIN residents.
- Continue planning for implementation of community-based stroke rehab best practices identified in the NSM Integrated Stroke Program model. Explore opportunities to implement integrated funding model building on bundled care initiatives.
- Refine EVT referral processes at sites and finalize LHIN walk-in protocols. Develop inpt protocols, and work with EVT delivery sites to support flow. Contribute to local/provincial planning to address access issues linked to long transfer distances, infrastructure, critical mass etc.
- Support local initiatives developed through completion of the provincial SPC self-assessment (e.g. refine referral processes, assessment, and education processes).

Ontario Stroke Report Card, 2016/17:

North East Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	56.3% (56.8%)	37.5 - 58.4%	65.9%	Essex Sub-LHIN	1, 11
2 ■	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.6 (1.7)	1.4 - 4.5	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	12.4 (15.0)	0.0 - 69.3	-	-	7
4 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	67.1% (66.3%)	40.0 - 71.7%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	81.2% (81.6%)	9.1 - 91.1%	92.4%	Bluewater Health, Sarnia	5
6 ▲	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	61.5 (69.5)	37.5 - 72.0	33.0	The Ottawa Hospital, Civic	11
7 [§] ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	11.1% (12.0%)	0.0 - 15.1%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ▲	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	10.5% (2.7%)	1.7 - 59.8%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	59.0% (51.2%)	0.0 - 94.7%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	31.0% (42.7%)	0.0 - 76.5%	8.2%	Bluewater Health, Sarnia	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	36.8% (40.8%)	27.8 - 43.0%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	62.0% (72.8%)	47.1 - 79.4%	-	-	14, 3
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	9.0 (9.0)	7.0 - 10.0	5.0	Pembroke Regional Hospital	None
14 [§] ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	73.7 (68.4)	44.6 - 94.9	101.7	West Park Healthcare Centre	None
15 [§] ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	47.1% (36.4%)	39.2 - 86.4%	85.4%	Providence Healthcare	3
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.8 (0.7)	0.8 - 1.4	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ■	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	10.4 (8.3)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	29.0% (33.4%)	20.0 - 48.0%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	3.9% (5.0%)	0.9 - 11.1%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	6.9 (9.2)	0.0 - 21.3	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: North East Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	56.3% (58.0%)	37.5% (54.4%)	58.4% (63.4%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.6 (1.5)	1.4 (1.5)	4.5 (2.0)	Milton Sub-LHIN	None
3 [§] ■	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	10.5 (12.4)	0.0 (0.0)	55.9 (21.1)	-	10, 2
4 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	67.1% (68.1%)	40.0% (40.0%)	71.7% (80.4%)	Cochrane Sub-LHIN	6, 7
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	81.2% (78.2%)	9.1% (44.4%)	91.1% (86.0%)	Brockville General Hospital	10, 11
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	61.5 (77.0)	37.5 (85.0)	72.0 (105.0)	Thunder Bay Regional Health Sciences Centre	14, 1
7 [§] ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	11.1% (11.9%)	0.0% (10.0%)	15.1% (17.2%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 [§] ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	10.5% (2.2%)	1.7% (0.0%)	59.8% (4.5%)	Thunder Bay City Sub-LHIN	14, 2
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	59.0% (52.5%)	0.0% (0.0%)	94.7% (96.5%)	North Bay Regional Health Centre	10, 1
10 [§] ■	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	31.0% (34.9%)	0.0% (0.0%)	76.5% (68.8%)	Trillium Health Partners, Credit Valley	None
11 [§] ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	36.8% (38.5%)	27.8% (8.3%)	43.0% (48.7%)	Timiskaming Sub-LHIN	None
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	62.0% (-)	47.1% (-)	79.4% (-)	-	-
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	9.0 (9.0)	7.0 (6.0)	10.0 (20.5)	Mackenzie Health	4, 14
14 [§] □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	73.7 (-)	44.6 (-)	94.9 (-)	-	-
15 [§] ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	47.1% (38.1%)	39.2% (33.3%)	86.4% (55.6%)	Hotel Dieu Shaver	5, 12
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.8 (0.7)	0.8 (0.6)	1.4 (1.0)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ●	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	10.4 (8.2)	-	-	Waterloo Wellington CCAC	3, 13
18 [§] ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	29.0% (34.9%)	20.0% (33.3%)	48.0% (66.7%)	Grand River Hospital Corp., Freeport	11
19 [§] ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	3.9% (3.8%)	0.9% (1.5%)	11.1% (4.0%)	Perth Sub-LHIN	11
20 [§] ●	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	6.9 (8.9)	0.0 (0.0)	20.8 (16.1)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



Northeastern Ontario Stroke Network

Interpretation of LHIN Stroke Report Card - North East

2016/17

RD Contact Information Susan Burse, Regional Director, NEO Stroke Network
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Performance Overview

LHIN 13 is red on more than half of indicators and not progressing in 8/20. There continues to be links between current system of care delivery and Report Card performance. While we can celebrate in select areas, progress is often insignificant.

Opportunities for LHIN and Stroke Network Collaboration:

Opportunities noted in last year's Interpretation remain relevant: The Cost Analysis for Stroke Care in the North East was shared with LHIN Senior Team (Dec 2017). Together we need to leverage that comprehensive report to advocate for investments to improve outcomes via regional acute consolidation & enhanced outpatient services.

Areas of Progress:

Acute Stroke Management	Access to Thrombolysis Median DTN time: 61.5 min (15.5 min better)
Acute Stroke Management	Access to Stroke Unit Care: Variation across LHIN. Low % but improving.
Stroke Rehabilitation	Proportion of Rehab inpatients achieving RPG LOS target improved by 10.7%
Stroke Rehabilitation	Median FIM Efficiency and Rehab Intensity both improved but still variation exists across LHIN

Areas for Improvement:

Appropriateness

Proportion of stroke/TIA patients who arrive at ED by ambulance remains stagnant at 56%, not improving. One area at 45.3% in region.

Effectiveness

Median DTN times (t-PA). High variation within/ between centres. Challenges with sustaining improvements noted.

Access

Proportion of ischemic stroke patients treated on a stroke unit during inpatient stay. We are far from benchmark of 80.6%. We need to consolidate care.

Access

Time from stroke onset to admission to inpatient stroke rehabilitation remains in the red (worse than average) at 9.0 days with a high of 10 days in region.

Associated Current or Planned Activities:

FAST stroke signs "decal" campaign for ambulance fleet saw uptake in three areas to date in region, with media coverage. FAST magnets continue to be used in stroke prevention clinics, at education events etc.

SAH and HSN planning improvement efforts. When EVT Program develops at HSN as a regional service, efforts will be needed towards efficient Door In Door Out times at each District Stroke Centre(DSC) . Sharing models/tools/resources from successful DSCs in province has been helpful.

The NE LHIN continues to have a distributed model of 25 hospitals providing acute stroke care. Progress is stalled in system change. 3/4 centres now meet Stroke Unit definition, with launch of NBRHC ISU April 2017 & HSN ASU Sept 2017. SAH unit to be developed yet.

Regional stakeholders participated in capacity planning for bedded rehabilitative care levels hosted by NE LHIN. Final recommendations pending. Implementation of recommendations could improve wait time to inpt rehab.

Ontario Stroke Report Card, 2016/17:

North West Local Health Integration Network

● Exemplary performance¹ ■ Acceptable performance² ▲ Poor performance³ □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (2015/16)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	53.2% (48.2%)	40.0 - 57.9%	65.9%	Essex Sub-LHIN	1, 11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.8 (1.9)	2.0 - 2.3	1.2	Oakville Sub-LHIN	6, 8, 7, 11
3 [§] □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	16.4 (14.5)	0.0 - 32.2	-	-	7
4 ■	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	72.2% (70.4%)	66.7 - 85.7%	85.5%	Southeast Mississauga Sub-LHIN	None
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	79.5% (78.6%)	36.4 - 93.3%	92.4%	Bluewater Health, Sarnia	5
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	50.0 (66.5)	41.0 - 41.0	33.0	The Ottawa Hospital, Civic	11
7 [§] ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	13.4% (10.6%)	5.1 - 17.9%	17.7%	Ottawa East Sub-LHIN	11, 10
8 [§] ■	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	68.4% (69.6%)	37.8 - 85.1%	80.6%	Urban Guelph Sub-LHIN	3, 10
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	64.6% (81.3%)	0.0 - 80.6%	95.1%	Hamilton Health Sciences Corp., Juravinski	None
10 [§] ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	23.2% (25.3%)	0.0 - 38.5%	8.2%	Bluewater Health, Sarnia	None
11 [§] ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	35.2% (40.8%)	31.0 - 38.0%	47.8%	Chatham-Kent Sub-LHIN	1
12 [§] □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	92.2% (83.7%)	0.0 - 92.2%	-	-	14, 3
13 [§] ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	9.0 (8.0)	9.0 - 9.0	5.0	Pembroke Regional Hospital	None
14 [§] ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	65.0 (57.7)	65.0 - 65.0	101.7	West Park Healthcare Centre	None
15 [§] ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	41.0% (56.7%)	41.0 - 41.0%	85.4%	Providence Healthcare	3
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.8 (1.1)	0.8 - 0.8	1.6	Grand River Hospital Corp., Freeport	3, 12
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	5.2 (5.8)	-	12.4	Waterloo Wellington CCAC	3, 10
18 [§] ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	41.3% (44.4%)	41.3 - 41.3%	58.7%	Lakeridge Health, Oshawa	3
19 [§] ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.3% (6.5%)	2.4 - 7.5%	1.9%	Urban Guelph Sub-LHIN	None
20 [§] □	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	11.2 (8.3)	0.0 - 24.7	-	-	10, 6

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

² Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.

³ Performance below the 50th percentile.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18–108.

Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Top benchmark achieved between 2014/15 and 2016/17. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-LHIN or facility data.

⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.

Stroke Progress Report, 2016/17 compared to 2013/14-2015/16: North West Local Health Integration Network

● Progressing Well¹ ■ Progressing² ▲ Not Progressing³ □ Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2016/17 (Previous 3-Year Average)	Variance Within LHIN ⁵ 2016/17 (2013/14)		Greatest Improvement ⁶	
				Min	Max	Sub-LHIN/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	53.2% (48.6%)	40.0% (34.5%)	57.9% (51.6%)	Tyendinaga, Napanee Sub-LHIN	11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.8 (1.6)	2.0 (2.0)	2.3 (2.2)	Milton Sub-LHIN	None
3 ⁵ ▲	Prevention of stroke	Risk-adjusted ⁷ stroke/TIA mortality rate at 30 days (per 100 patients).	11.8 (10.1)	0.0 (0.0)	24.1 (14.4)	-	10, 2
4 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	72.2% (72.9%)	66.7% (75.0%)	85.7% (92.3%)	Cochrane Sub-LHIN	6, 7
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	79.5% (78.7%)	36.4% (20.0%)	93.3% (93.4%)	Brockville General Hospital	10, 11
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target ⁸ : 30 minutes	50.0 (70.0)	41.0 (76.0)	41.0 (76.0)	Thunder Bay Regional Health Sciences Centre	14, 1
7 ⁵ ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target ⁸ : >12%	13.4% (12.3%)	5.1% (9.5%)	17.9% (14.6%)	Tyendinaga, Napanee Sub-LHIN	2, 1
8 ⁵ ●	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁹ at any time during their inpatient stay. Target ⁸ : >75%	68.4% (26.8%)	37.8% (0.0%)	85.1% (0.0%)	Thunder Bay City Sub-LHIN	14, 2
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	64.6% (71.2%)	0.0% (0.0%)	80.6% (95.9%)	North Bay Regional Health Centre	10, 1
10 ⁵ ■	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	23.2% (30.9%)	0.0% (0.0%)	38.5% (79.8%)	Trillium Health Partners, Credit Valley	None
11 ⁵ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target ⁸ : >30%	35.2% (39.2%)	31.0% (25.0%)	38.0% (42.3%)	Timiskaming Sub-LHIN	None
12 ⁵ □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	92.2% (-)	0.0% (-)	92.2% (-)	-	-
13 ⁵ ●	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	9.0 (10.0)	9.0 (11.5)	9.0 (11.5)	Mackenzie Health	4, 14
14 ⁵ □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target ⁸ : 180 minutes/day	65.0 (-)	65.0 (-)	65.0 (-)	-	-
15 ⁵ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	41.0% (50.1%)	41.0% (44.6%)	41.0% (44.6%)	Hotel Dieu Shaver	5, 12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.8 (0.8)	0.8 (0.7)	0.8 (0.7)	Trillium Health Partners, Credit Valley	5, 4, 6, 7
17 ▲	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16 - 2016/17.	5.2 (5.6)	-	-	Waterloo Wellington CCAC	3, 13
18 ⁵ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	41.3% (39.4%)	41.3% (29.9%)	41.3% (29.9%)	Grand River Hospital Corp., Freeport	11
19 ⁵ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.3% (6.3%)	2.4% (2.7%)	7.5% (5.4%)	Perth Sub-LHIN	11
20 ⁵ ▲	Reintegration	Age- and sex-adjusted ⁷ readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target ⁸ : 10.0	8.2 (6.3)	0.0 (0.0)	24.7 (50.5)	-	12, 13

Hospital Service Accountability Agreement indicator, 2015/16

- Data not available

§ Contributes to QBP performance

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 4, 7, 8, 11 and 19) for patients aged 18-108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Excludes sub-LHINs or facilities with fewer than six patients.

⁶ Sub-LHIN/Facility: Greatest improvement from 2013/14 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2013/14.

⁷ The 2013/14-2016/17 LHIN rate is used in calculating the LHIN risk-adjusted rate.

⁸ Targets based on international, national and provincial targets, please refer to full report for details.

⁹ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 16 stroke units in 2013/14, 21 in 2014/15, 28 in 2015/16, and 35 in 2016/17.



Northwestern Ontario Regional Stroke Network

Interpretation of LHIN Stroke Report Card - North West

2016/17

RD Contact Information

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Performance Overview

Where comparative data exist, 9/18 indicators have progressed. High performance seen in the proportion of patients receiving acute thrombolytic treatment and in discharging mild stroke patients to their home setting.

Opportunities for LHIN and Stroke Network Collaboration:

Support for key initiatives in stroke care including a Pan-Northern approach to enhancing access to Endovascular Treatment (EVT). Continued collaboration with Regional Rehabilitative Care Program, enhanced access to quality post-stroke rehabilitation and exploration of an opportunity for a Cardiovascular and Stroke forum within the LHIN.

Areas of Progress:

Acute Stroke Management	Proportion receiving acute thrombolysis (tPA) and DtN time improved
Acute Stroke Management	Access to stroke unit care remains high and exceeds provincial average.
Stroke Rehabilitation	Highest proportion acute pts with mild disability discharged home in Ontario.
Stroke Rehabilitation	Wait Time to access stroke inpatient rehabilitation continues to decrease

Areas for Improvement:

Access

Indicator 9: Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services

Effectiveness

Indicator 1: Proportion of stroke/TIA patients who arrived at the ED by ambulance

Access

Indicator 3: Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients)

Effectiveness

Indicator 16: Median FIM efficiency (change in function score from admission to discharge/total length of stay) for moderate stroke in inpatient rehab

Associated Current or Planned Activities:

Triage Algorithm revised as per updated Canadian Stroke Best Practice Recommendations. Provincial Self Assessment Tool for Stroke Prevention Clinics (SPC) - Core Elements & Action Plan completed with Stroke Network support. Exploring SPC Leadership Cttee

Strong partnership with EMS system including best practice training with all EMS professionals (paramedics, first responders, CACC). Completed EMS educational video. Education to primary care, and the public on Heart & Stroke's FAST campaign and benefits to calling 911

The formation of Pan-Northern Stroke Care Project (with NE LHIN) to improve access to stroke care services. This includes enhancing EVT access, implementing a rapid assessment clinic for TIA/Minor Stroke patients, and access to CT services in the Thunder Bay Sub LHIN.

Length of stay targets reviewed weekly. Early identification of complex discharges. Activities to address delays in discharge, enhanced rehabilitation time and earlier admission to rehab are in progress. Enhanced collaboration to support discharge to outpatient services. Access to regional tele-SLP services. Review of mild stroke admissions.

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Appendix A: Indicator Definitions, Calculations and Data Sources

Indicator No.	Care Continuum Category	Definition	Calculation	Data Source
1	Public Awareness and Patient Education	Proportion of stroke/TIA patients who arrived at the emergency department (ED) by ambulance.	Numerator: Number of stroke/TIA patients transported by ambulance Denominator: Total number of patients admitted to an ED for stroke/TIA *Population-based analysis (patient's LHIN)	CIHI-NACRS
2	Prevention of Stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	Adult stroke/TIA admissions to acute care inpatient setting per 1,000 population *Population-based analysis (patient's LHIN), standardized using Ontario's 2003/04 population	CIHI-DAD
3	Prevention of Stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	Risk-adjusted mortality rate per 100 patients within 30 days of stroke/TIA index event between April 1, 2016 and March 31, 2017 (among inpatients only) Risk-adjusted model: Age + sex + ambulance arrival + atrial fibrillation + stroke/TIA + coronary artery disease or percutaneous coronary intervention or coronary artery bypass graft + carotid disease or carotid endarterectomy/stent+ diabetes + hypertension + peripheral vascular disease + hyperlipidemia + stroke type	CIHI-DAD, RPDB
4	Prevention of Stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for	Numerator: Number of ischemic stroke/TIA inpatients with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of acute care discharge Denominator: Total number of ischemic stroke/TIA	CIHI-DAD and ODB

		anticoagulant therapy within 90 days of discharge from acute care.	patients (excluding query diagnoses) aged 65 years or older at the time of discharge with a diagnosis of atrial fibrillation discharged alive from inpatient acute care *population based analysis	
5	Prevention of Stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	Numerator: Number of ischemic stroke patients who undergo carotid imaging (carotid doppler, carotid CTA, carotid MRA or carotid angiography) Denominator: All admitted patients with ischemic stroke	CIHI-DAD, OHIP Billing, CIHI-NACRS
6	Acute Stroke Management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target: 30 minutes	Median number of minutes from ED arrival (registration time) to administration of tPA Denominator: All patients who receive IV, IV/IA or intra-arterial thrombolysis in an ED or admitted as inpatients with date/time of registration and tPA given date/time (includes only tPA capacity sites – see Appendix D)	CIHI-DAD Special Project 340, CIHI-NACRS Special Project 340
7	Acute Stroke Management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target: >12%	Numerator: Number of ischemic stroke patients who receive IV, IV/IA or intra-arterial thrombolysis (includes only tPA capacity sites – see Appendix D) Denominator: Number of ischemic stroke patients presenting to the ED or admitted in inpatient care *Population-based analysis (patient's LHIN)	CIHI-DAD Special Project 340, CIHI-NACRS Special Project 340
8	Acute Stroke Management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay (HSAA indicator). Target: >75%	Numerator: Number of stroke/TIA inpatients treated in an acute care stroke unit at any time during hospital stay Denominator: Total number of stroke/TIA patients admitted to hospital *Population-based analysis (patient's LHIN) **Stroke unit = revised definition: A stroke unit is a geographical unit with identifiable co-located beds (e.g. 5A-7, 5A-8, 5A-9, 5A-10) that are occupied by stroke patients 75% of the time and have a dedicated interprofessional team with expertise in stroke care	CIHI-DAD Special Project 340

			including, at a minimum, nursing, physiotherapy, occupational therapy and speech-language pathology	
9	Prevention of Stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	Numerator: Number of ischemic stroke/TIA patients referred to secondary prevention services Denominator: Total number of ischemic stroke/TIA patients (excluding query diagnoses) discharged from the ED back to community	CIHI-NACRS, Special Project 340
10	Acute Stroke Management	Proportion of alternate level of care (ALC) days to total length of stay (LOS) in acute care.	Numerator: Sum of ALC days Denominator: Total number of LOS days among stroke/TIA patients admitted to inpatient care	CIHI-DAD
11	Acute Stroke Management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target: >30%	Numerator: Number of stroke inpatients admitted to inpatient rehabilitation Denominator: Total number of stroke inpatients discharged alive from acute care (excludes TIA patients) *Population-based analysis (patient's LHIN)	CIHI-DAD, CIHI-NRS
12	Stroke Rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (alphaFIM >80) discharged home.	Numerator: The number of stroke patients with valid AlphaFIM score greater 80 discharged home with or without services Denominator: Total number of stroke patients with valid Alpha FIM data discharged alive from inpatient acute care (excludes TIA patients) with an AlphaFIM score greater than 80 *facility based analysis	CIHI-DAD and CIHI-DAD Special Project 740
13	Stroke Rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	Median time from stroke onset to admission to inpatient rehabilitation Denominator: All stroke patients (excludes TIA patients) discharged alive from acute care and admitted to inpatient rehabilitation classified as RCG-1	CIHI-DAD, CIHI-NRS
14	Stroke Rehabilitation	Median number of minutes per day of direct therapy received by	Rehab Intensity (RI) = Sum of the Rehab Time (RT) (all providers*) for the episode/ active rehab length of stay for the episode	CIHI-NRS

		inpatient stroke rehabilitation patients.	*Adjustment = Assistant time (PTA, OTA and CDA) less than or equal to 33% of total therapy time. Denominator: Number of stroke inpatient rehabilitation patients (RCG-1) with valid RI data (excludes records with admission_class_code='4' (Un)planned discharge without assessment; records with rehab time of ", ':', '999', '9999', '99999') **Q3 and Q4 for 2015/16	
15	Stroke Rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG length of stay target.	Numerator: Number of patients within each RPG achieving target active length of stay Denominator: Number of stroke inpatient rehabilitation patients (RCG-1)	CIHI-NRS
16	Stroke Rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	FIM efficiency = (FIM discharge – FIM admission)/total LOS Denominator: Stroke patients (RCG-1) with moderate disability RPGs 1120, 1130 and 1140)	CIHI-NRS
17	Stroke Rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	Mean number of rehabilitation services visits (involving physiotherapy, occupational therapy, speech language pathology, social work) over a 180-day period discharge from inpatient acute care or inpatient rehabilitation (HCD-OACCAC 2015/16 and 2016/17) Denominator: All stroke patients who received a CCAC rehabilitation visit within 60 days of discharge from inpatient care (CIHI-DAD 2015/16) or inpatient rehabilitation (CIHI-NRS 2016/17)	CIHI-DAD, CIHI-NRS, HCD-OACCAC
18	Stroke Rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke.	Numerator: Number of stroke patients with severe disability (RPG 1100 or 1110) in inpatient rehabilitation Denominator: Total number of stroke (RCG-1) patients admitted to inpatient rehabilitation	CIHI-NRS
19	System Integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC	Numerator: Number of stroke/TIA patients discharged to LTC/CCC Denominator: Total number of stroke/TIA admitted	CIHI-DAD

		(excluding patients originating from LTC/CCC).	patients discharged alive (excludes patients originating from LTC/nursing home/CCC) *Population-based analysis (patient's LHIN)	
20	System Integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients). Target: 10.0	Numerator: Total number of non-elective readmissions to acute inpatient care due to any cause (CIHI-DAD only) Denominator: Total number of alive ED/DAD stroke separations between April 1, 2016 and March 31, 2017 (CIHI-DAD/NACRS) (excludes transfers and elective admissions)	CIHI-DAD, CIHI-NACRS

APPENDIX B Contact Information for High-Performing Facilities and Sub-LHINs by Indicator

Indicator		High-Performing Facility/Sub-LHIN	Contact Information
1	Proportion of stroke/TIA patients who arrived at the emergency department by ambulance	Essex Sub-LHIN	Denise St. Louis Coordinator, Windsor Essex District Stroke Centre denise.st.louis@wrh.on.ca 519-254-5577 ext. 33770
2	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population)	Oakville Sub-LHIN	Nicole Pageau Regional Director, West GTA Region nicole.pageau@thp.ca 905-848-7580 ext. 5476
4	Proportion of ischemic stroke/TIA inpatients aged 65 years and over with atrial fibrillation prescribed anticoagulant therapy within 90 days of discharge from acute care.	Southeast Mississauga Sub-LHIN	Nicole Pageau Regional Director, West GTA Region nicole.pageau@thp.ca 905-848-7580 ext. 5476
5	Proportion of ischemic stroke inpatients who received carotid imaging	Bluewater Health, Sarnia	Nerissa Campbell Manager, Sarnia-Lambton District Stroke Centre & Vascular Program Bluewater Health ncampbell@bluewaterhealth.ca 519-464-4400 ext. 4465
6	Median door-to-needle time among patients who	The Ottawa Hospital. Civic	Hailey Pettem

	received acute thrombolytic therapy (tPA) (minutes). Target: 30 minutes		Acute Care Coordinator The Ottawa Hospital – Civic Campus hpettem@toh.ca 613-798-5555 ext. 16176
7	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target: >21%	Ottawa East Sub-LHIN	Hailey Pettem Acute Care Coordinator The Ottawa Hospital – Civic Campus hpettem@toh.ca 613-798-5555 ext. 16176
8	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay. Target: >75%	Urban Guelph Sub-LHIN	Tammy Tebbutt District Stroke Coordinator, Grand River Kitchener tammy.tebbutt@grhosp.on.ca 519-749-4300 ext. 2605
9	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services	Hamilton Health Sciences Corp., Juravinski	Stefan Pagliuso Regional Director Central South Regional Stroke Network pagliuso@hhsc.ca 905-527-4322 ext. 44127
10	Proportion of alternate level of care (ALC) days to total length of stay in acute care	Bluewater Health, Sarnia	Nerissa Campbell Manager, Sarnia-Lambton District Stroke Centre & Vascular Program Bluewater Health ncampbell@bluewaterhealth.ca 519-464-4400 ext. 4465
11	Proportion of acute stroke (excluding TIA) patients	Chatham-Kent Sub-LHIN	Linda Butler

	discharged from acute care and admitted to inpatient rehabilitation. Target: >30%		District Stroke Coordinator Chatham Kent Health Alliance lbutler@ckha.on.ca 519-352-6401 ext. 6900
13	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation	Pembroke Regional Hospital	Rachel England Vascular Health Coordinator (temporary) Pembroke Regional Hospital rachel.england@pemreghos.org 613-732-2811 ext. 7312
14	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target7: 180 minutes/day	West Park Healthcare Centre	Nicola Tahair Interim Director, Regional Stroke Program, Toronto West Stroke Network nicola.tahair@uhn.ca 416-603-5076
15	Proportion of inpatient stroke rehabilitation patients achieving RPG length of stay target	Providence Healthcare	Donna Cheung Rehabilitation and community re-engagement, Southeast Toronto Stroke Network cheungd@smh.ca 416-864-6060 ext. 3832
16	Median FIM ¹ efficiency for moderate stroke in inpatient rehabilitation	Grand River Hospital Corp., Freeport	Tammy Tebbutt District Stroke Coordinator, Grand River Kitchener

¹ FIM (or Functional Independence Measure) is a trademark of Uniform Data System for Medical Rehabilitation, a division of UB Foundation Activities, Inc.

			tammy.tebbutt@grhosp.on.ca 519-749-4300 ext. 2605
17	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	Waterloo Wellington CCAC	Tammy Tebbutt District Stroke Coordinator, Grand River Kitchener tammy.tebbutt@grhosp.on.ca 519-749-4300 ext. 2605
18	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110)	Lakeridge Health, Oshawa	Amy Maebrae-Waller District Stroke Coordinator, Lakeridge Health awaller@lakeridgehealth.on.ca 905-576-8711 ext. 2553
19	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC)	Urban Guelph Sub-LHIN	Tammy Tebbutt District Stroke Coordinator, Grand River Kitchener tammy.tebbutt@grhosp.on.ca 519-749-4300 ext. 2605

Appendix C: Glossary

Term/Acronym	Definition
ABC methodology	Achievable Benchmarks of Care methodology. Summarizes the performance among the highest performing facilities or sub-LHINs representing at least 20% of all patients eligible for the appropriate care.
ALC	Alternate level of care. An ALC patient is one who has finished the acute care phase of his/her treatment, but remains in an acute bed. This classification is invoked when the patient's physician gives an order to change the level of care from acute care and requests a transfer for the patient.
AlphaFIM	Standardized method of assessing patient disability/functional status in the acute care setting. AlphaFIM® is a registered trademark of Uniform Data System for Medical Rehabilitation, a division of UB Foundation Activities, Inc.
ARTIC	Adopting Research to Improve Care
CCAC	Community Care Access Centre
CCC	Complex continuing care
CIHI	Canadian Institute for Health Information
CIHI-DAD	CIHI's Discharge Abstract Database; captures administrative, clinical and demographic information on hospital discharges (including deaths, sign-outs and transfers). Some provinces and territories also use the DAD to capture day surgery.
CIHI-NACRS	CIHI's National Ambulatory Care Reporting System; contains data for all hospital- and community-based ambulatory care.
CIHI-NRS	CIHI's National Rehabilitation Reporting System; contains client data collected from participating

Term/Acronym	Definition
	adult inpatient rehabilitation facilities and programs across Canada.
CSS	Canadian Stroke Strategy
CT	Computed tomography
CTA	Computed tomography angiography
Direct therapy	See rehabilitation intensity.
Discharge Link Service	An initiative that delivers enhanced rehabilitation therapy in community settings through CCAC-contracted providers.
District stroke centre (DSC)	A facility that has written stroke protocols for emergency services, emergency department care and acute care including: transport and triage protocols; ability to offer thrombolytic therapy to suitable ischemic stroke patients; timely computed tomography (CT) scanning and expert interpretation; clinicians with stroke expertise; and linkages to rehabilitation and secondary prevention.
DTN	Door-to-needle time; the time from patient arrival to time to patient receiving tissue plasminogen activator (tPA).
Dysphagia	Difficulty in swallowing.
ED	Emergency department
EMS	Emergency medical services
eRehab	Utilizes trained rehabilitation technicians at the bedside to carry out interventions under the direction of a therapist connected remotely in real time via technology.
E-Stroke	A web-based rehabilitation referral and patient-tracking system that provides timely, equitable

Term/Acronym	Definition
	and efficient access to stroke rehabilitation and enables reporting of unique patient and system information to support local organization- and system-based quality improvement. E-Stroke is utilized by 19 acute and rehabilitation hospital sites in Toronto (crossing GTA LHIN regions). Membership is held under a formal memorandum of understanding since 2008. E-Stroke is considered a standard of practice in Toronto.
EVT	Endovascular thrombectomy or endovascular treatment. The Ontario Health Technology Advisory Committee (OHTAC) review of EVT in February 2015 considered mechanical thrombectomy to be a cost-effective intervention and recommended public funding of EVT for eligible patients with acute ischemic stroke in selected stroke centres identified by the Ontario Stroke Network (OSN).
Extremal Quotient (EQ)	Descriptive measure of variability. A ratio of the highest LHIN value (rate, ratio, proportion or median) to the lowest LHIN value.
FAST	<p>A national public awareness campaign launched by Heart & Stroke to help Canadians recognize stroke symptoms by promoting the acronym FAST:</p> <p style="padding-left: 40px;">Face is it drooping?</p> <p style="padding-left: 40px;">Arms can you raise both?</p> <p style="padding-left: 40px;">Speech is it slurred or jumbled?</p> <p style="padding-left: 40px;">Time to call 9-1-1 right away</p>
FIM	Functional Independence Measure. FIM® is a registered trademark of Uniform Data System for Medical Rehabilitation, a division of UB Foundation Activities, Inc.
FIM efficiency	FIM efficiency = (FIM score at discharge – FIM score at admission) / total length of stay
GTA	Greater Toronto Area
HCD-OACCAC	Home Care Database, from the Ontario Association of Community Care Access Centres.

Term/Acronym	Definition
HSAA	Hospital Service Accountability Agreement
ICES	Institute for Clinical Evaluative Sciences
IFM	Integrated funding model
Ischemic stroke	Stroke caused by the interruption of blood flow to the brain due to a blood clot.
ISU	Integrated stroke unit
LHIN	Local Health Integration Network; one of 14 not-for-profit corporations established in Ontario by the MOHLTC, each with specific geographic boundaries. Each LHIN is responsible for planning, integrating and funding local health services.
LOS	Length of stay
LTC	Long-term care
MOHLTC	Ontario Ministry of Health and Long-Term Care
MRA	Magnetic resonance angiography
MRI	Magnetic resonance imaging
ODB	Ontario drug benefit claims database
OSN	Ontario Stroke Network; provided provincial leadership and coordination for the 11 Ontario Regional Stroke Networks. Absorbed under CorHealth as of 2016.
OT	Occupational therapy
PT	Physiotherapy

Term/Acronym	Definition
QBP	Quality-Based Procedure. A specific group of patient services that offers opportunities for health care providers to share best practices that will allow the system to achieve better quality and system efficiencies. <i>Quality-Based Procedures: Clinical Handbook for Stroke (Acute)</i> includes best practices for the emergency department, acute care and inpatient rehabilitation (Phase 1; April 2013). The updated <i>Quality-Based Procedures: Clinical Handbook for Stroke (Acute and Postacute)</i> also includes best practices for TIA and stroke prevention clinics, early supported discharge, outpatient and community rehabilitation and endovascular treatment (Phase 2; December 2016).
RCG	Rehabilitation Client Group. In the CIHI-NRS, the RCG describes the primary reason for admission to rehabilitation.
Regional stroke centre (RSC)	A facility that has all the requirements of a district stroke centre, plus neurosurgical facilities and interventional radiology.
Rehabilitation intensity	Developed through literature review, expert consensus and stakeholder engagement by the Stroke Reference Group, and approved by the Ontario Stroke Network, rehabilitation intensity is the amount of time the patient spends in individual, goal-directed rehabilitation therapy, focused on physical, functional, cognitive, perceptual and social goals to maximize the patient's recovery over a seven day/week period. It is time that a patient is engaged in active face-to-face treatment, which is monitored or guided by a therapist.
RM&R	Resource matching and referral is an electronic information and referral management system that matches the patient's health care needs to the services available and manages the referral process (e.g., referral, booking appointment).
RPDB	Registered Persons Database; provides basic demographic information about anyone who has ever received an Ontario health card number.
RPG	Rehabilitation Patient Group. In the CIHI-NRS, the RPG describes stroke severity.

Term/Acronym	Definition
Separation	Release of a patient from a course of care.
SEQC	Stroke Evaluation and Quality Committee
SLP	Speech language pathology
SPC	Secondary stroke prevention clinic; an ambulatory care clinic that aims to reduce recurrent vascular events following an initial or suspected stroke.
Stroke	Occurs when a vessel in the brain ruptures or is blocked by a blood clot.
Stroke unit	A geographical unit with identifiable co-located beds (e.g., 5A-7, 5A-8, 5A-9, 5A-10) that are occupied by stroke patients 75% of the time and have a dedicated inter-professional team with expertise in stroke care including, at a minimum, nursing, physiotherapy, occupational therapy and speech-language pathology.
Sub-LHIN	Smaller subdivisions for each of the 14 Local Health Integration Networks.
SW	Social work
Telestroke	Ontario Telemedicine Network and Criticall provide stroke expertise via audio/video technology to facilities without stroke physician expertise available onsite.
TIA	Transient ischemic attack or mini-stroke.
tPA	Tissue plasminogen activator. Also refers to thrombolysis. A protein that can be used to break down blood clots in people who are having an ischemic stroke. The route of delivery of tPA ca be intra-arterial (IA), intravenous (IV) or combined IA/IV.