Ontario and LHIN 2017/18 Stroke Report Cards and Progress Reports

Ontario and Local Health Integration Network (LHIN) 2017/18 Stroke Report Cards and Progress Reports

Authors and Authors' Affiliations

Anar Pardhan, MPH
Senior Strategist, Data Collection, Analytics and Reporting, CorHealth Ontario

Shelley Sharp, BSc. PT, MSc
Senior Strategist, Stroke Services, CorHealth Ontario

Kathryn Yearwood, CAPM, RN, BScN
Clinical Specialist, Stroke Services, CorHealth Ontario

Kris Britton, MA, PMP
Strategist, Data Collection, Analytics and Reporting, CorHealth Ontario

Beth Linkewich, MPA, OT Reg (Ont)
Chair, Stroke Report Card Task Group, CorHealth Ontario
Regional Director, North and East GTA Stroke Network, Sunnybrook Health Sciences Centre
Lecturer, Department of Occupational Science and Occupational Therapy, University of Toronto
Practice-Based Researcher, Sunnybrook Research Institute

Mark T. Bayley, MD, FRCPC
Physiatrist-in-Chief and Medical Director, Brain and Spinal Cord Rehabilitation Program, Toronto Rehabilitation Institute /
Professor, Division of Physical Medicine and Rehabilitation, University of Toronto / Adjunct Scientist, ICES
Co-Chair, Stroke Evaluation and Quality Committee, CorHealth Ontario

Gwen Brown, RN, BA, BEd, MA
Regional Stroke Community and Long-Term Care Coordinator, Stroke Network of Southeastern Ontario, Kingston Health Sciences Centre

Jiming Fang, PhD
Research Methodologist, ICES

Jenn Fearn, BHScPT, MScPT
Regional Rehabilitation Coordinator, Northeastern Ontario Stroke Network, Health Sciences North

Esmé French, BA(Hon.), BEd, MScPT
Regional Stroke Rehabilitation Specialist, Northwestern Ontario Regional Stroke Network, Thunder Bay Regional Health Sciences Centre

Moira K. Kapral, MD, MSc, FRCPC
Professor, Department of Medicine and Institute of Health Policy, Management and Evaluation, University of Toronto
Senior Scientist, ICES
Senior Scientist, Toronto General Research Institute

Alexander Khaw, MD
Co-Medial Director, Southwestern Ontario Stroke Network, London Health Sciences Centre
Associate Professor, Schulich School of Medicine and Dentistry, University of Western Ontario;
Associate Scientist, Lawson Health Research Institute; Dept. of Neurology, London Health Sciences Centre

Stefan Pagliuso, PT, MPT, BA Kin (Hon.)
Regional Stroke Program Director, Central South Regional Stroke Network, Hamilton Health Sciences

Joan Porter, MSc
Senior Epidemiologist, ICES

Marianne Thornton, BScPT, MA
Regional Education Coordinator, Champlain Stroke Network, The Ottawa Hospital
Staff Physician, General Internal Medicine, University Health Network and Mount Sinai Hospital

Bing Yu,
Senior Research Analyst, ICES

June 2019

Acknowledgements

Susan Bursey, *Regional Director*, Northeastern Ontario Stroke Network
Trina Diner, *Regional Director*, Northwestern Ontario Stroke Network
Lisa McDonnell, *Regional Director*, Champlain Regional Stroke Network
Cally Martin, *Regional Director*, Southeastern Ontario Stroke Network
Doug Bickford, *Regional Director*, Southwestern Ontario Stroke Network
Cheryl Moher, *Regional Director*, Central East Stroke Network
Nicole Pageau, *Regional Director*, West GTA Stroke Network
Stefan Pagliuso, *Regional Director*, Central South Regional Stroke Network
Nicola Tahair, *Interim Regional Director*, Toronto West Stroke Network
Leighanne Mackenzie, *Program Director Inner City Health*, *Regional Director*, Southeast Toronto Stroke Network

Graphic Design

Samson Kong, Specialist Communications, CorHealth Ontario

Data Resources

This study was supported by the ICES, which is funded by an annual grant from the Ontario Ministry of Health and Long-Term Care (MOHLTC). The opinions, results and conclusions reported in this paper are those of the authors and are independent from the funding sources. No endorsement by ICES or the Ontario MOHLTC is intended or should be inferred.

Parts of this material are based on data and/or information compiled and provided by CIHI. However, the analyses, conclusions, opinions and statements expressed in the material are those of the author(s), and not necessarily those of CIHI.

FIM® Instrument is a registered trademark of Uniform Data System for Medical Rehabilitation, a division of UB Foundation Activities, Inc.

IntelliHEALTH ONTARIO (Ontario Ministry of Health and Long-Term Care)

The authors thank **IMS Brogan Inc.** for use of their Drug Information Database

Contents

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 improvement and allows for consistent planning across the province. This report marks the ninth edition of the provincial and LHIN report cards, capturing data from 2017/18 fiscal year.

In the acute care sector, notable improvements were seen in the median door to needle time for thrombolytic therapy and the proportion of stroke patients treated on a stroke unit. Stroke is a time-sensitive condition with two key hyperacute interventions targeting ischemic stroke; endovascular thrombectomy (EVT)[a] and thrombolytic therapy (tissue plasminogen activator (tPA)). The goal of early acute treatment is to restore blood flow to the brain and to preserve brain tissue. Median door to needle time for patients who received tPA decreased from 47 to 45 minutes equating to approximately 4 million neurons saved per patient.[1]. It is important that work continues to reduce door to needle time towards a target of 30 minutes to optimize the effectiveness of this treatment in reducing the impact of stroke.[2] Ontario continues to perform above the minimum intravenous tPA utilization rate of 12.2% to realize a population effect on disability caused by stroke.[3]

Stroke unit care[b] is associated with significant long-term reduction in the odds of death, institutionalization and dependency at after stroke.[1] It is encouraging that the proportion of stroke patients receiving stroke unit care in Ontario increased from 45.6% in 2016/17 to 52.8% in 2017/18. Four stroke units were established in 2017/18, resulting in 39 acute hospitals in Ontario providing stroke unit care. Over the last two fiscal years, there has been a 39% increase of hospitals that have stroke units.

In the rehabilitation and secondary prevention sectors, lack of data prevents a full interpretive evaluation of the performance and outcomes of these services. Rehabilitation in the outpatient setting is recommended for patients following inpatient rehabilitation and for those with mild stroke (AlphaFIM® score greater than 80) leaving acute care.[4] In 2017/18, 74.2% of acute patients were discharged home; however, without available outpatient data an accurate evaluation of this service is unknown. Additionally, while 78.8% of ischemic stroke/TIA patients that were not admitted to hospital were referred to secondary stroke prevention clinics from the emergency department, a lack of stroke prevention clinic data prevents a full assessment of access and outcomes associated with secondary prevention services.

The results demonstrate that the quality of stroke care in Ontario, and the associated outcomes, continue to incrementally improve, but not all stroke patients in the province have equitable access to quality stroke care. Many individuals experiencing stroke still do not initiate their care via 911 (40% in 2017/18), approximately 40% do not present to a recognized stroke care centre, and there is wide range across LHINs (16% - 81%) in the proportion of patients that receive care on a stroke unit. Following

their acute inpatient care, many patients fail to receive the required rehabilitation therapy (intensity), receiving 67 minutes per day of direct therapy, approximately one-third of the best practices recommendation of 180 minutes per day.[4] Additionally, there was a 3.6% decline in the number of severe stroke patients accessing inpatient rehabilitation. This decrease warrants further attention to ensure adequate capacity within this setting to accommodate all patients who would benefit from these services.

To assist hospitals and regions to improve their processes and outcomes, provincial benchmarks (achievable goals) have been provided for majority of the indicators. It is estimated that if all LHINs performed at the current benchmark levels (top performers' rate):

- 5,105 more patients would have access to stroke unit care,
- 815 more patients would receive tPA, and
- 819 more patients with severe stroke would have access to inpatient rehabilitation.

In summary, although improvements have been made in Ontario's stroke system, this report demonstrates an ongoing need for quality improvement efforts aimed at improving the delivery of stroke care in Ontario. CorHealth Ontario will continue to collaborate with the 11 Regional Stroke Networks, the Ministry of Health and Long-Term Care, Ontario Health and other key stakeholders to advance best practice stroke care across the province.

---

[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.

Introduction

In 2011, the Stroke Evaluation Quality Committee (SEQC) created one provincial and 14 LHIN report cards for stroke care in Ontario. 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)[4] and planning of the stroke integrated care bundle.

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 Stroke Report Card Task Group of the SEQC established a report card dissemination 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 LHIN CEO and the LHIN board chair.
- Scheduled meetings between Regional Stroke Directors and LHIN representatives to review report card data.

The annual report cards and progress reports act as a foundation for active knowledge exchange and a stroke best practice implementation strategy. The Stroke Report Card Task Group 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 2019 report marks the ninth edition of the provincial and LHIN report cards, capturing data from 2014/15 to 2017/18 fiscal years. Changes to the report cards and progress reports in this edition include:

1. The provincial benchmark reported for each indicator is the best between 2015/16 and 2017/18.
2. This year's Stroke Report Card will report high performers and greatest improved sub-regions in place of sub-LHINs. For Indicator 2, highest performer sub-region cannot be compared to LHIN or provincial rates due to different sources of population estimates. No other indicators are affected.
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.

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[2]
7	Acute Stroke Management	Access	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target: >12%[3]
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%[2]

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%[2]
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[4]
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 home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.
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[2]

Performance Indicators

Performance was analyzed at the facility, sub-region (population), 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-regions).
Provincial benchmarks were calculated using the Achievable Benchmarks of Care (ABC) methodology,[6] which summarizes the performance among the highest performing facilities or sub-regions 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 at 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-regions or facilities with the highest performance in the 2017/18 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-regions or facilities with the greatest change in performance in 2017/18 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 ICES, 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. Home and Community Care 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 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; Home and Community Care 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. To estimate the difference in the model-based risk-adjusted mortality rate and readmission rate between the current year and the previous 3- year average rate, bootstrapping method (1000 times) was used to derive 95% confidence intervals.

Benchmark Calculations

Provincial benchmarks are provided for each indicator and represent the top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology[6] as follows:

1. Care providers (facilities or sub-regions) 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-regions 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-region 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.[7] A benchmark for Indicator 12 will be reported once more years of data become available and data quality has been assessed.

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 66 patients each year). High-performing sub-regions 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, except for 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 2017/18. These resources support stroke best practice delivery, stroke QBP implementation and system planning. Among 167 Ontario institutions, 146 admitted 18,028 stroke/TIA patients, ranging from less than five admissions in some institutions to more than 800 in others. Over sixty percent of admissions were to designated stroke centres; 35% to regional stroke centres and 26% were to district stroke centres. This represents a six percent increase in the proportion of patients receiving care in a designated stroke centre compared to 2012/13.[8]

There were 54 hospitals with over 100 admissions, and 82 hospitals with less than 50 admissions. Secondary stroke prevention services were available at 46 sites and 12 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 2017/18, 98 hospitals had neuroimaging available; 61 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).[9, 10] This game-changing intervention, referred to as endovascular thrombectomy (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 626 stroke patients in 2017/18) 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 56 hospitals,[d] however not all sites provided 24/7 access to this hyperacute imaging.

[d] 56 hospitals have magnetic resonance angiography and 78 hospitals have computed tomography angiography

Acute stroke care

Over the past few years, several regional stroke networks have worked with the LHINs to organize care to enhance access to best practice care. This has involved consolidating stroke volumes and care to create critical mass to establish and maintain dedicated stroke units and associated expertise in the system. In 2017/18, Ontario had 39 stroke units compared to 14 in 2012/13. There are plans to establish several more stroke units in the coming year.

Acute Care Institutional Resources for Stroke/TIA in Ontario, 2017/18[1]

Legend	
Regional stroke centre	A facility that meets all the requirements of a district stroke centre, plus neurosurgical facilities and interventional radiology.
District stroke centre	A facility with written stroke protocols (e.g., transport and triage, thrombolytic therapy, neuroimaging), clinicians with stroke expertise, and linkages to rehabilitation and secondary prevention.
Non-designated	An acute care hospital that does not fit the definition of district or regional stroke centre.

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
Ontario, n	**167**			**18,028**	**39**	**98**	**61**	**78**	**56**	**45**	**28**	**46**
1. Erie St. Clair LHIN												
Bluewater Health (Sarnia)	4415	Sarnia	Southwestern Ontario	183	X	X	X	X	X	X	X	X
Bluewater Health (Charlotte Eleanor Englehart)	4418	Petrolia	Southwestern Ontario	<=5								
Chatham-Kent Health Alliance (Chatham)	1223	Chatham	Southwestern Ontario	228	X	X	X	X	X	X		X
Chatham-Kent Health Alliance (Sydenham)	1239	Wallaceburg	Southwestern Ontario	<=5								
Erie Shores Healthcare	1067	Leamington	Southwestern Ontario	18		X		X				
Windsor Regional Hospital (Metropolitan)	1079	Windsor	Southwestern Ontario	35		X	X	X	X			
Windsor Regional Hospital (Ouellette Campus)	4773	Windsor	Southwestern Ontario	507	X	X	X	X	X	X[4]		X
2. South West LHIN												
Alexandra Hospital	1696	Ingersoll	Southwestern Ontario	8								
Alexandra Marine and General Hospital	1206	Goderich	Southwestern Ontario	28		X		X		X	X	
Four Counties Health Services Corporation	1507	Newbury	Southwestern Ontario	7								
Grey Bruce Health Services (Lion's Head)	1030	Lion's Head	Southwestern Ontario	<=5								
Grey Bruce Health Services (Markdale)	4025	Markdale	Southwestern Ontario	11								
Grey Bruce Health Services (Meaford)	4027	Meaford	Southwestern Ontario	6								
Grey Bruce Health Services (Owen Sound)	3944	Owen Sound	Southwestern Ontario	240	X	X	X	X	X	X	X	X
Grey Bruce Health Services (Southampton)	4030	Southampton	Southwestern Ontario	6								
Grey Bruce Health Services (Wiarton)	4033	Wiarton	Southwestern Ontario	<=5								
Hanover and District Hospital	1124	Hanover	Southwestern Ontario	15								
Huron Perth Healthcare Alliance (Clinton)	1199	Clinton	Southwestern Ontario	<=5								
Huron Perth Healthcare Alliance (Seaforth)	1213	Seaforth	Southwestern Ontario	n/a								
Huron Perth Healthcare Alliance (St. Marys)	1748	St. Marys	Southwestern Ontario	<=5								
Huron Perth Healthcare Alliance (Stratford)	1754	Stratford	Southwestern Ontario	238	X	X	X	X	X	X	X	X
Listowel Memorial Hospital	1740	Listowel	Southwestern Ontario	14		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
London Health Sciences Centre (University)	3850	London	Southwestern Ontario	828	X	X	X	X	X	X[4]		X
London Health Sciences Centre (Victoria)	4359	London	Southwestern Ontario	n/a		X	X	X	X	X		
South Bruce Grey Health Centre (Chesley)	4042	Chesley	Southwestern Ontario	<=5								
South Bruce Grey Health Centre (Durham)	4036	Durham	Southwestern Ontario	<=5								
South Bruce Grey Health Centre (Kincardine)	3907	Kincardine	Southwestern Ontario	9								
South Bruce Grey Health Centre (Walkerton)	4039	Walkerton	Southwestern Ontario	7		X		X				
South Huron Hospital	1203	Exeter	Southwestern Ontario	6								
St. Joseph's Health Care London (Parkwood Institute)	1497	London	Southwestern Ontario	n/a		X	X	X				
St. Thomas-Elgin General Hospital	1059	London	Southwestern Ontario	162	X	X		X				X
Strathroy Middlesex General Hospital	1515	Strathroy	Southwestern Ontario	27		X		X				
Tillsonburg District Memorial Hospital	1709	Tillsonburg	Southwestern Ontario	6		X						
Wingham and District Hospital	1217	Wingham	Southwestern Ontario	8								
Woodstock General Hospital	1716	Woodstock	Southwestern Ontario	38		X	X	X	X			
3. Waterloo Wellington LHIN												
Cambridge Memorial Hospital	1905	Cambridge	Central South	35		X	X					
Grand River Hospital (Kitchener-Waterloo)	3734	Kitchener	Central South	614	X	X	X	X	X	X	X	X
Groves Memorial Community Hospital	1936	Fergus	Central South	16		X						
Guelph General Hospital	1946	Guelph	Central South	311	X	X	X	X	X	X	X	
North Wellington Health Care (Louise Marshall)	4323	Mount Forest	Central South	<=5								
North Wellington Health Care (Palmerston and District)	4326	Palmerston	Central South	<=5								
St. Mary's General Hospital	1921	Kitchener	Central South	27		X						
4. Hamilton Niagara Haldimand Brant LHIN												
Brant Community Health Care System (Brantford)	4675	Brantford	Central South	258	X	X	X	X	X	X	X	X
Haldimand War Memorial Hospital	1146	Dunnville	Central South	14		X						
Hamilton Health Sciences Corp (General)	1982	Hamilton	Central South	806	X	X	X	X	X	X[4]		X
Hamilton Health Sciences Corp (Juravinski)	1983	Hamilton	Central South	110		X	X	X	X			
Hamilton Health Sciences Corp (West End)	4737	Hamilton	Central South	n/a								
Joseph Brant Hospital	1160	Burlington	Central South	184		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	286	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	179	X	X	X	X	X			
Niagara Health System (Welland County)	4227	Welland	Central South	65		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
Norfolk General Hospital	1591	Simcoe	Central South	20		X						X
St. Joseph's Health Care System (Hamilton)	2003	Hamilton	Central South	105		X	X	X	X			
West Haldimand General Hospital	1149	Hagersville	Central South	<=5								
West Lincoln Memorial Hospital	4788	Grimsby	Central South	15								
5. Central West LHIN												
Headwaters Health Care Centre (Dufferin)	3684	Orangeville	West GTA	83		X						
William Osler Health System (Brampton)	4681	Brampton	West GTA	426		X	X	X	X	X	X	X[5]
William Osler Health System (Etobicoke)	3929	Etobicoke	West GTA	257		X	X	X	X	X	X	X[5]
6. Mississauga Halton LHIN												
Halton Healthcare Services (Georgetown)	4622	Georgetown	West GTA	55								
Halton Healthcare Services (Milton)	4022	Milton	West GTA	67		X						
Halton Healthcare Services (Oakville)	3926	Oakville	West GTA	172	X	X	X	X	X	X		
Trillium Health Partners (Mississauga)	4752	Mississauga	West GTA	853	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	293		X	X	X	X	X		
7. Toronto Central LHIN												
Sinai Health System (Mount Sinai)	4804	Toronto	Toronto West	66		X	X	X	X			
St. Joseph's Health Centre	1443	Toronto	Toronto West	201	X	X	X	X	X			
St. Michael's Hospital	1444	Toronto	Toronto - Southeast	411	X	X	X	X	X	X[4]		X
Sunnybrook Health Sciences Centre	3936	Toronto	Toronto - North and East	614	X	X	X	X	X	X[4]		X[6]
Michael Garron Hospital	1302	Toronto	Toronto - Southeast	189		X	X					X
University Health Network (Toronto General)	3910	Toronto	Toronto West	n/a		X	X	X	X			
University Health Network (Toronto Western)	3910	Toronto	Toronto West	633	X	X	X	X	X	X[4]		X[6]
8. Central LHIN												
Humber River Hospital (Wilson)	4799	Weston	Toronto West	319	X	X	X	X	X			X
Mackenzie Health (Mackenzie Richmond Hill Hospital)	2046	Richmond Hill	Central East	453	X	X	X	X	X	X		X
Markham Stouffville Hospital (Markham)	3587	Markham	Central East	183	X	X	X	X	X			X
Markham Stouffville Hospital (Uxbridge)	4465	Uxbridge	Central East	12		X	X	X				
North York General Hospital	1330	Toronto	Toronto - North and East	338	X	X	X	X	X			X
Southlake Regional Health Centre	2038	Newmarket	Central East	206		X	X		X			X
Stevenson Memorial Hospital	1817	Alliston	Central East	42		X		X				
9. Central East LHIN												
Campbellford Memorial Hospital	1597	Campbellford	Central East	26		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
Haliburton Highlands Health Services (Haliburton)	3737	Haliburton	Central East	n/a				X				
Haliburton Highlands Health Services (Minden)	4191	Minden	Central East	n/a								
Lakeridge Health (Bowmanville)	4008	Clarington	Central East	47		X		X				
Lakeridge Health (Oshawa)	3932	Oshawa	Central East	441	X	X	X	X	X	X	X	X
Lakeridge Health (Port Perry)	4005	Port Perry	Central East	9								
Northumberland Hills Hospital	3860	Cobourg	Central East	68		X	X	X				
Peterborough Regional Health Centre	1768	Peterborough	Central East	261	X	X	X	X	X	X	X	X[7]
Ross Memorial Hospital	1893	Lindsay	Central East	105	X	X		X	X			
Lakeridge Health - Ajax site	4844	Ajax	Toronto - Southeast	140		X	X			X	X	
Scarborough Health Network - Centenary site	4836	Scarborough	Toronto - Southeast	166	X	X	X					X[8]
Scarborough Health Network - Birchmount site	4842	Scarborough	Toronto - North and East	175		X	X	X	X			X[8]
Scarborough Health Network - General site	4840	Scarborough	Toronto - North and East	204	X	X	X	X	X			X[8]
10. South East LHIN												
Brockville General Hospital	1273	Brockville	South East	145	X	X		X				X
Kingston Health Sciences Centre - HDH site	4830	Kingston	South East	n/a		X		X				
Kingston Health Sciences Centre - KGH site	4831	Kingston	South East	434	X	X	X	X	X	X[4]		X[6]
Lennox and Addington County General Hospital	1295	Napanee	South East	10								
Perth and Smiths Falls District (Perth)	3732	Perth	South East	8		X[9]		X[9]				X
Perth and Smiths Falls District (Smith Falls)	1269	Smiths Falls	South East	10		X[9]		X[9]				
Quinte Healthcare Corporation (Bancroft)	3991	Bancroft	South East	n/a								
Quinte Healthcare Corporation (Belleville)	3988	Belleville	South East	346	X	X	X	X	X	X	X	X
Quinte Healthcare Corporation (Picton)	3992	Picton	South East	8								
Quinte Healthcare Corporation (Trenton)	3994	Trenton	South East	<=5		X						
11. Champlain LHIN												
Almonte General Hospital	1254	Almonte	East - Champlain	<=5								
Arnprior and District Memorial Hospital	1799	Arnprior	East - Champlain	10								
Carleton Place and District Memorial Hospital	1256	Carleton Place	East - Champlain	8								
Cornwall Community Hospital	4451	Cornwall	East - Champlain	117		X	X	X	X	X	X	X
Deep River and District Hospital	1803	Deep River	East - Champlain	<=5								
Glengarry Memorial Hospital	1870	Alexandria	East - Champlain	6								
Hawkesbury and District General Hospital	1777	Hawkesbury	East - Champlain	59		X		X		X	X	
Hôpital Montfort	1661	Ottawa	East - Champlain	112		X	X	X	X			
Kemptville District Hospital	1284	Kemptville	East - Champlain	<=5								

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	809	X	X	X	X	X	X[4]		X
The Ottawa Hospital (General)	4048	Ottawa	East - Champlain	91		X	X	X	X	X		
Pembroke Regional Hospital Inc.	1804	Pembroke	East - Champlain	187	X	X	X	X	X	X	X	X
Queensway-Carleton Hospital	1681	Ottawa	East - Champlain	153		X	X	X	X			X
Renfrew Victoria Hospital	1813	Renfrew	East - Champlain	9		X						
St. Francis Memorial Hospital	1801	Barry's Bay	East - Champlain	n/a								
University of Ottawa Heart Institute	4164	Ottawa	East - Champlain	<=5		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	118		X		X				
Georgian Bay General Hospital (Midland)	1844	Midland	Central East	107		X		X				
Muskoka Algonguin Healthcare (Bracebridge)	4619	Bracebridge	Central East	46		X		X				
Muskoka Algonguin Healthcare (Huntsville)	4616	Huntsville	Central East	93		X		X		X		
Orillia Soldiers' Memorial Hospital	1853	Orillia	Central East	118	X	X	X	X	X			
Royal Victoria Regional Health Centre	1825	Barrie	Central East	334	X	X	X	X	X	X	X	X
13. North East LHIN												
Anson General Hospital	2084	Iroquois Falls	Northeast	6								
Bingham Memorial Hospital	2090	Matheson	Northeast	<=5								
Blind River District Health Centre/Pavillon Santé	2057	Blind River	Northeast	8								
Blind River District Health Centre (Richards Landing)	4768	Richards Landing	Northeast	n/a								
Blind River District Health Centre (Thessaion)	4770	Thessalon	Northeast	n/a								
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	307	X	X	X	X	X	X	X	X
Hornepayne Community Hospital	2061	Hornepayne	Northeast	<=5								
Kirkland and District Hospital	2211	Kirkland Lake	Northeast	22								
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	18								
Manitoulin Health Centre (Mindemoya)	2123	Mindemoya	Northeast	7								
Mattawa General Hospital	2126	Mattawa	Northeast	6								
North Bay Regional Health Centre	4730	North Bay	Northeast	144	X	X	X	X	X	X	X	X
Notre Dame Hospital	2082	Hearst	Northeast	9		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
Sault Area Hospital	4407	Sault Ste. Marie	Northeast	185		X	X	X	X	X	X	X
Sensenbrenner Hospital	2088	Kapuskasing	Northeast	12								
Service de Santé de Chapleau Health Service	2173	Chapleau	Northeast	6								
Smooth Rock Falls Hospital	2094	Smooth Rock Falls	Northeast	<=5								
St. Joseph's General Hospital	2058	Elliot Lake	Northeast	23								
Temiskaming Hospital	2207	New Liskeard	Northeast	33		X				X	X	
Timmins and District General Hospital	3414	Timmins	Northeast	86	X	X	X	X	X	X	X	X
Weeneebayko Area Health Authority - Moose Factory	4698	Moose Factory	Northeast	8								
Weeneebayko Area Health Authority - Moosonee	4692	Moose Factory	Northeast	n/a								
West Nipissing General Hospital	2812	Sturgeon Falls	Northeast	17								
West Parry Sound Health Centre	3729	Parry Sound	Northeast	42		X						
14. North West LHIN												
Atikokan General Hospital	2147	Atikokan	Northwest	<=5								
Dryden Regional Health Centre	2103	Dryden	Northwest	22		X		X		X	X	
Geraldton District Hospital	2175	Geraldton	Northwest	n/a								
Lake-of-the-Woods District Hospital	2110	Kenora	Northwest	36		X		X		X	X	X
Manitouwadge General Hospital	2176	Manitouwadge	Northwest	n/a								
North of Superior Healthcare Group - McCausland Hospital	4822	Terrace Bay	Northwest	<=5								
Nipigon District Memorial Hospital	2178	Nipigon	Northwest	n/a								
The Red Lake Margaret Cochenour Memorial Hospital	2115	Red lake	Northwest	n/a								
Riverside Health Care Facilities (La Verendrye)	2150	Fort Frances	Northwest	27		X		X		X	X	X
Riverside Health Care Facilities (Rainy River)	2153	Rainy River	Northwest	n/a								
Sioux Lookout Meno-Ya-Win Health Centre (District)	4353	Sioux Lookout	Northwest	12		X		X		X	X	X
Thunder Bay Regional Health Sciences Centre	3853	Thunder Bay	Northwest	369	X	X	X	X	X	X[4]		X
North of Superior Healthcare Group - Wilson Memorial	4819	Marathon	Northwest	<=5								X

Notes:

1 Based on CorHealth Ontario's annual acute stroke care resource survey (as of November 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

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% of the time and have a dedicated inter-professional team with expertise in stroke care with the following professionals at a minimum nursing, physiotherapy, occupational therapy, speech language pathologist.

3 Funded Ontario Telemedicine Network site in 2017/18.

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

Ontario Stroke Report Cards, Progress Reports and Interpretations

Ontario Stroke Report Card, 2017/18

Local Health Integration Networks (LHINs)

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

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] □ Limited Data

Indicator No.	Care Continuum Category	Indicator[4]	Ontario FY 2017/18 (2016/17)	Variance Across LHINs (Min–Max)	Provincial Benchmark[5]	High Performers[6]	
						Sub-region/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	60% (59.2%)	54.9% - 64.2%	65.9%	Western Champlain sub-region	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 -1.9	1.1	Oakville sub-region	7, 8, 6
3§ ■	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	10.5 (10.7)	9.9 -17.1	-	-	11
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.	74.2% (72.0%)	64% - 82.1%	85.6%	East Mississauga sub-region	5, 12
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	84.4% (82.7%)	81.7% - 92.4%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[7]: 30 minutes	45.0 (47.0)	31.5 - 327.0	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[7]: >12%	12.2% (12.5%)	8.1% - 15.6%	17.7%	London Middlesex sub-region	11, 4
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%	52.8% (45.6%)	16.0% - 80.6%	81.8%	Quinte sub-region	3, 10
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	78.8% (77.3%)	57.1% - 88.0%	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% (30.7%)	12.6% - 43.5%	8.2%	Bluewater Health, Sarnia	3
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[7]: >30%	33.0% (34.8%)	23.9% - 44.8%	47.8%	Lambton sub-region	1
12§ ●	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	74.2% (72.6%)	55.2% - 93.0%	*	*	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 -14.0	5.0	Quinte Health Care – Belleville General Site	None
14§ □	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[7]: 180 minutes/day	66.7 (64.8)	21.2 -92.8	107.6	West Park Healthcare Centre	None
15§ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	67.3% (65.8%)	46.2% -89.1%	86.6%	Providence Healthcare	12
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (1.1)	0.9 -1.7	1.6	Providence Healthcare	3, 12
17 ●	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	8.4 (8.2)	5.0 -15.3	13.1	South East Home and Community Care	10, 3
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	38.7% (42.3%)	27.9% - 50.0%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	7.0% (6.7%)	2.6% -12.8%	1.9%	Guelph-Puslinch sub-region	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	7.8 (7.6)	6.6 -9.7	-	-	10

*Benchmark has not been specified for this indicator.

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 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. *J Eval Clin Pract* 1999; 5(3):269 -81) on sub-Region or facility data.
[6] Sub-region/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 -regions 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, 35 in 2016/17 and 39 in 2017/18.

CorHealth Ontario

Indicator Overview

The 2017/2018 edition of the provincial report card documents significant improvement for ten performance indicators compared to the previous three-year average:

- Arriving by ambulance to the ED,
- Filling a prescription for anticoagulant therapy,
- Carotid imaging,
- Timely administration of thrombolysis (tPA),
- Stroke unit care,
- Referral to secondary prevention services from the ED,
- Stroke patients (excluding TIA) with mild disability discharged home,
- Achievement of target length of stay (LOS) for inpatient rehabilitation,
- FIM efficiency for patients receiving inpatient rehabilitation, and
- Home and community care rehabilitation visits

Additionally, in comparison to the three-year average, six were unchanged or worsened including:

- Overall rate of admission for stroke and TIA,
- Ratio of ALC days to total LOS,
- Admission to inpatient rehabilitation from acute care,
- Admission of patients with severe stroke to inpatient rehabilitation, and
- Patients discharged to LTC/CCC, and
- Overall readmission rates

Acute Care

Tissue Plasminogen Activator (tPA) is a time sensitive treatment for a select group of patients experiencing acute ischemic stroke. In 2017/18, significant improvements were noted in the median door to needle time as compared to the previous three-year average rate (45 minutes vs 49.5 minutes), however we are still below the 30-minute target.[2]

In addition to rapid triage, assessment, diagnosis, and treatment of patients experiencing acute ischemic stroke, increasing public awareness to call 911 may also contribute to more timely access to hyperacute stroke treatment. Ambulance personnel are

trained to recognize the signs and symptoms of stroke and to bypass community hospitals to go directly to Designated Stroke Centre capable of providing specialized stroke care. It is therefore, promising to see that in 2017/18 the proportion of stroke/TIA patients who arrived at the ED by ambulance did increase slightly.

Patients who receive stroke unit care are more likely to survive, return home and regain independence compared to patients who receive generalized care.[1] In 2017/18 access to this best practice improved significantly, with over half of Ontario's stroke patients receiving care on a stroke unit. Access to stroke unit care has also been found to influence access to other stroke best practices such as timely and appropriate stroke rehabilitation and applicable diagnostics such as carotid imaging. Further system planning is required to optimize the benefits of stroke unit care and meet the target of 75% access.[2]

Rehabilitation Services

An increased proportion of stroke patients across severity groups are achieving their recommended active LOS targets compared to the previous 3-year average. Correspondingly, significant increases are also seen in FIM efficiency for patients with moderate stroke, which measures the change in functional status during inpatient rehabilitation stay.

The proportion of patients accessing inpatient rehabilitation, however, has decreased in 2017/18 (compared to previous 3 years). Fully interpreting this trend requires understanding of capacity within the system for community-based stroke rehabilitation services. Patients with severe stroke also had reduced access to inpatient rehabilitation, with a concurrent increase of patients discharged into LTC/CCC. This finding warrants closer monitoring and an understanding of rehabilitation capacity in the system overall, as timely access to appropriate rehabilitation is important for all patients regardless of stroke severity. Further opportunities to enhance integration and access to rehabilitation across the care continuum may be possible as the province moves toward implementation of stroke bundled models of care in fiscal year 2020/21.

Secondary Prevention

Improvements have been made in secondary prevention care, as more ischemic stroke patients with atrial fibrillation filled a prescription for anticoagulant therapy. Referrals are also increasing for secondary prevention clinics; however, the rate at which patients access these clinics is not known, as there is no formalized data collection process or reporting.

There was no change in the overall rate of admission for stroke/TIA in 2017/18, and an increase in 30 day all cause readmission

rates for patients with stroke/TIA. Further work is needed to support a coordinated approach to access secondary prevention services and explore the potential impact of integrated care models.

Current or Planned Activities

CorHealth Ontario continues to recommend, initiate and support activities to improve patient access to time dependent stroke therapies such as tissue plasminogen activator (tPA) and endovascular thrombectomy (EVT). Similarly, the Ontario Telestroke Program continues to support access to hyperacute stroke treatment. Expanded use of Telestroke for other services such as rehabilitation and prevention may present an innovative way to address gaps in services in rural and remote areas of the province. To this end, CorHealth Ontario, the MOHLTC and stroke system stakeholders, have bundled elements of best practice care to help ensure that patients experience an integrated and seamless care journey as they transition from acute care to post-acute care. CorHealth has also partnered with the eHealth Centre of Excellence to help primary care providers better identify and manage persons with hypertension, a major risk factor for stroke.

From a stroke system performance and reporting perspective, CorHealth Ontario launched an Information and Digital Strategy in June 2018, to enhance the value of reporting while reducing the data burden on hospitals. Beginning in 2019/20, new reporting recommendations developed by the Stroke Evaluation and Quality Committee will begin to be implemented to enhance stroke reporting across the care continuum. CorHealth Ontario will also work with the Rehabilitative Care Alliance, the MOHLTC, and stroke providers to improve the quality and availability of outpatient rehabilitation data and patient reported measures.

Over the past year, CorHealth Ontario established an ongoing EVT performance monitoring cycle for Ontario. In collaboration with the EVT Performance Measurement Monitoring Task Group, 2017/18 baseline results for 9 new EVT indicators were produced and made available to EVT hospitals, stroke system stakeholders, and the MOHLTC in the Fall of 2018. Biannual reporting of EVT performance is now available on a dashboard hosted by IDS (Integrated Decision Support), a Business Intelligence Solution, hosted by Hamilton Health Sciences.

CorHealth Ontario will continue to collaborate with Ontario's 11 Regional Stroke Networks, the MOHLTC and Ontario Health to advance best practice stroke care across the province.

Ontario Stroke Report Card, 2017/18:
Erie St. Clair Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	64.2% (63.8%)	56.7 - 68.1%	65.9%	Western Champlain sub-region	1, 11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.4)	1.1 - 2.1	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	12.2 (11.2)	7.9 - 19.3	-	-	11
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.	64.0% (64.4%)	40.0 - 77.8%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	86.0% (87.5%)	34.5 - 97.3%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ▲	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	56.0 (57.0)	49.0 - 69.5	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	14.8% (11.5%)	10.6 - 23.5%	17.7%	London Middlesex sub-region	11, 4
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%	79.9% (34.2%)	74.3 - 85.6%	81.8%	Quinte sub-region	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	88.0% (87.8%)	74.7 - 100.0%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	19.7 (27.3)	1.4 - 25.9%	8.2%	Bluewater Health, Sarnia	3
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% (44.8%)	27.1 - 50.8%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	72.0% (69.6%)	62.3 - 77.8%	*	*	14, 3
13§ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (7.0)	5.5 - 8.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	72.3 (72.5)	60.4 - 98.2	107.6	West Park Healthcare Centre	None
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	64.8% (68.7%)	56.8 - 72.8%	86.6%	Providence Healthcare	12
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.2 (1.3)	1.0 - 1.3	1.6	Providence Healthcare	3, 12
17 ▲	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	5.0 (5.1)	-	13.1	South East Home and Community Care	10, 3
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	37.8% (42.0%)	34.2 - 39.2%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	3.0% (3.8%)	1.9 - 4.3%	1.9%	Guelph-Puslinch sub-region	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	8.4 (7.2)	6.1 - 20.0	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
Erie St. Clair Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	64.2% (63.0%)	56.7% (53.3%)	68.1% (72.0%)	District of Thunder Bay sub-region	5,11
2 ▲	Prevention of stroke	Annual age– and sex–adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.4)	1.1 (1.3)	2.1 (2.1)	Cochrane sub-region	4
3§ ■	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	11.8 (12.3)	7.9 (9.1)	18.3 (22.5)	-	12
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.	64.0% (66.3%)	40.0% (51.9%)	77.8% (68.8%)	Elgin sub-region	7, 5
5 ▲	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	86.0% (86.1%)	34.5% (42.5%)	97.3% (93.9%)	Georgian Bay General	14 ,9
6 ●	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	56.0 (60.0)	49.0 (57.0)	69.5 (95.0)	Windsor Regional Hospital -Ouellette	10, 9
7§ ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	14.8% (9.5%)	10.6% (3.2%)	23.5% (12.1%)	Chatham City Centre sub-region	1, 13
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%	79.9% (29.4%)	74.3% (0.9%)	85.6% (73.1%)	Windsor sub-region	2, 14
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	88.0% (85.7%)	74.7% (57.1%)	100.0% (92.3%)	North Bay Regional Health Centre	14, 10
10§ ●	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	19.7% (29.8%)	1.4% (12.8%)	25.9% (39.4%)	Windsor Regional Hosp-Ouellette	1
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% (43.8%)	27.1% (26.0%)	50.8% (51.1%)	Essex South Shore sub-region	None
12§ ■	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	72.0% (71.1%)	62.3% (66.7%)	77.8% (91.7%)	St. Joseph's Hamilton	9, 11
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (7.0)	5.5 (5.0)	8.0 (12.0)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	72.3 (-)	60.4 (55.8)	98.2 (86.3)	-	-
15§ ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	64.8% (64.7%)	56.8% (50.0%)	72.8% (83.3%)	St. Joseph of Hotel Dieu	12, 5
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.2 (1.2)	1.0 (1.0)	1.3 (1.3)	Brant Community Healthcare System	5, 7, 13, 4*
17 ▲	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	5.0 (5.7)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	37.8% (41.2%)	34.2% (33.3%)	39.2% (48.3%)	Southlake Regional Health Centre	11, 8
19§ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	3.0% (4.2%)	1.9% (1.8%)	4.3% (8.0%)	District of Rainy River sub-region	10
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	8.3 (7.4)	6.1 (0.0)	20.8 (9.9)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

Southwestern Ontario Stroke Network

Interpretation of LHIN Stroke Report Card - Erie St. Clair 2017/18

RD Contact Information Doug Bickford, Regional Director - Southwestern Ontario Stroke Network, doug.bickford@lhsc.on.ca (519) 685 8500 x 32214

Performance Overview

Acceptable or exemplary performance on 10 of 17 indicators; statistically significant improvement on 4 indicators. Greatest provincial improvement on 5 indicators (6, 7, 8, 10, 11) and highest provincial performer on 1, 10 and 11.

Areas of Progress:

Acute Stroke Management	4 of 5 acute indicators demonstrated statistically significant improvement compared to 3yr average (#6, 7, 8, 10)
Acute Stroke Management	Stroke Unit access (#8) demonstrated statistically significant improvement compared to 3yr average (79.9% FY17/18 vs. 29.4% 3yr avg)
Acute Stroke Management	tPA rates (#7) demonstrated statistically significant improvement compared to 3yr average (14.8% FY17/18 vs. 9.5% 3yr avg)
Acute Stroke Management	Acute ALC days (#10) demonstrated statistically significant improvement compared to 3yr average (19.7% FY17/18 vs. 29.8% 3yr avg)

Areas for Improvement:	Associated Current or Planned Activities:
Access	
Adjusted inpatient admission rate for stroke/TIA: FY17/18 is below 50th percentile and not progressing (FY17/18 Prov BM: 1.1 ESC LHIN: 1.5)	SWOSN and partners will be completing work to better understand admitted population and possible confounders (i.e. distances to access best practice care, stroke severity, co-morbidities, etc).
Effectiveness	
Median Door to Needle time is below the 50th percentile but has shown significant progress over past 3 years (FY17/18 BM: 33min ESC LHIN: 56min)	DTN has been a FY18/19 SWOSN regional work plan priority with many QI efforts at District Stroke Centres. FY18/19 Q3 WRH implemented new pre-hospital protocols with EMS. FY18/19 Q4 CKHA implemented Telestroke ED model.
Effectiveness	
Proportion of admitted rehabilitation patients with severe stroke is below the 50th percentile and not progressing (FY17/18 BM: 56.2% ESC LHIN: 37.8%)	Windsor Essex stroke district has been leading a Rehabilitation Pathway discussion with local partners. The Bundled Care Stroke Pilot may support improved access/flow for severe stroke survivors.
Effectiveness	
Achievement of LOS targets on inpatient rehabilitation is below the 50th percentile and not progressing (FY17/18 BM: 86.6% ESC LHIN: 64.8%)	FY18/19 CKHA provided staff in-services on LOS targets. FY18/19 BWH committed to the 'NOW initiative' with an emphasis on LOS and transitions.

Opportunities for LHIN and Stroke Network Collaboration:

SWOSN continues to lead system planning and continuous quality improvement in close partnership with the LHIN and numerous stroke stakeholders, including: partnering in the evaluation of eRehab, supporting Windsor Regional Hospital with a Bundled Care Stroke Pilot, and leading a Regional Stroke Distinction project.

Ontario Stroke Report Card, 2017/18:
South West Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	56.5% (55.3%)	49.0 - 61.5%	65.9%	Western Champlain sub-region	1, 11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.4)	1.3 - 1.8	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	13.7 (11.8)	0.0 - 64.2	-	-	11
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.	75.7% (75.5%)	65.9 - 82.0%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	82.3% (80.8%)	28.6 - 88.2%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	41.0 (46.0)	38.0 - 65.0	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	12.5% (15.3%)	7.7 - 17.9%	17.7%	London Middlesex sub-region	11, 4
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%	69.5% (62.5%)	56.0 - 87.0%	81.8%	Quinte sub-region	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	84.0% (76.3%)	33.3 - 100.0%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	23.3 (23.6)	0.0 - 83.6%	8.2%	Bluewater Health, Sarnia	3
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% (34.1%)	26.3 - 42.7%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	74.5% (74.6%)	64.9 - 83.7%	*	*	14, 3
13§ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (8.0)	5.0 - 11.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	92.8 (83.8)	77.5 - 152.9	107.6	West Park Healthcare Centre	None
15§ ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	69.3% (75.2%)	57.5 - 94.3%	86.6%	Providence Healthcare	12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (1.0)	0.8 - 2.0	1.6	Providence Healthcare	3, 12
17 ▲	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	5.1 (5.5)	-	13.1	South East Home and Community Care	10, 3
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	35.4% (42.1%)	27.7 - 54.3%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	4.1% (4.7%)	2.4 - 5.1%	1.9%	Guelph-Puslinch sub-region	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	7.8 (8.6)	0.0 - 24.1	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
South West Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	56.5% (56.7%)	49.0% (48.3%)	61.5% (60.9%)	District of Thunder Bay sub-region	5,11
2 ▲	Prevention of stroke	Annual age– and sex–adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.4)	1.3 (1.3)	1.8 (1.5)	Cochrane sub-region	4
3§ ▲	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	12.4 (11.6)	0.0 (0.0)	51.6 (37.9)	-	12
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.	75.7% (72.3%)	65.9% (50.0%)	82.0% (73.3%)	Elgin sub-region	7, 5
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	82.3% (79.0%)	28.6% (0.0%)	88.2% (88.6%)	Georgian Bay General	14 ,9
6 ●	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	41.0 (48.5)	38.0 (44.0)	65.0 (61.0)	Windsor Regional Hospital -Ouellette	10, 9
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	12.5% (13.5%)	7.7% (7.8%)	17.9% (15.3%)	Chatham City Centre sub-region	1, 13
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%	69.5% (41.1%)	56.0% (0.9%)	87.0% (6.6%)	Windsor sub-region	2, 14
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	84.0% (73.2%)	33.3% (3.2%)	100.0% (91.7%)	North Bay Regional Health Centre	14, 10
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	23.3% (20.4%)	0.0% (0.0%)	83.6% (66.7%)	Windsor Regional Hosp-Ouellette	1
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% (33.9%)	26.3% (26.3%)	42.7% (40.8%)	Essex South Shore sub-region	None
12§ ■	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	74.5% (73.0%)	64.9% (40.0%)	83.7% (72.7%)	St. Joseph's Hamilton	9, 11
13§ ●	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (9.0)	5.0 (7.0)	11.0 (16.0)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	92.8 (-)	77.5 (30.7)	152.9 (81.7)	-	-
15§ ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	69.3% (66.0%)	57.5% (33.3%)	94.3% (65.3%)	St. Joseph of Hotel Dieu	12, 5
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (0.9)	0.8 (0.8)	2.0 (0.9)	Brant Community Healthcare System	5, 7, 13, 4*
17 ▲	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	5.1 (5.5)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	35.4% (43.4%)	27.7% (35.8%)	54.3% (64.3%)	Southlake Regional Health Centre	11, 8
19§ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	4.1% (4.8%)	2.4% (2.4%)	5.1% (8.8%)	District of Rainy River sub-region	10
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	8.2 (8.0)	0.0 (0.0)	25.2 (17.5)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

Southwestern Ontario Stroke Network

Interpretation of LHIN Stroke Report Card - South West 2017/18

RD Contact Information Doug Bickford, Regional Director - Southwestern Ontario Stroke Network, doug.bickford@lhsc.on.ca
(519) 685 8500 x 32214

Performance Overview

Acceptable performance on 11 of 17 indicators; statistically significant improvement on 5 indicators. Recognized for greatest improvement in the province on indicators 4 & 8, and highest provincial performance on indicator 7.

Areas of Progress:

Acute Stroke Management	2 of 5 acute indicators demonstrate statistically significant improvement compared to 3yr average (#6 & 8)
Stroke Prevention	2 of 5 indicators demonstrate statistically significant improvement compared to 3yr average (#5 & 9)
Acute Stroke Management	Stroke Unit access (#8) demonstrated greatest improvement in Ontario (69.5% FY17/18 vs. 41.1% 3yr avg)
Stroke Rehabilitation	Days from Stroke Onset to Rehab admission (#13) demonstrated statistically significant improvement compared to 3yr average

Areas for Improvement:	Associated Current or Planned Activities:
Access Adjusted inpatient admission rate for stroke/TIA: FY17/18 performance is below 50th percentile and not progressing (FY17/18 Prov BM: 1.1 SW LHIN: 1.5)	STEGH is completing stroke prevention outreach in the community. SWOSN and partners will be completing work to better understand admitted population and possible confounders (i.e. distances to access best practice care, stroke severity, co-morbidities, etc).
Access Proportion of Emergency Department arrivals by EMS is below the 50th percentile and not progressing (FY17/18 BM: 65.9%, SW LHIN: 56.5%)	This has been a FY18/19 SWOSN work plan priority. Heart and Stroke has recently renewed their FAST campaign. Exploring opportunities to have FAST resources added to waiting rooms and electronic advertising signs.
Effectiveness Risk adjusted mortality at 30 days (SW LHIN: 13.7%) is statistically higher than the provincial average (10.5%)	SWOSN and partners to complete work to better understand mortality rates (ie: longer distances to Stroke Centres, mortality rounds, etc). Stroke Distinction across the region will support quality improvement.
Effectiveness Median FIM Efficiency is below the 50% percentile and is not progressing (FY17/18 BM: 1.6 SW LHIN: 1.0)	FIM efficiency demonstrated improvements within the Early Supported Discharge Pilot (FY18/19). SWOSN is preparing quality improvement strategy and education for sites.

Opportunities for LHIN and Stroke Network Collaboration:

SWOSN continues to lead system planning and QI in close partnership with the LHIN and numerous stroke stakeholders, including: participating in Ontario Health Team discussions, supporting a Bundled Care Pilot, and leading a Regional Stroke Distinction project that includes participation from all Stroke Centres in South West LHIN.

Ontario Stroke Report Card, 2017/18:
Waterloo Wellington Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	59.9% (60.3%)	59.0 - 63.5%	65.9%	Western Champlain sub-region	1, 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 - 1.7	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	13.4 (12.5)	11.8 - 20.5	-	-	11
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.	72.7% (68.1%)	58.7 - 79.0%	85.6%	East Mississauga sub-region	5, 12
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	88.1% (86.4%)	42.9 - 91.4%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	54.0 (52.0)	47.0 - 61.5	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	11.2% (11.6%)	7.4 - 16.4%	17.7%	London Middlesex sub-region	11, 4
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%	80.6% (83.0%)	69.5 - 87.2%	81.8%	Quinte sub-region	3, 10
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	69.6% (64.1%)	0.0 - 88.3%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ●	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	12.6 (14.2)	0.0 - 60.8%	8.2%	Bluewater Health, Sarnia	3
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	28.6% (34.9%)	23.6 - 30.4%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	86.6% (84.2%)	84.2 - 91.5%	*	*	14, 3
13§ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (7.0)	7.0 - 9.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	83.6 (90.2)	65.4 - 101.0	107.6	West Park Healthcare Centre	None
15§ ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	80.5% (83.9%)	77.8 - 90.0%	86.6%	Providence Healthcare	12
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.7 (1.7)	1.2 - 2.0	1.6	Providence Healthcare	3, 12
17 ●	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	14.7 (15.7)	-	13.1	South East Home and Community Care	10, 3
18§ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	49.1% (58.6%)	42.0 - 52.6%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	2.6% (2.6%)	1.6 - 6.3%	1.9%	Guelph-Puslinch sub-region	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 (9.6)	0.0 - 11.2	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
Waterloo Wellington Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	59.9% (60.9%)	59.0% (60.4%)	63.5% (66.5%)	District of Thunder Bay sub-region	5,11
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 (1.3)	1.7 (1.7)	Cochrane sub-region	4
3§ ▲	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	11.8 (11.7)	10.9 (0.0)	20.2 (48.1)	-	12
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.	72.7% (68.1%)	58.7% (68.0%)	79.0% (75.5%)	Elgin sub-region	7, 5
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	88.1% (83.6%)	42.9% (0.0%)	91.4% (87.3%)	Georgian Bay General	14 ,9
6 ■	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	54.0 (56.0)	47.0 (51.5)	61.5 (67.0)	Windsor Regional Hospital -Ouellette	10, 9
7§ ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	11.2% (11.0%)	7.4% (7.8%)	16.4% (18.9%)	Chatham City Centre sub-region	1, 13
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%	80.6% (80.4%)	69.5% (53.5%)	87.2% (89.9%)	Windsor sub-region	2, 14
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	69.6% (63.9%)	0.0% (0.0%)	88.3% (86.2%)	North Bay Regional Health Centre	14, 10
10§ ■	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	12.6% (13.9%)	0.0% (0.0%)	60.8% (39.3%)	Windsor Regional Hosp-Ouellette	1
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	28.6% (35.5%)	23.6% (28.4%)	30.4% (33.6%)	Essex South Shore sub-region	None
12§ ■	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	86.6% (82.4%)	84.2% (84.1%)	91.5% (90.6%)	St. Joseph's Hamilton	9, 11
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (7.0)	7.0 (7.0)	9.0 (8.5)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	83.6 (-)	65.4 (75.0)	101.0 (93.0)	-	-
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	80.5% (81.6%)	77.8% (75.0%)	90.0% (81.7%)	St. Joseph of Hotel Dieu	12, 5
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.7 (1.6)	1.2 (1.2)	2.0 (1.9)	Brant Community Healthcare System	5, 7, 13, 4*
17 ■	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	14.7 (13.4)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	49.1% (55.3%)	42.0% (50.0%)	52.6% (62.2%)	Southlake Regional Health Centre	11, 8
19§ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	2.6% (3.3%)	1.6% (0.0%)	6.3% (5.6%)	District of Rainy River sub-region	10
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	8.0 (8.6)	0.0 (6.3)	11.2 (18.3)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

Central South Regional Stroke Network

Interpretation of LHIN Stroke Report Card - Waterloo Wellington 2017/18

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 12 indicators and was a high performer on 6 indicators. At a sub-region/facility level WW is a provincial leader on 2 indicators. WW LHIN showed the greatest improvement provincially on indicator 17.

Areas of Progress:

Acute Stroke Management	There was progress in the WWLHIN related to the proportion of stroke/TIA patients treated on a stroke unit. The LHIN is a provincial leader on this indicator and continues to streamline processes to ensure continued improvement in this best practice.
Stroke Rehabilitation	The WWLHIN progressed in the median FIM Efficiency for moderate stroke in inpatient rehabilitation. The WWLHIN is also a provinical leader in this category.
Community Reintegration	The WWLHIN demonstrated improvement and is the provincial leader in the mean number of home and community care rehab visits provided to stroke/TIA patients on discharge from inpatient acute care or inpatient rehabilitation.
Acute Stroke Management	Excellent progress was made related to the proportion of ALC days to total length of stay in acute care, and the LHIN is the provincial leader on this indicator. It is an excellent reflection of the work that has been done in WW on patient access and flow.

Areas for Improvement:	Associated Current or Planned Activities:
Access	
Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services	Targeted education for ED staff across WW on the benefits and impact of timely assessment and intervention of patients in stroke prevention clinics will impact the proportion of patients referred. This education strategy is currently underway and results have been positive to date.
Effectiveness	
Median door to needle time among patients who received tPA; Proportion of ischemic stroke patients who received acute tPA	Quality improvement projects focused on improving hyperacute stroke care processes are currently under way in the WWLHIN. This work will not only aim to reduce the median door-to-needle time among patients who receive tPA but also increase the proportion of ischemic stroke patients who receive tPA and gain access to Endovascular Therapy.
Access	
Median number of days between stroke onset and admission to stroke inpatient rehabilitation	Quality improvement opportunities and targeted education for staff on patient flow will improve this area of care in Waterloo Wellington. Many of the other indicators focused on rehabilitation demonstrate good performance and continue to improve.
Appropriateness	
Annual adjusted inpatient admission rate for stroke/TIA	ED focused education across the WWLHIN, focused on facilitating increased access to stroke prevention services will impact this indicator. With improved referral patterns and utilization of prevention services, admissions, particularly for patients who experience a TIA will be reduced.

Opportunities for LHIN and Stroke Network Collaboration:

Improvement of hyperacute management of persons with stroke including expedient delivery of tPA as well as management of the complex stroke patient are top priorities. The 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

Ontario Stroke Report Card, 2017/18:
Hamilton Niagara Haldimand Brant Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	62.0% (62.2%)	56.0 - 65.7%	65.9%	Western Champlain sub-region	1, 11
2 ●	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.2 (1.3)	1.1 - 1.6	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	13.6 (13.2)	0.0 - 16.0	-	-	11
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.	75.7% (65.9%)	66.7 - 78.1%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	83.2% (80.2%)	8.3 - 90.6%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
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)	40.0 - 71.0	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	15.4% (13.6%)	13.7 - 19.0%	17.7%	London Middlesex sub-region	11, 4
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%	58.0% (52.6%)	18.5 - 86.4%	81.8%	Quinte sub-region	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	87.1% (84.3%)	55.6 - 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.	25.6 (26.3)	0.0 - 45.7%	8.2%	Bluewater Health, Sarnia	3
11§ ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	37.0% (34.3%)	25.0 - 42.7%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	62.9% (67.1%)	57.1 - 80.0%	*	*	14, 3
13§ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (7.0)	5.0 - 11.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	54.3 (50.8)	44.2 - 81.5	107.6	West Park Healthcare Centre	None
15§ ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	71.7% (66.8%)	42.9 - 88.8%	86.6%	Providence Healthcare	12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (1.0)	0.9 - 1.6	1.6	Providence Healthcare	3, 12
17 ■	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	8.1 (8.5)	-	13.1	South East Home and Community Care	10, 3
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	28.9% (37.0%)	14.7 - 47.7%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	10.2% (10.8%)	5.5 - 17.1%	1.9%	Guelph-Puslinch sub-region	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 (7.9)	5.9 - 11.7	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
Hamilton Niagara Haldimand Brant Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	62.0% (61.3%)	56.0% (56.2%)	65.7% (62.4%)	District of Thunder Bay sub-region	5,11
2 ●	Prevention of stroke	Annual age– and sex–adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.2 (1.4)	1.1 (1.1)	1.6 (1.9)	Cochrane sub-region	4
3§ ▲	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	14.4 (14.0)	0.0 (0.0)	17.7 (30.0)	-	12
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.	75.7% (70.6%)	66.7% (60.8%)	78.1% (80.0%)	Elgin sub-region	7, 5
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	83.2% (78.9%)	8.3% (25.0%)	90.6% (89.2%)	Georgian Bay General	14 ,9
6 ▲	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	44.0 (38.0)	40.0 (31.0)	71.0 (105.0)	Windsor Regional Hospital -Ouellette	10, 9
7§ ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	15.4% (13.6%)	13.7% (5.2%)	19.0% (15.2%)	Chatham City Centre sub-region	1, 13
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%	58.0% (51.2%)	18.5% (9.4%)	86.4% (81.6%)	Windsor sub-region	2, 14
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	87.1% (83.4%)	55.6% (34.4%)	98.0% (95.8%)	North Bay Regional Health Centre	14, 10
10§ ■	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	25.6% (25.9%)	0.0% (0.0%)	45.7% (43.7%)	Windsor Regional Hosp-Ouellette	1
11§ ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	37.0% (35.4%)	25.0% (25.0%)	42.7% (45.2%)	Essex South Shore sub-region	None
12§ ▲	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	62.9% (65.3%)	57.1% (0.0%)	80.0% (63.6%)	St. Joseph's Hamilton	9, 11
13§ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (8.0)	5.0 (7.0)	11.0 (11.5)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	54.3 (-)	44.2 (26.5)	81.5 (68.3)	-	-
15§ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	71.7% (59.7%)	42.9% (26.3%)	88.8% (57.0%)	St. Joseph of Hotel Dieu	12, 5
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (1.0)	0.9 (0.7)	1.6 (1.0)	Brant Community Healthcare System	5, 7, 13, 4*
17 ■	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	8.1 (8.0)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	28.9% (35.9%)	14.7% (15.8%)	47.7% (51.9%)	Southlake Regional Health Centre	11, 8
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	10.2% (10.1%)	5.5% (6.2%)	17.1% (18.0%)	District of Rainy River sub-region	10
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	7.5 (7.3)	5.6 (0.0)	11.0 (13.9)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

Central South Regional Stroke Network

Interpretation of LHIN Stroke Report Card - Hamilton Niagara Haldimand Brant 2017/18

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

Performance Overview

The HNHB LHIN progressed on 13 indicators and showed the greatest improvement in the province on indicators 2 and 16. The LHIN is a top performer on indicator 7. At a facility level was a top performer on indicator 9.

Areas of Progress:

Acute Stroke Management	Stroke unit care is best practice. Integrated models to ensure access to stroke units launched in Hamilton and Dunnville and stroke unit development and implementation in Burlington will perpetuate best practice care for all in the LHIN.
Stroke Rehabilitation	Excellent progress on rehabilitation indicators including achieving target length of stays and FIM efficiency were achieved in the HNHB LHIN. These improvements helps ensure appropriate access and flow for all who require access to stroke rehabilitation.
Acute Stroke Management	The LHIN was a top performer in the proportion of ischemic stroke patients who receive acute thrombolytic therapy (tPA). Quality Improvement strategies at multiple organizations in the LHIN will further improve performance.
Stroke Prevention	Significant progress has been made in the LHIN related to the proportion of ischemic stroke/TIA patients discharged from ED and referred to secondary prevention services. Targeted education rolling out in the LHIN will facilitate continued improvement.

Areas for Improvement:	Associated Current or Planned Activities:
Access	
Proportion of patients admitted to inpatient rehabilitation with severe stroke; Proportion of stroke patients discharged from acute care to LTC/CCC.	Continued improvement in access to stroke unit care will reduce admissions to LTC for persons with severe stroke. Progress towards a bundled care approach with focus on the entire continuum of stroke care will facilitate access to intensive rehabilitation for all persons with stroke including those with severe stroke.
Effectiveness	
Median door-to-needle time among patients who received acute thrombolytic therapy (tPA).	The launch of new models of hyperacute stroke care delivery in multiple organizations across the HNHB LHIN will facilitate improved door to needle times. These models will not only facilitate faster delivery of tPA but also increase access to timely EVT across the LHIN.
Appropriateness	
Median number of minutes per day of direct therapy that inpatient stroke rehabilitation patients received	In the LHIN, quality improvement initiatives have been undertaken to facilitate each organizations effort to improve the number of minutes of direct therapy provided in rehabilitation. The creation of an Annual Stroke Rehabilitation Intensity Forum and the Regional Stroke Inpatient Rehabilitation Network will drive this work in the coming year.
Access	
Proportion of acute stroke patients with mild disability discharged home; Mean number of HCC visits provided to stroke/TIA patients on discharge	Work associated with community stroke rehabilitation will drive continuous quality improvement in established models and drive the implementation of new best practice models in the LHIN. By optimizing these models, persons with mild stroke could more easily be discharged home to receive rehabilitation services.

Opportunities for LHIN and Stroke Network Collaboration:

Excellent collaboration between the LHIN and Network continues to drive access to best practice stroke unit care across the LHIN. 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.

Ontario Stroke Report Card, 2017/18:
Central West Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	57.6% (55.6%)	54.3 - 61.3%	65.9%	Western Champlain sub-region	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)	1.1 - 1.5	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.5 (10.7)	9.7 - 16.0	-	-	11
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.	82.1% (71.6%)	78.4 - 96.4%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	87.2% (88.3%)	60.7 - 91.6%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ▲	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	327.0 (130.0)	446.0 - 446.0	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.1% (12.4%)	7.2 - 11.6%	17.7%	London Middlesex sub-region	11, 4
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%	16.0% (17.2%)	11.1 - 24.6%	81.8%	Quinte sub-region	3, 10
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	58.7% (50.2%)	33.9 - 81.8%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	27.0 (29.3)	6.5 - 40.5%	8.2%	Bluewater Health, Sarnia	3
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	30.4% (34.8%)	18.6 - 37.2%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	66.1% (66.0%)	61.4 - 70.8%	*	*	14, 3
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	14.0 (13.0)	14.0 - 14.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	36.2 (35.3)	36.5 - 36.5	107.6	West Park Healthcare Centre	None
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	62.4% (51.9%)	62.7 - 62.7%	86.6%	Providence Healthcare	12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (1.0)	1.1 - 1.1	1.6	Providence Healthcare	3, 12
17 ■	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	8.1 (7.1)	-	13.1	South East Home and Community Care	10, 3
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	39.2% (50.2%)	39.5 - 39.5%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.9% (4.4%)	2.2 - 15.9%	1.9%	Guelph-Puslinch sub-region	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	9.7 High (7.5)	4.4 - 11.4	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
Central West Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	57.6% (54.1%)	54.3% (47.2%)	61.3% (59.0%)	District of Thunder Bay sub-region	5,11
2 ■	Prevention of stroke	Annual age– and sex–adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.3 (1.4)	1.1 (1.1)	1.5 (1.4)	Cochrane sub-region	4
3§ ■	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	10.7 (11.0)	9.1 (8.8)	14.3 (13.4)	-	12
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.	82.1% (70.8%)	78.4% (66.7%)	96.4% (75.8%)	Elgin sub-region	7, 5
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	87.2% (86.5%)	60.7% (70.7%)	91.6% (91.0%)	Georgian Bay General	14 ,9
6 ☐	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	327.0 (**)	446.0 (48.0)	446.0 (271.5)	Windsor Regional Hospital -Ouellette	10, 9
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.1% (11.4%)	7.2% (8.3%)	11.6% (11.8%)	Chatham City Centre sub-region	1, 13
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%	16.0% (17.8%)	11.1% (11.9%)	24.6% (23.6%)	Windsor sub-region	2, 14
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	58.7% (43.0%)	33.9% (27.8%)	81.8% (69.6%)	North Bay Regional Health Centre	14, 10
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	27.0% (23.9%)	6.5% (4.3%)	40.5% (29.2%)	Windsor Regional Hosp-Ouellette	1
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	30.4% (33.0%)	18.6% (11.3%)	37.2% (39.9%)	Essex South Shore sub-region	None
12§ ■	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	66.1% (64.1%)	61.4% (69.5%)	70.8% (75.0%)	St. Joseph's Hamilton	9, 11
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	14.0 (13.0)	14.0 (14.0)	14.0 (18.0)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	36.2 (-)	36.5 (15.3)	36.5 (15.3)	-	-
15§ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	62.4% (47.0%)	62.7% (38.1%)	62.7% (50.0%)	St. Joseph of Hotel Dieu	12, 5
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (0.9)	1.1 (0.8)	1.1 (0.8)	Brant Community Healthcare System	5, 7, 13, 4*
17 ●	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	8.1 (6.3)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	39.2% (45.9%)	39.5% (36.9%)	39.5% (75.0%)	Southlake Regional Health Centre	11, 8
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.9% (5.8%)	2.2% (4.2%)	15.9% (18.5%)	District of Rainy River sub-region	10
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	9.6 (7.4)	4.2 (7.5)	11.2 (10.5)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

West GTA Stroke Network

Interpretation of LHIN Stroke Report Card - Central West 2017/18

RD Contact Information Nicole Pageau, Regional Director, West GTA Stroke Network nicole.pageau@thp.ca (905) 848-7580 ext. 2657

Performance Overview

The Central West LHIN progressed in 10 of the 19 performance indicators. The greatest progress are related to public awareness, referral to Stroke Prevention Clinics, Rehab LOS, FIM Efficiency and HCC rehab visits.

Areas of Progress:

Stroke Prevention	Proportion of stroke/TIA with AF prescribed an anticoagulant increased from 70.8% (last 3 years) to 82.1%
Stroke Prevention	Proportion of stroke/TIA referred to Stroke Prevention Clinic from ED increased from 43% (last 3 years) to 58.7%.
Stroke Rehabilitation	Proportion of inpatient stroke rehab patients achieving RPG active LOS increased from 47% (last 3 years) to 62.4%.
Stroke Rehabilitation	Mean number of HCC rehab visits increased from 6.3 visits (last 3 yrs) to to 8.1visits

Areas for Improvement:	Associated Current or Planned Activities:
Access	
Stroke Unit	There are no stroke units within LHIN 5. Stroke Units are a priority due to Stroke QBP and the repatriation post thrombolysis and EVT. WOHS is now clustering all stroke patients on their neurology unit, and will be formalizing a stroke unit at each site in 19/20.
Effectiveness	
ALC days	The proportion of ALC has increased from 23.9% (last 3 years) to 27%. Processes have since been established to decrease wait times for rehab.
Access	
Time to Inpatient Rehab	The wait time to access inpatient rehabilitation has increased from 13 (last 3 years) to 14 days. Stroke QBP states that access to rehabilitation should be between 5 and 7 days, and the provincial benchmark is 5 days. Continuous work is being done to improve access to inpatient rehabilitation by redirecting the milder stroke patients to outpatient rehab.
Access	
Admission to inpatient rehab	The proportion of acute stroke patients discharged to inpatient rehab has decreased from 33% (last 3 years) to 30.4%. Efforts have been made to redirect mild stroke patients to outpatient rehab in order to improve access of moderate/severe stroke to inpatient rehab beds.

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.

Ontario Stroke Report Card, 2017/18:
Mississauga Halton Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	59.0% (55.6%)	54.5 - 67.4%	65.9%	Western Champlain sub-region	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)	0.9 - 1.3	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.3 (12.7)	2.5 - 14.4	-	-	11
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.	74.5% (79.5%)	45.9 - 90.0%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	82.0% (82.6%)	76.9 - 84.2%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	40.0 (45.0)	38.0 - 362.5	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.5% (13.0%)	7.1 - 16.9%	17.7%	London Middlesex sub-region	11, 4
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%	45.3% (42.5%)	16.7 - 75.0%	81.8%	Quinte sub-region	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	81.7% (80.1%)	55.2 - 86.4%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	22.2 (26.7)	6.1 - 30.3%	8.2%	Bluewater Health, Sarnia	3
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	30.2% (35.2%)	24.6 - 37.1%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	72.5% (71.4%)	64.3 - 85.7%	*	*	14, 3
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	9.0 (9.0)	8.0 - 11.0	5.0	Quinte Health Care – Belleville General Site	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 (38.3)	22.5 - 60.4	107.6	West Park Healthcare Centre	None
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	66.3% (68.3%)	44.6 - 74.5%	86.6%	Providence Healthcare	12
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.2 (1.2)	0.9 - 1.3	1.6	Providence Healthcare	3, 12
17 ■	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	10.2 (9.9)	-	13.1	South East Home and Community Care	10, 3
18§ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	42.5% (39.4%)	37.3 - 56.0%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	8.3% (9.1%)	4.7 - 10.2%	1.9%	Guelph-Puslinch sub-region	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 (7.1)	6.0 - 8.9	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
Mississauga Halton Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	59.0% (56.1%)	54.5% (48.5%)	67.4% (64.5%)	District of Thunder Bay sub-region	5,11
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 (1.1)	1.3 (1.5)	Cochrane sub-region	4
3§ ■	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	11.3 (12.4)	2.7 (8.5)	14.4 (11.8)	-	12
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.	74.5% (74.3%)	45.9% (53.8%)	90.0% (92.3%)	Elgin sub-region	7, 5
5 ▲	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	82.0% (84.6%)	76.9% (78.0%)	84.2% (89.5%)	Georgian Bay General	14 ,9
6 ●	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	40.0 (45.0)	38.0 (49.5)	362.5 (63.0)	Windsor Regional Hospital -Ouellette	10, 9
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.5% (12.4%)	7.1% (8.1%)	16.9% (16.9%)	Chatham City Centre sub-region	1, 13
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%	45.3% (39.5%)	16.7% (14.4%)	75.0% (64.0%)	Windsor sub-region	2, 14
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	81.7% (70.4%)	55.2% (56.3%)	86.4% (90.5%)	North Bay Regional Health Centre	14, 10
10§ ■	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	22.2% (25.5%)	6.1% (11.9%)	30.3% (27.6%)	Windsor Regional Hosp-Ouellette	1
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	30.2% (34.1%)	24.6% (21.2%)	37.1% (36.8%)	Essex South Shore sub-region	None
12§ ▲	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	72.5% (72.6%)	64.3% (76.5%)	85.7% (88.9%)	St. Joseph's Hamilton	9, 11
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	9.0 (9.0)	8.0 (9.0)	11.0 (10.0)	Bruyere Continuing Care	11, 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 (-)	22.5 (23.4)	60.4 (58.2)	-	-
15§ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	66.3% (67.2%)	44.6% (28.2%)	74.5% (77.4%)	St. Joseph of Hotel Dieu	12, 5
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.2 (1.1)	0.9 (0.8)	1.3 (1.3)	Brant Community Healthcare System	5, 7, 13, 4*
17 ●	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	10.2 (9.2)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	42.5% (46.9%)	37.3% (43.7%)	56.0% (57.5%)	Southlake Regional Health Centre	11, 8
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	8.3% (7.1%)	4.7% (1.7%)	10.2% (15.7%)	District of Rainy River sub-region	10
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 (7.5)	6.3 (6.8)	9.2 (8.1)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

West GTA Stroke Network

Interpretation of LHIN Stroke Report Card - Mississauga Halton 2017/18

RD Contact Information Nicole Pageau, Regional Director, West GTA Stroke Network, Trillium Health Partners nicole.pageau@thp.ca (905) 848-7580 ext. 2657

Performance Overview

The Mississauga Halton LHIN progressed in 11 of the 19 performance indicators within the last three years. There is progress in every stage of the stroke care continuum. Opportunities are related to access to inpatient rehab.

Areas of Progress:

Stroke Prevention	Proportion of stroke/TIA referred to Stroke Prevention Clinic from ED from 70.4% (last 3 years) to 81.7%.
Acute Stroke Management	Median door-to needle time from 45 minutes (last 3 years) to 40 minutes. We continue to strive towards a 30 minute Door to Needle time
Acute Stroke Management	Proportion stroke/TIA admitted to a stroke unit has increased from 39.5% (last 3 yrs.) to 45.3%
Stroke Rehabilitation	Mean number of rehab visits provided by Home and Community Care increased from 9.2 (last 3 years) to 10.2

Areas for Improvement:	Associated Current or Planned Activities:
Access	
Admission to Inpatient Rehabilitation	The overall number of acute stroke patients admitted to inpatient rehabilitation has decreased to 30.2% from 34.1% (last 3 years). There has also been a decrease in the admission of severe stroke patients to active rehabilitation. The WGTASN will be working with the organizations go through a root-cause analysis and identify opportunities.
Access	
Proportion of acute stroke with mild disability discharged home	The overall number of mild stroke patients discharged home has slightly decreased in 17/18. The WGTASN and all its partners are working towards improving outpatient rehab access and better community reintegration opportunities
Access	
Admission to inpatient rehab	The wait time to access inpatient rehabilitation is 9 days. Stroke QBP states that access to rehabilitation should be between 5 and 7 days. Continuous work is being done to improve access to inpatient rehabilitation such as being able to pull the stroke patients sooner in outpatient rehab in order to improve overall flow.
Appropriateness	
Discharge disposition to CCC/LTC	The proportion of stroke patient discharged to CCC/LTC has increased. Further analysis of the data will be conducted to see if some severe stroke patients can benefit from inpatient rehab instead of going to CCC.

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.

Ontario Stroke Report Card, 2017/18:
Toronto Central Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	61.0% (59.4%)	57.2 - 66.1%	65.9%	Western Champlain sub-region	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)	1.0 - 1.3	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.4 (10.7)	8.0 - 13.8	-	-	11
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.	74.9% (73.7%)	63.6 - 83.8%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	86.3% (86.1%)	72.3 - 90.4%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	46.0 (48.0)	42.0 - 75.5	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	8.1% (10.0%)	4.8 - 10.7%	17.7%	London Middlesex sub-region	11, 4
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%	48.8% (48.5%)	18.0 - 64.6%	81.8%	Quinte sub-region	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	79.8% (82.3%)	28.9 - 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.	35.3 (34.3)	14.9 - 44.0%	8.2%	Bluewater Health, Sarnia	3
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	29.8% (34.4%)	27.3 - 33.1%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	69.1% (64.6%)	62.5 - 81.5%	*	*	14, 3
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	10.0 (10.0)	9.0 - 11.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	90.6 (92.3)	66.3 - 143.1	107.6	West Park Healthcare Centre	None
15§ ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	72.6% (69.3%)	49.2 - 93.0%	86.6%	Providence Healthcare	12
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.3 (1.2)	1.0 - 1.8	1.6	Providence Healthcare	3, 12
17 ▲	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	7.4 (6.2)	-	13.1	South East Home and Community Care	10, 3
18§ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	40.0% (38.2%)	31.5 - 51.1%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	12.8% (11.4%)	9.9 - 14.8%	1.9%	Guelph-Puslinch sub-region	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 (8.3)	7.3 - 10.0	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
Toronto Central Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	61.0% (59.7%)	57.2% (57.3%)	66.1% (63.1%)	District of Thunder Bay sub-region	5,11
2 ▲	Prevention of stroke	Annual age– and sex–adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.1 (1.1)	1.0 (1.1)	1.3 (1.4)	Cochrane sub-region	4
3§ ▲	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	12.6 (12.4)	9.8 (8.2)	16.3 (14.9)	-	12
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.	74.9% (67.5%)	63.6% (53.8%)	83.8% (71.2%)	Elgin sub-region	7, 5
5 ▲	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	86.3% (87.5%)	72.3% (70.6%)	90.4% (93.5%)	Georgian Bay General	14 ,9
6 ■	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	46.0 (51.0)	42.0 (40.0)	75.5 (40.0)	Windsor Regional Hospital -Ouellette	10, 9
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	8.1% (10.7%)	4.8% (8.7%)	10.7% (15.2%)	Chatham City Centre sub-region	1, 13
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%	48.8% (47.8%)	18.0% (23.5%)	64.6% (61.6%)	Windsor sub-region	2, 14
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	79.8% (77.3%)	28.9% (4.1%)	94.9% (92.4%)	North Bay Regional Health Centre	14, 10
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	35.3% (29.9%)	14.9% (6.8%)	44.0% (42.5%)	Windsor Regional Hosp-Ouellette	1
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	29.8% (34.3%)	27.3% (31.6%)	33.1% (39.2%)	Essex South Shore sub-region	None
12§ ■	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	69.1% (64.6%)	62.5% (35.1%)	81.5% (100.0%)	St. Joseph's Hamilton	9, 11
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	10.0 (10.0)	9.0 (5.0)	11.0 (11.0)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	90.6 (-)	66.3 (64.0)	143.1 (152.2)	-	-
15§ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	72.6% (62.9%)	49.2% (8.3%)	93.0% (71.5%)	St. Joseph of Hotel Dieu	12, 5
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.3 (1.1)	1.0 (0.7)	1.8 (1.4)	Brant Community Healthcare System	5, 7, 13, 4*
17 ■	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	7.4 (6.1)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	40.0% (37.2%)	31.5% (23.2%)	51.1% (59.4%)	Southlake Regional Health Centre	11, 8
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	12.8% (10.1%)	9.9% (5.1%)	14.8% (13.5%)	District of Rainy River sub-region	10
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	8.1 (8.7)	7.2 (5.1)	9.8 (10.2)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

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

Interpretation of LHIN Stroke Report Card - Toronto Central 2017/18

RD Contact Information Beth Linkewich, Regional Director, North & East GTA Stroke Network beth.linkewich@sunnybrook.ca; (416) 480-6100, ext 7300

Performance Overview

Exemplary performance on 2 indicators and poor on 8. Significant progress on 3 indicators; no noted improvement on 8 indicators. Continued TC LHIN leadership is needed in cross-LHIN planning to further improve performance.

Areas of Progress:

Stroke Prevention	Inpatient admission rates remain exemplary (#2); Progressing in proportion of patients referred to secondary prevention from the ED(#9) and significant improvement for proportion of patients > age 65 filling their anticoagulant prescription (#4)
Acute Stroke Management	Improvement in door to needle time (#6).
Stroke Rehabilitation	Significant increase in achieving RPG LOS targets (#15), and median FIM efficiency (#16),however variation noted with some caution in interpretation
Community Reintegration	Improvement on 30-day readmission rates (#20)

Areas for Improvement:	Associated Current or Planned Activities:
Access	
Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services	Coordinated cross LHIN system planning for bundled care initiatives, early-supported discharge, and designated community stroke teams.
Appropriateness	
Optimal access to timely and appropriate rehabilitation.	Engage cross system planning, build capacity for care within rehabilitation, streamline processes, promote shared accountability to optimize patient outcomes and flow with focus on severe/complex patients. Continue working with stroke rehabilitation teams to enhance intensity of rehabilitation.
Appropriateness	
Optimal systems in place to enhance access to EVT and seamless transitions.	Implement best practices protocols (walk-in and inpatient) and work collaboratively with EVT referral sites to improve repatriation and flow across GTA.
Appropriateness	
Access to stroke unit care (aligning with the QBP definition) to improve patient outcomes and quality care.	Develop a comprehensive plan to improve access to acute and rehabilitation stroke unit care in Toronto. Collaborate with system stakeholders across the LHIN to sustain stroke unit care in acute and rehabilitation.

Opportunities for LHIN and Stroke Network Collaboration:

Work collaboratively with the Toronto Central LHIN and Stroke Flow Committee to optimize organization of stroke services aligned with above priorities. Purposeful engagement with partner sites to develop and implement the stroke bundled care models considering local and cross-regional factors.

Ontario Stroke Report Card, 2017/18:
Central Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	60.7% (57.4%)	54.8 - 65.8%	65.9%	Western Champlain sub-region	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)	0.9 - 1.3	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.3 (13.2)	7.5 - 17.9	-	-	11
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% (74.4%)	62.5 - 75.5%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	81.7% (81.3%)	20.0 - 89.7%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	36.0 (44.0)	36.0 - 36.0	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.4% (11.1%)	8.7 - 14.3%	17.7%	London Middlesex sub-region	11, 4
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%	47.5% (45.6%)	17.7 - 59.5%	81.8%	Quinte sub-region	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	85.5% (82.4%)	76.5 - 93.3%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	43.6 (41.0)	0.0 - 61.8%	8.2%	Bluewater Health, Sarnia	3
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	30.1% (34.9%)	27.2 - 35.2%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	78.8% (70.1%)	68.4 - 100.0%	*	*	14, 3
13§ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (7.0)	5.5 - 8.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	21.2 (23.7)	12.1 - 31.6	107.6	West Park Healthcare Centre	None
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	61.3% (66.0%)	53.8 - 100.0%	86.6%	Providence Healthcare	12
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.3 (1.0)	1.3 - 1.3	1.6	Providence Healthcare	3, 12
17 ▲	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	6.5 (6.3)	-	13.1	South East Home and Community Care	10, 3
18§ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	50.0% (39.8%)	42.9 - 51.4%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	10.8% (8.9%)	2.8 - 15.1%	1.9%	Guelph-Puslinch sub-region	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	8.7 (8.7)	5.2 - 10.2	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
Central Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	60.7% (58.2%)	54.8% (52.3%)	65.8% (63.6%)	District of Thunder Bay sub-region	5,11
2 ▲	Prevention of stroke	Annual age– and sex–adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.1 (1.1)	0.9 (1.0)	1.3 (1.3)	Cochrane sub-region	4
3§ ■	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	10.3 (11.5)	7.2 (4.5)	18.1 (21.2)	-	12
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% (74.1%)	62.5% (48.1%)	75.5% (90.0%)	Elgin sub-region	7, 5
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	81.7% (80.9%)	20.0% (68.5%)	89.7% (87.0%)	Georgian Bay General	14 ,9
6 ●	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	36.0 (41.0)	36.0 (57.0)	36.0 (250.0)	Windsor Regional Hospital -Ouellette	10, 9
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.4% (10.9%)	8.7% (7.8%)	14.3% (13.4%)	Chatham City Centre sub-region	1, 13
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%	47.5% (46.6%)	17.7% (7.0%)	59.5% (67.1%)	Windsor sub-region	2, 14
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	85.5% (81.3%)	76.5% (43.8%)	93.3% (93.5%)	North Bay Regional Health Centre	14, 10
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	43.6% (34.2%)	0.0% (15.7%)	61.8% (62.4%)	Windsor Regional Hosp-Ouellette	1
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	30.1% (34.0%)	27.2% (26.3%)	35.2% (48.8%)	Essex South Shore sub-region	None
12§ ●	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	78.8% (72.5%)	68.4% (50.0%)	100.0% (83.9%)	St. Joseph's Hamilton	9, 11
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (6.0)	5.5 (5.0)	8.0 (8.5)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	21.2 (-)	12.1 (18.3)	31.6 (33.3)	-	-
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	61.3% (63.0%)	53.8% (53.8%)	100.0% (76.5%)	St. Joseph of Hotel Dieu	12, 5
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.3 (1.2)	1.3 (1.1)	1.3 (1.4)	Brant Community Healthcare System	5, 7, 13, 4*
17 ▲	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	6.5 (7.1)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ●	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	50.0% (39.1%)	42.9% (38.3%)	51.4% (53.8%)	Southlake Regional Health Centre	11, 8
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	10.8% (8.3%)	2.8% (4.1%)	15.1% (11.8%)	District of Rainy River sub-region	10
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	8.6 (8.2)	5.0 (5.4)	10.3 (13.1)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

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

Interpretation of LHIN Stroke Report Card - Central 2017/18

RD Contact Information Beth Linkewich, Regional Director, North & East GTA Stroke Network beth.linkewich@sunnybrook.ca; (416) 480-6100, ext 7300

Performance Overview

Exemplary performance on 1 indicator and poor on 9. Significant progress on 5 indicators; no noted improvement on 10 indicators. Variation remains an issue. System planning within and across LHINs is necessary to improve performance.

Areas of Progress:

Stroke Prevention	Significant improvement in patients referred from the ED to secondary prevention services (#9); Exemplary performance for inpatient admission rates for Stroke/TIA (#2), variation in referral practices across the LHIN.
Acute Stroke Management	Significant improvement in door to needle time (#6).
Stroke Rehabilitation	Increased FIM efficiency (#16) and improvement in proportion of inpatient rehab with severe stroke (#18)
Community Reintegration	Significant increase in mild stroke patients discharged home from acute care (#12)

Areas for Improvement:	Associated Current or Planned Activities:
Appropriateness	
Equitable access to stroke unit care to improve patient outcomes and quality care.	Further development and advancement of best practices in existing acute and rehabilitation stroke units. Confirm /establish plan to support access to stroke unit care for patients in the Alliston catchment area. Continue quality improvement for increased rehabilitation intensity.
Integration	
Equitable access to high quality community-based stroke rehabilitation.	Coordinated cross-LHIN system planning for bundled care initiatives, early-supported discharge, and designated community stroke teams.
Effectiveness	
Optimal systems in place to enhance access to EVT and seamless transitions.	Enhance processes at EVT referring sites and implement LHIN-wide walk-in protocols. Work collaboratively with EVT delivery sites to support flow and development of inpatient protocols.
Value	
Consistent best practice secondary stroke prevention care.	Continue with quality improvement initiatives developed through the completion of the provincial SPC self-assessment.

Opportunities for LHIN and Stroke Network Collaboration:

Work collaboratively with Central LHIN and Central LHIN Stroke Planning & Care Council to optimize organization of stroke services aligned with above priorities. Purposeful engagement with partner sites to develop and implement the stroke bundled care models considering local and cross-regional factors.

Ontario Stroke Report Card, 2017/18:
Central East Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	60.2% (60.4%)	54.3 - 65.5%	65.9%	Western Champlain sub-region	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)	1.0 - 1.5	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.3 (12.3)	0.0 - 20.5	-	-	11
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.	75.9% (76.4%)	58.8 - 84.2%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	84.5% (79.4%)	50.0 - 96.7%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	50.0 (59.0)	50.0 - 50.5	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.8% (11.7%)	5.8 - 15.7%	17.7%	London Middlesex sub-region	11, 4
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%	51.0% (50.9%)	23.6 - 78.1%	81.8%	Quinte sub-region	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	80.8% (79.0%)	45.0 - 100.0%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	34.1 (35.5)	3.9 - 49.2%	8.2%	Bluewater Health, Sarnia	3
11§ ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	32.6% (37.0%)	24.4 - 49.3%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	75.1% (72.0%)	41.2 - 84.9%	*	*	14, 3
13§ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	6.0 (6.0)	6.0 - 8.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	58.0 (41.2)	45.9 - 72.4	107.6	West Park Healthcare Centre	None
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	65.6% (68.6%)	30.4 - 75.7%	86.6%	Providence Healthcare	12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (1.2)	0.7 - 1.9	1.6	Providence Healthcare	3, 12
17 ▲	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	5.5 (5.7)	-	13.1	South East Home and Community Care	10, 3
18§ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	43.2% (52.5%)	17.4 - 51.4%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	7.5% (6.9%)	2.8 - 9.5%	1.9%	Guelph-Puslinch sub-region	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	8.0 (7.5)	0.0 - 26.8	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
Central East Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	60.2% (59.8%)	54.3% (52.7%)	65.5% (67.1%)	District of Thunder Bay sub-region	5,11
2 ▲	Prevention of stroke	Annual age– and sex–adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.2 (1.2)	1.0 (1.0)	1.5 (1.4)	Cochrane sub-region	4
3§ ■	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	11.1 (12.0)	0.0 (4.9)	20.3 (20.8)	-	12
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.	75.9% (73.9%)	58.8% (64.4%)	84.2% (77.8%)	Elgin sub-region	7, 5
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	84.5% (75.7%)	50.0% (7.7%)	96.7% (88.1%)	Georgian Bay General	14 ,9
6 ●	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	50.0 (63.0)	50.0 (53.0)	50.5 (70.0)	Windsor Regional Hospital -Ouellette	10, 9
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.8% (12.1%)	5.8% (4.8%)	15.7% (18.7%)	Chatham City Centre sub-region	1, 13
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%	51.0% (49.9%)	23.6% (12.0%)	78.1% (77.5%)	Windsor sub-region	2, 14
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	80.8% (71.5%)	45.0% (2.0%)	100.0% (92.3%)	North Bay Regional Health Centre	14, 10
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	34.1% (29.7%)	3.9% (0.0%)	49.2% (56.4%)	Windsor Regional Hosp-Ouellette	1
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	32.6% (40.7%)	24.4% (33.5%)	49.3% (50.0%)	Essex South Shore sub-region	None
12§ ●	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	75.1% (68.5%)	41.2% (55.6%)	84.9% (83.3%)	St. Joseph's Hamilton	9, 11
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	6.0 (6.0)	6.0 (5.0)	8.0 (9.0)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	58.0 (-)	45.9 (25.1)	72.4 (53.0)	-	-
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	65.6% (68.7%)	30.4% (41.2%)	75.7% (78.7%)	St. Joseph of Hotel Dieu	12, 5
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (1.2)	0.7 (1.0)	1.9 (1.5)	Brant Community Healthcare System	5, 7, 13, 4*
17 ▲	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	5.5 (6.1)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	43.2% (51.1%)	17.4% (34.0%)	51.4% (60.4%)	Southlake Regional Health Centre	11, 8
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	7.5% (7.2%)	2.8% (0.0%)	9.5% (11.6%)	District of Rainy River sub-region	10
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	8.1 (7.7)	0.0 (0.0)	27.3 (14.6)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

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

Interpretation of LHIN Stroke Report Card - Central East 2017/18

RD Contact Information Cheryl Moher, Regional Director, Central East Stroke Network moherc@rvh.on.ca; (705) 728-9090, ext 46300

Performance Overview

Exemplary performance on 1 indicator and poor performance on 8. Progressing well on 4 indicators linked to local efforts. No progress on 11 indicators. Variation remains an issue. System and cross LHIN planning required.

Areas of Progress:

Stroke Prevention	Greatest improvement in access to carotid imaging (#5), significant improvement in patients referred from the ED to secondary prevention services (#9) ; exemplary performer for inpatient admission rate for Stroke/TIA (#2)
Acute Stroke Management	Significant improvement in door to needle time (#6).
Stroke Rehabilitation	Time to inpatient rehab admission remains the same (#13)
Community Reintegration	Significant increase in mild stroke patients discharged home from acute care (#12)

Areas for Improvement:	Associated Current or Planned Activities:
Appropriateness	
Equitable access to stroke unit care to improve patient outcomes and quality care.	Consolidate stroke unit services across the LHIN and further develop and advance best practices in existing stroke units.
Integration	
Equitable access to high quality community-based stroke rehabilitation.	Coordinated cross-LHIN system planning for bundled care initiatives, early-supported discharge, and designated community stroke teams.
Effectiveness	
Optimal systems in place to enhance access to Endovascular Treatment (EVT) and seamless transitions.	Enhance processes at EVT referring sites and implement LHIN-wide walk-in protocols. Work collaboratively with EVT delivery sites to support flow and development of inpatient protocols.
Value	
Consistent best practice secondary stroke prevention care.	Continue with quality improvement initiatives developed through the completion of the provincial SPC self-assessment.

Opportunities for LHIN and Stroke Network Collaboration:

Work collaboratively with the Central East LHIN, Central East LHIN Stroke Sub-Committee, and other stakeholders to optimize organization of stroke services aligned with above priorities. Purposeful engagement with partner sites to develop and implement the stroke bundled care models considering local and cross-regional factors.

Ontario Stroke Report Card, 2017/18:
South East Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	58.7% (62.0%)	57.8 - 59.3%	65.9%	Western Champlain sub-region	1, 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 - 1.8	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	12.2 (11.1)	9.5 - 28.1	-	-	11
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.	71.0% (67.8%)	62.5 - 86.7%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	83.3% (85.3%)	33.3 - 92.6%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ●	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	31.5 (42.0)	24.0 - 65.0	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	14.4% (15.1%)	9.8 - 21.8%	17.7%	London Middlesex sub-region	11, 4
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%	80.5% (76.7%)	74.8 - 88.8%	81.8%	Quinte sub-region	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	79.1% (74.7%)	0.0 - 100.0%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	33.0 (32.1)	0.0 - 72.8%	8.2%	Bluewater Health, Sarnia	3
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	30.2% (27.9%)	14.5 - 36.0%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	75.9% (80.0%)	73.9 - 84.1%	*	*	14, 3
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	11.0 (11.0)	4.0 - 15.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	74.9 (71.5)	72.4 - 80.0	107.6	West Park Healthcare Centre	None
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	50.7% (51.3%)	40.0 - 62.4%	86.6%	Providence Healthcare	12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (0.9)	0.8 - 1.6	1.6	Providence Healthcare	3, 12
17 ●	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	15.3 (12.9)	-	13.1	South East Home and Community Care	10, 3
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	35.7% (45.7%)	20.0 - 40.9%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	3.9% (6.4%)	1.0 - 6.5%	1.9%	Guelph-Puslinch sub-region	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	6.6 (5.1)	5.2 - 11.0	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
South East Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	58.7% (61.0%)	57.8% (57.3%)	59.3% (63.6%)	District of Thunder Bay sub-region	5,11
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 (1.4)	1.8 (1.7)	Cochrane sub-region	4
3§ ■	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	12.0 (12.8)	8.8 (0.0)	22.5 (36.8)	-	12
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.	71.0% (67.7%)	62.5% (57.1%)	86.7% (100.0%)	Elgin sub-region	7, 5
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	83.3% (80.6%)	33.3% (11.1%)	92.6% (85.6%)	Georgian Bay General	14 ,9
6 ●	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	31.5 (51.0)	24.0 (42.0)	65.0 (60.0)	Windsor Regional Hospital -Ouellette	10, 9
7§ ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	14.4% (13.7%)	9.8% (7.6%)	21.8% (19.6%)	Chatham City Centre sub-region	1, 13
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%	80.5% (72.4%)	74.8% (53.3%)	88.8% (78.5%)	Windsor sub-region	2, 14
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	79.1% (70.8%)	0.0% (4.2%)	100.0% (94.2%)	North Bay Regional Health Centre	14, 10
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	33.0% (26.0%)	0.0% (0.0%)	72.8% (42.6%)	Windsor Regional Hosp-Ouellette	1
11§ ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	30.2% (28.2%)	14.5% (19.4%)	36.0% (36.0%)	Essex South Shore sub-region	None
12§ ▲	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	75.9% (77.7%)	73.9% (63.6%)	84.1% (83.3%)	St. Joseph's Hamilton	9, 11
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	11.0 (9.0)	4.0 (5.0)	15.0 (13.0)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	74.9 (-)	72.4 (60.7)	80.0 (84.4)	-	-
15§ ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	50.7% (47.2%)	40.0% (45.6%)	62.4% (48.1%)	St. Joseph of Hotel Dieu	12, 5
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (0.8)	0.8 (0.7)	1.6 (0.9)	Brant Community Healthcare System	5, 7, 13, 4*
17 ■	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	15.3 (13.4)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	35.7% (44.5%)	20.0% (18.5%)	40.9% (53.5%)	Southlake Regional Health Centre	11, 8
19§ ●	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	3.9% (5.9%)	1.0% (3.0%)	6.5% (7.7%)	District of Rainy River sub-region	10
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	6.5 (6.2)	5.1 (0.0)	10.5 (13.4)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

Stroke Network of Southeastern Ontario

Interpretation of LHIN Stroke Report Card - South East 2017/18

RD Contact Information Cally Martin, Regional Director, Stroke Network of Southeastern Ontario,
Kingston Health Sciences Centre; cally.martin@kingstonhsc.ca; 613-549-6666 ext 3562

Performance Overview

Exemplary performance in thrombolysis rate; door-to-needle time; acute stroke unit utilization and community based rehab. Lowest readmission rates. Persisting ALC concerns; variable flow into and through inpatient rehab.

Areas of Progress:

Stroke Prevention	Lowest readmit rate of all LHINs & greatest change in TIA referral to SPCs
Acute Stroke Management	Growth in access to EVT, timely thrombolysis & Acute Stroke Unit Care
Stroke Rehabilitation	Refresh of Community Stroke Rehab Program to support best practices
Community Reintegration	Low % discharged to LTC/CCC; increased access to Stroke Support Groups

Areas for Improvement:	Associated Current or Planned Activities:
Access	
SE access to inpatient rehab is 30.2% (ON 33%); stroke onset to rehab varies from 4 to 15 days vs 5-7 day QBP target; 33% of acute LOS is designated ALC.	QHC offers learning for bundle holders. Kingston hospitals will benefit from funding collaboration for new approaches to medical support, streamlined referral processes and growth in outpatient rehab.
Effectiveness	
Barriers persist in flow through rehab. RPG LOS targets are attained in 50.7% of patients (ON 67.3%). ALC rates within rehab contribute to these barriers.	Rehabilitation capacity must be maximized through bundled funding. This includes augmenting the Community Stroke Rehab Program with robust outpatient rehab programs that will contribute to flow.
Access	
Access to thrombolysis in Brockville is needed to build a robust system of hyperacute care. Acute Stroke Unit utilization rates need to be sustained.	Access to 24/7 CTA is required to implement telestroke in Brockville. KHSC continues to build regional access to EVT. Acute Stroke Unit utilization rates and expertise must be sustained in Belleville, Kingston & Brockville.
Integration	
While readmission rates are low, stroke admission rates continue to grow annually with current stroke rate of 1.6 per 1000 (range 1.4 to 1.8); ON rate 1.3.	Stroke Prevention Clinics are working with primary care to support stroke prevention and to explore reasons for low use of anticoagulants for atrial fibrillation.

Opportunities for LHIN and Stroke Network Collaboration:

1. Bundled funding requires a collaborative plan to build rehab capacity and to handle growth across the LHIN.
2. Support capacity plans for telestroke thrombolysis in Brockville; continue to build regional access to EVT.
3. Continue to focus on prevention and community supports to lower stroke incidence & sustain low readmit rates.

Ontario Stroke Report Card, 2017/18:
Champlain Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	63.6% (62.6%)	57.6 - 70.2%	65.9%	Western Champlain sub-region	1, 11
2 ●	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.2 (1.1)	1.0 - 1.7	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	9.9 (11.1)	0.0 - 26.7	-	-	11
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.	78.2% (73.2%)	60.9 - 90.9%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	85.2% (83.6%)	25.0 - 97.3%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	36.0 (35.5)	32.0 - 91.5	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	15.6% (15.6%)	11.0 - 17.6%	17.7%	London Middlesex sub-region	11, 4
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%	30.6% (15.5%)	12.2 - 64.8%	81.8%	Quinte sub-region	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	81.5% (85.9%)	12.5 - 96.6%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	34.7 (31.0)	0.0 - 52.5%	8.2%	Bluewater Health, Sarnia	3
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	31.5% (32.1%)	29.1 - 32.5%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	85.3% (79.6%)	53.6 - 90.3%	*	*	14, 3
13§ ▲	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	11.0 (13.0)	5.0 - 14.5	5.0	Quinte Health Care – Belleville General Site	None
14§ ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	59.2 (58.3)	35.8 - 99.9	107.6	West Park Healthcare Centre	None
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	65.1% (57.0%)	50.0 - 83.0%	86.6%	Providence Healthcare	12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.9 (1.0)	0.5 - 1.6	1.6	Providence Healthcare	3, 12
17 ■	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	8.5 (6.3)	-	13.1	South East Home and Community Care	10, 3
18§ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	46.7% (44.3%)	12.5 - 56.6%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.5% (5.1%)	3.4 - 13.4%	1.9%	Guelph-Puslinch sub-region	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	8.2 (7.7)	0.0 - 15.7	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
Champlain Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ●	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	63.6% (60.7%)	57.6% (54.9%)	70.2% (63.4%)	District of Thunder Bay sub-region	5,11
2 ▲	Prevention of stroke	Annual age– and sex–adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.2 (1.1)	1.0 (0.9)	1.7 (1.8)	Cochrane sub-region	4
3§ ■	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	10.8 (11.9)	0.0 (0.0)	30.9 (15.7)	-	12
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.	78.2% (74.4%)	60.9% (67.9%)	90.9% (78.5%)	Elgin sub-region	7, 5
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	85.2% (80.6%)	25.0% (15.0%)	97.3% (84.4%)	Georgian Bay General	14 ,9
6 ●	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	36.0 (40.0)	32.0 (44.0)	91.5 (44.0)	Windsor Regional Hospital -Ouellette	10, 9
7§ ■	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	15.6% (14.1%)	11.0% (8.9%)	17.6% (14.2%)	Chatham City Centre sub-region	1, 13
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%	30.6% (8.8%)	12.2% (0.3%)	64.8% (2.0%)	Windsor sub-region	2, 14
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	81.5% (86.6%)	12.5% (0.0%)	96.6% (95.0%)	North Bay Regional Health Centre	14, 10
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	34.7% (30.2%)	0.0% (0.0%)	52.5% (47.0%)	Windsor Regional Hosp-Ouellette	1
11§ ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	31.5% (31.2%)	29.1% (25.5%)	32.5% (38.0%)	Essex South Shore sub-region	None
12§ ●	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	85.3% (78.5%)	53.6% (27.3%)	90.3% (91.7%)	St. Joseph's Hamilton	9, 11
13§ ●	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	11.0 (13.0)	5.0 (5.0)	14.5 (23.0)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	59.2 (-)	35.8 (36.8)	99.9 (91.5)	-	-
15§ ■	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	65.1% (62.6%)	50.0% (27.5%)	83.0% (86.0%)	St. Joseph of Hotel Dieu	12, 5
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.9 (0.9)	0.5 (0.0)	1.6 (1.1)	Brant Community Healthcare System	5, 7, 13, 4*
17 ●	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	8.5 (6.4)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ●	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	46.7% (38.6%)	12.5% (4.0%)	56.6% (51.7%)	Southlake Regional Health Centre	11, 8
19§ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.5% (6.0%)	3.4% (2.6%)	13.4% (10.8%)	District of Rainy River sub-region	10
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	7.2 (6.6)	0.0 (0.0)	15.1 (18.4)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

Champlain Regional Stroke Network

Interpretation of LHIN Stroke Report Card - Champlain 2017/18

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

Performance Overview

Improvement on 12/20 indicators and 6/7 stroke rehab indicators progressing favorably. Consolidation of stroke care across the region is warranted. Sustain efforts to support timely access to rehab and stroke best practices.

Areas of Progress:

Stroke Rehabilitation	Greatest improvement from stroke onset to admission to inpatient rehab
Acute Stroke Management	15% increase in patients receiving care on a stroke unit
Stroke Prevention	Lowest 30-day stroke mortality rate across LHINs
Stroke Rehabilitation	5.7% increase in mild disability strokes being discharged home

Areas for Improvement:	Associated Current or Planned Activities:
Effectiveness	
Champlain below benchmark on patients discharged from ED and referred to stroke prevention clinics.	Reviewing ED-TIA algorithms region-wide. Targeted staff education to referring sites underway.
Effectiveness	
Rehab intensity (RI) should be 180/mins/day, 6 days/week. Median RI in Champlain is 59.2 mins.	Regional sub-acute capacity planning resulted in sites having to provide a minimum of 90 minutes of Rehab intensity 5 days per 7-day period for 2018/2019.
Access	
44% of patients in Champlain are not receiving inpatient stroke care on a designated stroke unit.	Regional meetings underway to discuss consolidation of acute stroke care. Regional sub-acute capacity plan to develop a District Stroke Centre in Eastern Counties under review.
Value	
ALC days continue to increase and are well above benchmark.	Regional investments into community stroke rehab. Addition of 5 inpatient stroke rehab beds in greater Ottawa. Door to transfer quality improvement initiatives.

Opportunities for LHIN and Stroke Network Collaboration:

Champlain LHIN and Champlain Regional Stroke Network (CRSN) continued collaboration on all three phases of the sub-acute capacity planning recommendations put fourth by the stroke working group. CRSN supporting LHIN integration decision orders for stroke sites.

Ontario Stroke Report Card, 2017/18:
North Simcoe Muskoka Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	55.5% (56.5%)	39.7 - 59.8%	65.9%	Western Champlain sub-region	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)	1.4 - 1.7	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.4 (15.7)	8.6 - 23.3	-	-	11
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.	81.7% (78.4%)	71.4 - 92.9%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	83.6% (76.6%)	53.7 - 100.0%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ■	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	47.5 (53.0)	46.0 - 83.0	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.6% (8.7%)	5.7 - 14.9%	17.7%	London Middlesex sub-region	11, 4
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%	36.4% (27.1%)	3.5 - 64.4%	81.8%	Quinte sub-region	3, 10
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	58.2% (54.4%)	0.0 - 85.1%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	38.2 (28.3)	31.4 - 42.2%	8.2%	Bluewater Health, Sarnia	3
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	23.9% (28.9%)	15.3 - 33.7%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	84.3% (82.6%)	78.9 - 94.4%	*	*	14, 3
13§ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (8.0)	6.0 - 12.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	43.5 (46.6)	24.7 - 58.7	107.6	West Park Healthcare Centre	None
15§ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	89.1% (76.7%)	84.7 - 100.0%	86.6%	Providence Healthcare	12
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.6 (1.6)	1.3 - 3.6	1.6	Providence Healthcare	3, 12
17 ■	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	9.5 (8.1)	-	13.1	South East Home and Community Care	10, 3
18§ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	45.3% (44.7%)	40.7 - 50.0%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	3.5% (2.9%)	0.8 - 6.6%	1.9%	Guelph-Puslinch sub-region	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 (6.6)	7.0 - 10.0	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
North Simcoe Muskoka Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	55.5% (56.2%)	39.7% (51.3%)	59.8% (59.0%)	District of Thunder Bay sub-region	5,11
2 ▲	Prevention of stroke	Annual age– and sex–adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.5)	1.4 (1.3)	1.7 (2.0)	Cochrane sub-region	4
3§ ●	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	9.4 (12.0)	7.1 (9.5)	22.4 (20.7)	-	12
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.	81.7% (76.3%)	71.4% (68.4%)	92.9% (85.7%)	Elgin sub-region	7, 5
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	83.6% (73.6%)	53.7% (18.8%)	100.0% (97.1%)	Georgian Bay General	14 ,9
6 ■	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	47.5 (52.5)	46.0 (62.5)	83.0 (136.5)	Windsor Regional Hospital -Ouellette	10, 9
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.6% (10.6%)	5.7% (3.5%)	14.9% (12.2%)	Chatham City Centre sub-region	1, 13
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%	36.4% (12.7%)	3.5% (3.5%)	64.4% (10.2%)	Windsor sub-region	2, 14
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	58.2% (52.8%)	0.0% (0.0%)	85.1% (80.2%)	North Bay Regional Health Centre	14, 10
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	38.2% (29.3%)	31.4% (25.2%)	42.2% (45.0%)	Windsor Regional Hosp-Ouellette	1
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	23.9% (25.1%)	15.3% (22.3%)	33.7% (29.1%)	Essex South Shore sub-region	None
12§ ■	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	84.3% (82.5%)	78.9% (87.5%)	94.4% (87.5%)	St. Joseph's Hamilton	9, 11
13§ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (9.0)	6.0 (7.0)	12.0 (20.0)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	43.5 (-)	24.7 (28.3)	58.7 (54.3)	-	-
15§ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	89.1% (63.8%)	84.7% (25.0%)	100.0% (84.6%)	St. Joseph of Hotel Dieu	12, 5
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.6 (1.6)	1.3 (0.5)	3.6 (2.0)	Brant Community Healthcare System	5, 7, 13, 4*
17 ●	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	9.5 (8.5)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ■	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	45.3% (42.5%)	40.7% (29.7%)	50.0% (48.1%)	Southlake Regional Health Centre	11, 8
19§ ■	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	3.5% (3.7%)	0.8% (2.8%)	6.6% (9.9%)	District of Rainy River sub-region	10
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	8.2 (8.0)	8.1 (8.3)	11.7 (12.3)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

Central East Stroke Network

Interpretation of LHIN Stroke Report Card - North Simcoe Muskoka 2017/18

RD Contact Information Cheryl Moher, Regional Director, Central East Stroke Network moherc@rvh.on.ca; (705) 728-9090, ext. 46300

Performance Overview

Significant progress on 5 indicators; no noted improvement on 7. Compared to other LHINs, exemplary performance on 3 indicators and poor on 8. Variation within the LHIN remains an issue for all indicators.

Areas of Progress:

Stroke Prevention	Significant improvement in carotid imaging (#5); this indicator remains variable within the LHIN. Top performing LHIN proportion of patients >65 filling their anticoagulant prescription - (#4)
Acute Stroke Management	Proportion of stroke patients treated on a stroke unit increased; related to two sites meeting stroke unit definition, continued planning is required to ensure equitable access to stroke unit care across the NSM LHIN (#8).
Stroke Rehabilitation	Significant increase in achieving RPG LOS targets (#15) and top performing LHIN in FIM efficiency (#16) however variation noted with some caution in interpretation required
Community Reintegration	Significant improvement in the number of Home and Community Care rehab visits (#17)

Areas for Improvement:	Associated Current or Planned Activities:
Appropriateness	
Equitable access to stroke unit care to improve patient outcomes and quality care (acute and rehab).	Further development and advancement of stroke unit best practices in alignment with stroke bundled care planning. Continue with quality improvement plan to ensure access to high intensity stroke rehab for all NSM LHIN residents.
Integration	
Equitable access to high quality community-based stroke rehabilitation.	Coordinated LHIN wide system planning for bundled care initiatives, early-supported discharge, and designated community stroke teams.
Effectiveness	
Optimal systems in place to enhance access to EVT and seamless transitions.	Enhance processes at EVT referring sites and implement LHIN-wide walk-in-protocols. Work collaboratively with EVT delivery sites to support flow and development of inpatient protocols.
Value	
Coordinated and timely access, consistent best practice secondary stroke prevention care.	Continue with quality improvement initiatives developed through the completion of the provincial SPC self-assessment. (e. g. refine referral, assessment, and education processes).

Opportunities for LHIN and Stroke Network Collaboration:

Work collaboratively with the North Simcoe Muskoka Stroke Committee and Integrated Vascular Steering Committee to optimize organization of stroke services aligned with above priorities. Purposeful engagement with partner sites to develop and implement the stroke bundled care model considering local and LHIN wide factors.

Ontario Stroke Report Card, 2017/18:
North East Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] ☐ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	57.3% (56.4%)	46.3 - 60.4%	65.9%	Western Champlain sub-region	1, 11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.6 (1.6)	1.5 - 2.9	1.1	Oakville sub-region	7, 8, 6
3§ ☐	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	13.1 (12.5)	0.0 - 74.2	-	-	11
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.	74.3% (67.3%)	66.7 - 77.3%	85.6%	East Mississauga sub-region	5, 12
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	83.5% (82.3%)	50.0 - 92.1%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ▲	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	60.0 (61.5)	52.0 - 108.5	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	14.0% (11.3%)	0.0 - 16.3%	17.7%	London Middlesex sub-region	11, 4
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%	35.0% (10.5%)	5.3 - 45.1%	81.8%	Quinte sub-region	3, 10
9 ▲	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	57.1% (58.8%)	0.0 - 85.5%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	31.8 (31.0)	0.0 - 50.5%	8.2%	Bluewater Health, Sarnia	3
11§ ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	39.7% (37.5%)	25.0 - 46.3%	47.8%	Lambton sub-region	1
12§ ☐	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	55.2% (62.0%)	43.0 - 77.3%	*	*	14, 3
13§ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (8.0)	0.0 - 9.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ▲	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	62.9 (73.7)	44.0 - 93.0	107.6	West Park Healthcare Centre	None
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	54.4% (46.5%)	43.9 - 68.8%	86.6%	Providence Healthcare	12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (0.9)	1.0 - 1.5	1.6	Providence Healthcare	3, 12
17 ■	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	9.7 (10.3)	-	13.1	South East Home and Community Care	10, 3
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	27.9% (30.8%)	14.9 - 50.0%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.4% (3.8%)	2.8 - 10.0%	1.9%	Guelph-Puslinch sub-region	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	8.0 (7.7)	0.0 - 22.0	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
North East Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	57.3% (56.9%)	46.3% (45.8%)	60.4% (66.7%)	District of Thunder Bay sub-region	5,11
2 ■	Prevention of stroke	Annual age– and sex–adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.6 (1.7)	1.5 (1.4)	2.9 (3.9)	Cochrane sub-region	4
3§ ■	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	10.9 (11.9)	0.0 (0.0)	65.1 (77.8)	-	12
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.	74.3% (67.9%)	66.7% (66.7%)	77.3% (77.8%)	Elgin sub-region	7, 5
5 ■	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	83.5% (80.3%)	50.0% (16.7%)	92.1% (87.3%)	Georgian Bay General	14 ,9
6 ■	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	60.0 (70.0)	52.0 (70.0)	108.5 (70.0)	Windsor Regional Hospital -Ouellette	10, 9
7§ ●	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	14.0% (11.2%)	0.0% (0.0%)	16.3% (13.5%)	Chatham City Centre sub-region	1, 13
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%	35.0% (5.1%)	5.3% (0.6%)	45.1% (22.2%)	Windsor sub-region	2, 14
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	57.1% (54.3%)	0.0% (0.0%)	85.5% (87.2%)	North Bay Regional Health Centre	14, 10
10§ ■	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	31.8% (33.7%)	0.0% (0.0%)	50.5% (65.2%)	Windsor Regional Hosp-Ouellette	1
11§ ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	39.7% (38.0%)	25.0% (26.2%)	46.3% (47.3%)	Essex South Shore sub-region	None
12§ ▲	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	55.2% (66.0%)	43.0% (35.7%)	77.3% (85.7%)	St. Joseph's Hamilton	9, 11
13§ ●	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (9.0)	0.0 (6.0)	9.0 (14.5)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	62.9 (-)	44.0 (40.7)	93.0 (91.3)	-	-
15§ ●	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	54.4% (40.7%)	43.9% (33.1%)	68.8% (68.8%)	St. Joseph of Hotel Dieu	12, 5
16 ●	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.1 (0.8)	1.0 (0.6)	1.5 (1.3)	Brant Community Healthcare System	5, 7, 13, 4*
17 ■	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	9.7 (9.7)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	27.9% (31.6%)	14.9% (22.7%)	50.0% (59.4%)	Southlake Regional Health Centre	11, 8
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.4% (4.1%)	2.8% (0.0%)	10.0% (4.9%)	District of Rainy River sub-region	10
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	8.0 (8.5)	0.0 (0.0)	23.1 (48.2)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

Northeastern Ontario Stroke Network

Interpretation of LHIN Stroke Report Card - North East 2017/18

RD Contact Information Susan Bursey, Regional Director, Northeastern Ontario Stroke Network sbursey@hsnsudbury.ca; (705) 523-7100 ext 3138

Performance Overview

Achieved exemplary performance on 1 indicator yet poor on 12. Significant progress made on 5 indicators; no notable progress on 3 indicators in comparison to 8 in previous report. Regional variation remains an issue.

Areas of Progress:

Acute Stroke Management	Proportion of ischemic stroke patients who received tPA is progressing well, up by 2.7% from the year prior and is above the provincial average of 12.2%. NE LHIN is one of two showing greatest improvement on this indicator.
Acute Stroke Management	Access to stroke unit care has increased by 24.5% and is now 35%. Still low, however progressing well with the addition of Health Sciences North's Stroke Unit in September 2017.
Stroke Prevention	Progression occurred in the proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services. The North Bay Regional Health Centre demonstrated the largest improvement provincially at an organizational level.
Stroke Rehabilitation	Continuing to progress well with respect to the median FIM efficiency, increased by 0.2 from the previous year. It tied with two other LHINs for the greatest change over a 4 year interval.

Areas for Improvement:	Associated Current or Planned Activities:
Effectiveness	
Median DTN time. Four centres range from 52 to 55 minutes however one facility sits at 108.5 minutes which is the highest in the province.	Centre with poorest performance has recently rolled out an extensive QI project to reduce delays. Other centres continue to be active in QI initiatives. DTN times are imperative to improving access to EVT in the region.
Access	
Stroke unit access remains red, sitting well below the provincial benchmark at 35%. One DSC in the region has yet to implement a stroke unit.	System change is essential to improve access. Gains will only be realized once acute stroke care in the North East is consolidated from 25 sites to 4 and the Sault Area Hospital meets the Stroke Unit definition.
Appropriateness	
Severe stroke pts admitted to inpatient rehab and acute stroke pts with mild disability discharged home, NE LHIN performed the lowest in the province.	Planned regional reviews of the following: severe stroke pathways; the use of CCC beds; incorporation of the Rehab Care Alliance Bedded definitions and examine the severity levels in acute care and link to discharge dispositions.
Access	
Rehab intensity has declined by 10.8 minutes from year prior. 3.8 minutes below the provincial rate. Varies by 49 minutes across the facilities.	Continue QI initiatives with inpatient rehab programs to increase therapy provided to patients. Focus efforts on those facilities that have a significant mismatch in their staffing levels to amount of therapy provided.

Opportunities for LHIN and Stroke Network Collaboration:

With the onset of bundled funding it is imperative to act in partnership with NE LHIN to consolidate acute care and enhance community-based services. Groundwork has been laid through previously submitted reports/proposals to facilitate the needed system change. To achieve this NEOSN looks for LHIN-led action, direction and investments.

Ontario Stroke Report Card, 2017/18:
North West Local Health Integration Network

● Exemplary performance[1] ■ Acceptable performance[2] ▲ Poor performance[3] □ Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (2016/17)	Variance Within LHIN[5] (Min–Max)	Provincial Benchmark[6]	High Performers[7]	
						Sub-region/Facility	LHIN
1 ▲	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	54.9% (52.9%)	34.4 - 78.4%	65.9%	Western Champlain sub-region	1, 11
2 ▲	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.9 (1.9)	1.6 - 2.2	1.1	Oakville sub-region	7, 8, 6
3§ □	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	17.1 (16.1)	10.1 - 26.5	-	-	11
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.	68.2% (73.6%)	64.3 - 64.3%	85.6%	East Mississauga sub-region	5, 12
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	92.4% (80.5%)	50.0 - 100.0%	93.0%	Thunder Bay Regional Health Sciences Centre	14, 3
6 ▲	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	56.0 (52.0)	48.0 - 48.0	33.0	Kingston Health Sciences Centre – Kingston General Site	10
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.9% (13.4%)	0.0 - 15.9%	17.7%	London Middlesex sub-region	11, 4
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%	66.5% (68.8%)	24.7 - 81.7%	81.8%	Quinte sub-region	3, 10
9 ■	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	79.6% (64.0%)	89.6 - 89.6%	95.1%	Hamilton Health Sciences Corp - Juravinski	None
10§ ▲	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	26.4 (23.2)	0.0 - 53.0%	8.2%	Bluewater Health, Sarnia	3
11§ ■	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	37.8% (34.9%)	26.7 - 44.4%	47.8%	Lambton sub-region	1
12§ □	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	93.0% (92.2%)	93.0 - 93.0%	*	*	14, 3
13§ ■	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (9.0)	7.0 - 7.0	5.0	Quinte Health Care – Belleville General Site	None
14§ ■	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	68.7 (65.0)	68.8 - 68.8	107.6	West Park Healthcare Centre	None
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	46.2% (39.8%)	45.1 - 45.1%	86.6%	Providence Healthcare	12
16 ▲	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.9 (0.8)	0.9 - 0.9	1.6	Providence Healthcare	3, 12
17 ▲	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	5.4 (5.2)	-	13.1	South East Home and Community Care	10, 3
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	32.7% (43.4%)	31.4 - 31.4%	56.2%	Grand River Hospital Corp-Freeport Site	None
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	6.9% (5.1%)	0.0 - 9.8%	1.9%	Guelph-Puslinch sub-region	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	7.0 (10.8)	0.0 - 20.7	-	-	10

*Benchmark has not been specified for this indicator.

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-regions or facilities with fewer than six patients.
[6] Top benchmark achieved between 2015/16 and 2017/18. Benchmarks were calculated using the ABC methodology (Weissman et al. J Eval Clin Pract 1999; 5(3):269–81) on sub-region or facility data.
[7] Sub-region/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-regions 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, 35 in 2016/17, and 39 in 2017/18

CorHealth Ontario

Stroke Progress Report, 2017/18 compared to 2014/15-2016/17:
North West Local Health Integration Network

● Progressing Well[1] ■ Progressing[2] ▲ Not Progressing[3] ☐ Data not available

Indicator No.	Care Continuum Category	Indicator[4]	LHIN FY 2017/18 (Previous 3–Year Average)	Variance Within LHIN[5] 2017/18 (2014/15)		Greatest Improvement[6]	
				Min	Max	Sub–region/Facility	LHIN
1 ■	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	54.9% (49.8%)	34.4% (23.1%)	78.4% (72.7%)	District of Thunder Bay sub-region	5,11
2 ▲	Prevention of stroke	Annual age– and sex–adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.9 (1.8)	1.6 (1.6)	2.2 (2.8)	Cochrane sub-region	4
3§ ▲	Prevention of stroke	Risk–adjusted[7] stroke/TIA mortality rate at 30 days (per 100 patients).	12.4 (11.3)	9.5 (0.0)	20.6 (33.5)	-	12
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.	68.2% (71.2%)	64.3% (62.5%)	64.3% (71.4%)	Elgin sub-region	7, 5
5 ●	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	92.4% (78.0%)	50.0% (33.3%)	100.0% (86.6%)	Georgian Bay General	14 ,9
6 ■	Acute stroke management	Median door–to–needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target[8]: 30 minutes	56.0 (63.5)	48.0 (-)	48.0 (-)	Windsor Regional Hospital -Ouellette	10, 9
7§ ▲	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target[8]: >12%	10.9% (12.5%)	0.0% (0.0%)	15.9% (17.0%)	Chatham City Centre sub-region	1, 13
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%	66.5% (47.9%)	24.7% (0.0%)	81.7% (4.0%)	Windsor sub-region	2, 14
9 ●	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	79.6% (68.5%)	89.6% (0.0%)	89.6% (68.5%)	North Bay Regional Health Centre	14, 10
10§ ■	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	26.4% (27.4%)	0.0% (0.0%)	53.0% (46.1%)	Windsor Regional Hosp-Ouellette	1
11§ ▲	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target[8]: >30%	37.8% (38.4%)	26.7% (18.5%)	44.4% (44.4%)	Essex South Shore sub-region	None
12§ ■	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	93.0% (88.1%)	93.0% (-)	93.0% (-)	St. Joseph's Hamilton	9, 11
13§ ●	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	7.0 (9.0)	7.0 (10.0)	7.0 (10.0)	Bruyere Continuing Care	11, 14
14§ ☐	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target[8]: 180 minutes/day	68.7 (-)	68.8 (55.7)	68.8 (55.7)	-	-
15§ ▲	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	46.2% (48.7%)	45.1% (47.1%)	45.1% (47.1%)	St. Joseph of Hotel Dieu	12, 5
16 ■	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.9 (0.8)	0.9 (0.8)	0.9 (0.8)	Brant Community Healthcare System	5, 7, 13, 4*
17 ▲	Stroke rehabilitation	Mean number of home and community care rehab visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2016/17–2017/18.	5.4 (5.6)	-	-	Waterloo Wellington Home and Community Care	11, 5
18§ ▲	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	32.7% (42.7%)	31.4% (40.3%)	31.4% (40.3%)	Southlake Regional Health Centre	11, 8
19§ ▲	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	6.9% (6.4%)	0.0% (0.0%)	9.8% (11.8%)	District of Rainy River sub-region	10
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	5.1 (6.6)	0.0 (3.1)	16.0 (18.5)	-	None

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-regions or facilities with fewer than six patients.
[6] Sub-region/Facility: Greatest improvement from 2014/15 among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 62 stroke patients per year, or sub-regions with at least 30 stroke patients per year. LHIN: Top two with greatest statistically significant improvement from 2014/15.
[7] The 2014/15-2017/18 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, and 39 in 2017/18

CorHealth Ontario

Northwestern Ontario Regional Stroke Network

Interpretation of LHIN Stroke Report Card - North West 2017/18

RD Contact Information Meaghan Sharp, Director, Cardiovascular and Stroke Program Thunder Bay Regional Health Sciences Centre, 807-684-6796, sharpme@tbh.net

Performance Overview

Where comparative data exist, 10/19 indicators have progressed. Provincially, North West is the highest performing LHIN for patients receiving carotid imaging, and in discharging patients with mild disability from acute care to home

Areas of Progress:

Stroke Prevention	#9 - Proportion of patients referred to Stroke Prevention clinic from ED
Public Awareness & Patient Education	#1 - Proportion of patients arriving at ED by ambulance
Stroke Rehabilitation	#13 - Days between stroke onset and admission to inpatient rehabilitation
Community Reintegration	#12 - Proportion of acute patients with mild disability discharged to home

Areas for Improvement:	Associated Current or Planned Activities:
Effectiveness	
#6 - Median door-to-needle time among patients who received acute thrombolytic therapy (tPA)	Working towards a Pre-alert for Acute on call physicians and engaging successful networks to learn their strategies. Medical staff engaged to reduce DNT at RSC. Telestroke Advisory Group discussing enhancements to Code Stroke. Continued focus on EMS service partnerships and public awareness across our region.
Access	
#7 - Proportion of ischemic stroke patients who received acute thrombolytic therapy	RSC updating Code Stroke policy in 2019. Telestroke Advisory Group evaluating transport times and exploring air bypasses for remote sites. NW Ontario representation on Provincial Transportation Group for EVT work will support potential increased access to tPA. Exploring ORNGE pre-alerts to reduce transportation times.
Effectiveness	
#15 - Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target	1. Process changes have been implemented with weekly reviews of all clients requiring extension to LOS beyond target and quarterly reviews for those exceeding LOS by 10 days or more. 2. Exploration of enhanced capacity in the outpatient/community-based rehabilitation sector across the LHIN and opportunities to support seamless transitions between sectors.
Effectiveness	
#1 - Proportion of stroke/TIA patients who arrived at the ED by ambulance	Strong collaborative partnership with EMS system including participation on regional committees with EMS professionals and system leaders. Education to the public on the Heart & Stroke's FAST campaign and benefits to calling 911 in our region. Completed FAST decals on all ambulances in region.

Opportunities for LHIN and Stroke Network Collaboration:

1. Exploration of Rehabilitation Models supporting seamless patient transitions across hospital and community sectors, including a Health Human Resources Recruitment and Retention strategy for Allied Health Professionals.
2. Enhancement of regional patient transfers via Telestroke processes in partnership with key stakeholders.

References

(1) Boulanger, J., Lindsay, M., Gubitz, G., Smith, E., Stotts, G., Foley, N., ... Butcher, K. (2018). Canadian Stroke Best Practice Recommendations for Acute Stroke Management: Prehospital, Emergency Department, and Acute Inpatient Stroke Care, 6th Edition, Update 2018. International Journal of Stroke, 13(9), 949–984. https://doi.org/10.1177/1747493018786616

(2) Heart & Stroke Foundation. Canadian Stroke Best Practices Stroke Quality Advisory Committee. Quality of Stroke Care in Canada. Update 2016 Final (R12). Accessed April 15, 2019 at https://www.strokebestpractices.ca/-/media/1-stroke-best-practices/quality/english/2016strokekeyindicators.ashx

(3) Hoffmeister L, Lavados PM, Mar J, Comas M, Arrospide A, Castells X. Minimum intravenous thrombolysis utilization rates in acute ischemic stroke to achieve population effects on disability: A discrete-event simulation model. *J Neurol Sci* 2016;365:59-64.

(4) Health Quality Ontario, Ministry of Health and Long-Term Care. *Quality-Based Procedures: Clinical Handbook for Stroke (Acute and Postacute)*. Toronto, ON:HQO; December 2016. Accessed April 15, 2019 at http://health.gov.on.ca/en/pro/programs/ecfa/docs/qbp_stroke.pdf

(5) CSS Information & Evaluation Working Group. Canadian Stroke Strategy Performance Measurement Manual A Supplement to the Canadian Stroke Strategy Best Practices Recommendations for Stroke Care (Update 2008). Accessed April 15, 2019 at http://www.canadianstrokenetwork.ca/en/wp-content/uploads/2014/08/CSS-Performance-Manual-2008_EN.pdf.

(6) Weissman NW, Allison JJ, Kiefe CI, Farmer RM, Weaver MT, Williams OD et al. Achievable benchmarks of care: the ABCs of benchmarking. *J Eval Clin Pract* 1999;5:269-81.

(7) Katzan IL, Spertus J, Bettger JP, Bravata DM, Reeves MJ, Smith EE et al. Risk adjustment of ischemic stroke outcomes for comparing hospital performance: a statement for healthcare professionals from the American Heart ssociation/American Stroke Association. *Stroke* 2014;45:918-44.

(8) Hall R, Khan F, O'Callaghan C, Kapral MK, Levi J, Cullen A et al. Ontario Stroke Evaluation Report 2014: On Target for Stroke Prevention and Care. Toronto, ON: Institute for Clinical Evaluative Sciences; 2014.

(9) Berkhemer OA, Fransen PS, Beumer D, van den Berg LA, Lingsma HF, Yoo AJ et al. A randomized trial of intraarterial treatment for acute ischemic stroke. *N Engl J Med* 2015;372:11-20.

(10) Goyal M, Demchuk AM, Menon BK, Eesa M, Rempel JL, Thornton J et al. Randomized assessment of rapid endovascular treatment of ischemic stroke. *N Engl J Med* 2015;372:1019-30.

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, 2017 and March 31, 2018 (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 anticoagulant therapy	**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 patients (excluding query diagnoses) aged 65 years or	CIHI-DAD and ODB

		within 90 days of discharge from acute care.	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[2]	**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 an inpatient 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%[3]	**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%[2]	**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%[2]	**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. Target: 180 minutes/day[4]	*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 admissionclass_code='4' (Un)planned discharge without assessment; records with rehab time of '', '.', '999', '9999', '99999') **Q3 and Q4 for 2016/17	
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 home and community 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 2016/17 and 2017/18) **Denominator:** All stroke patients who received a home and community care rehabilitation visit within 60 days of discharge from inpatient care (CIHI-DAD 2016/17) or inpatient rehabilitation (CIHI-NRS 2017/18)	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[2]	**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, 2017 and March 31, 2018 (CIHI-DAD/NACRS) (excludes transfers and elective admissions)	CIHI-DAD, CIHI-NACRS

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

Indicator		High-Performing Facility/Sub-region	Contact Information
1	Proportion of stroke/TIA patients who arrived at the emergency department by ambulance	Western Champlain sub-region	Lisa McDonnell Regional Director Champlain Regional Stroke Network limcdonnell@toh.ca 613-798-5555 ext. 16167
2	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population)	Oakville sub-region	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.	East Mississauga sub-region	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	Thunder Bay Regional Health Sciences Centre	Meaghan Sharp Director, Cardiovascular and Stroke Program Thunder Bay Regional Health Sciences Centre sharpme@tbh.net 807-684-6796

6	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes). Target: 30 minutes[2]	Kingston General Hospital	Cally Martin Regional Director Stroke Network of Southeastern Ontario Kingston Health Sciences Centre Cally.martin@kingstonhsc.ca 613-549-6666 ext. 3562
7	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA). Target: >12%[3]	London Middlesex sub-region	Eleanor Marris Rogers Regional Acute Care Coordinator London Health Sciences Centre Eleanor.marrisrogers@lhsc.on.ca 519-685-8500 ext. 35268
8	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay. Target: >75%[2]	Quinte sub-region	Derk Damron Manager, Quinte Health Care ddamron@qhc.on.ca 613-848-7962
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	Alison Coy Manager of the District Stroke and Vascular Program Bluewater Health acoy@bluewaterhealth.ca

			519-464-4400 ext. 4465
11	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation. Target: >30%[2]	Lambton sub-region	Alison Coy Manager of the District Stroke and Vascular Program Bluewater Health acoy@bluewaterhealth.ca 519-464-4400 ext. 4465
13	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation	Quinte Healthcare Corporation, Bellville	Derk Damron Manager, Quinte Health Care ddamron@qhc.on.ca 613-848-7962
14	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients. Target: 180 minutes/day[4]	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, South East Toronto Stroke Network cheungd@smh.ca 416-864-6060 ext. 3832

16	Median FIM[1] efficiency for moderate stroke in inpatient rehabilitation	Providence Healthcare	Donna Cheung Rehabilitation and Community re-engagement, South East Toronto Stroke Network cheungd@smh.ca 416-864-6060 ext. 3832
17	Mean number of home and community care visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2015/16–2016/17.	South East Home and Community Care	Gwen Brown Regional Stroke Community and LTC Coordinator, Stroke Network of Southeastern Ontario Kingston Health Sciences Centre Gwen.brown@kingstonhsc.ca 613-329-2190
18	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110)	Grand River Hospital Corp, Freeport Site	Tammy Tebbutt District Stroke Coordinator, Grand River Kitchener tammy.tebbutt@grhosp.on.ca 519-749-4300 ext. 2605
19	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC)	Guelph-Puslinch sub-region	Tammy Tebbutt District Stroke Coordinator, Grand River Kitchener tammy.tebbutt@grhosp.on.ca 519-749-4300 ext. 2605

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

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.
BM	Benchmark
BWH	Bluewater Health
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.
CKHA	Chatham-Kent Health Alliance
CSS	Canadian Stroke Strategy
CT	Computed tomography
CTA	Computed tomography angiography
Direct therapy	See rehabilitation intensity
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.
ESD	Early supportive discharge

Term/Acronym	Definition
E-Stroke	A web-based rehabilitation referral and patient-tracking system that provides timely, equitable 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).
FAST	A national public awareness campaign launched by Heart & Stroke to help Canadians recognize stroke symptoms by promoting the acronym FAST: **F**ace is it drooping? **A**rms can you raise both? **S**peech is it slurred or jumbled? **T**ime to call 9-1-1 right away
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
HCC	Home and Community Care

Term/Acronym	Definition
HCD-OACCAC	Home Care Database, from the Ontario Association of Community Care Access Centres.
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
KHSC	Kingston Health Sciences Centre
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
NEOSN	Northeastern Ontario Stroke Network
ODB	Ontario drug benefit claims database

Term/Acronym	Definition
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
Pts	Patients
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. *Quality-Based Procedures: Clinical Handbook for Stroke (Acute)* includes best practices for the emergency department, acute care and inpatient rehabilitation (Phase 1; April 2013). The updated *Quality-Based Procedures: Clinical Handbook for Stroke (Acute and Postacute)* also includes best practices for TIA and stroke prevention clinics, early supported discharge, outpatient and community rehabilitation and endovascular treatment (Phase 2; December 2016).
QHC	Quinte Health Care
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 (RI)	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,

Term/Acronym	Definition
	which is monitored or guided by a therapist.
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.
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.
STEGH	St. Thomas-Elgin General Hospital
Stroke	Occurs when a vessel in the brain ruptures or is blocked by a blood clot.
Stroke Distinction	Stroke Distinction – A specialized program developed by Accreditation Canada in partnership with Heart and Stroke Canada. The program follows standards based on Canadian Best Practice Recommendations. Details can be found at www.accreditation.ca/stroke-distinction
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-region	Smaller subdivisions for each of the 14 Local Health Integration Networks.
SWOSN	Southwestern Ontario Stroke Network

Term/Acronym	Definition
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.
WGTASN	West GTA Stroke Network
WOHS	William Osler Health System
WRH	Windsor Regional Hospital