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Appendix A:

Stroke Evaluation and Quality Committee (SEQC) Stroke Care Performance Indicators, 2010–2012

No.	Indicator	Exhibit No.	Report Card Indicator No.
Public Awareness and Patient Education			
1	Proportion of patients who sought medical attention within 3.5 hours[1] of stroke symptom onset	1.5	1
2	Proportion of suspected/confirmed stroke patients who arrived in ED via EMS	1.4	–
Prevention of Stroke			
3(A)	Annual emergency department admissions of stroke/TIA by stroke type (age- and sex- adjusted)	1.1–1.3	–
3(B)	Annual inpatient admission of stroke/TIA by stroke type (age- and sex- adjusted)	2.1–2.3	2
4(A)	Risk-adjusted inhospital stroke mortality rates	5.4	–
4(B)	Risk-adjusted 30-day stroke mortality rates	5.5	3
4(C)	Risk-adjusted 1-year stroke mortality rates	5.6	–
5(A)	Proportion of ischemic stroke/TIA patients who were prescribed three recommended secondary prevention medications on discharge from acute care	2.11	–
5(B)	Proportion of eligible stroke/TIA patients with atrial fibrillation who were prescribed or recommended anticoagulant therapy on discharge from acute care	2.12	4
6(A)	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge	2.9	5
6(B)	Proportion of ischemic stroke patients without atrial fibrillation who did not undergo carotid imaging in hospital and had an appointment booked before discharge for carotid imaging as an outpatient	2.9	–
Hyperacute/Acute Stroke Management			
7(A)	Proportion of stroke/TIA patients who received a brain CT/MRI within 24 hours of hospital arrival (ED)	1.6	6
7(B)	Proportion of stroke/TIA patients admitted as inpatients who received a brain CT/MRI before discharge	1.6	–
8(A)	Proportion of eligible patients who received acute thrombolytic therapy (tPA)	1.7	7
8(B)	Door-to-needle time: Median time in minutes from patient arrival in the ED to administration of acute thrombolytic agent	1.7	–
9	Number of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay	2.4	8
10	Proportion of ALC days to total length of stay in acute care (Active LOS + ALC)	2.5	10
11	Proportion of stroke patients with documentation that an initial dysphagia screening was performed during admission to acute care	2.6	9
12	Risk-adjusted inhospital complication rates for pneumonia among stroke/TIA patients	2.7	–
Stroke Rehabilitation			
13	Number of stroke patients treated on a stroke unit at any time during their inpatient rehabilitation stay	–	–
14	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC)	3.1	15
15(A)	Proportion of stroke patients discharged from acute care who received a referral for outpatient/community rehabilitation	–	12
15(B)	Proportion of stroke inpatient rehabilitation patients who received a referral for outpatient/community rehabilitation	–	–
16(A)	Length of time between stroke onset and admission to stroke inpatient rehabilitation	3.7	13
16(B)	Length of time between stroke onset and admission to first CCAC rehabilitation service	4.1	–
16(C)	Access to rehabilitation therapy: Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation	–	14

No.	Indicator	Exhibit No.	Report Card Indicator No.
Stroke Rehabilitation			
17(A)	Length of stay (days) in rehabilitation stratified by RPG (i.e., stratified by admission RPG/FIM)	3.6	–
17(B)	Mean number of rehabilitation visits provided to CCAC patients	4.2	17
17(C)	FIM efficiency for moderate stroke in inpatient rehabilitation (mean)	3.5	16
18	Inpatient rehabilitation admissions by stroke severity (RPG)	3.3	18
19	AlphaFIM assessments	2.15	–
20	Long-term care and complex continuing care patient profiles	3.8, 3.9	–
System Integration			
21	Time to carotid intervention within six months of hospitalization for stroke or transient ischemic attack	2.10	–
22(A)	Proportion of patients discharged alive from acute care to each discharge destination: 1) Home 2) Home with home care 3) Inpatient rehabilitation 4) Complex continuing care 5) Long-term care	2.8	19[2]
22(B)	Proportion of patients discharged alive from acute care and admitted to inpatient rehabilitation	3.4	11
22(C)	Proportion of patients discharged alive from inpatient rehabilitation to each discharge destination: 1) Home 2) Home with home care 3) Acute care facility 4) Complex continuing care 5) Long-term care	3.1, 3.2, 3.4, 3.7	–
23	Degree of functional ability at discharge	2.12–2.14	–
24(A)	Readmission/revisit for stroke or transient ischemic attack within 30 days following an initial stroke-related event	5.1	–
24(B)	Readmission/revisit for stroke or transient ischemic attack within 90 days following an initial stroke-related event	5.2	–
24(C)	Readmission/revisit for stroke or transient ischemic attack within one year following an initial stroke-related event	–	–
24(D)	Readmission for any cause within 30 days following an initial stroke-related event	5.3	20

[1] A window of 2.5 hours was used in the SEQC 2011 report as the tPA window was not expanded to 3.5 hours until 2009/10.

[2] The Report Card indicator excludes patients that came from long-term care and complex continuing care facilities, but the exhibit does not.

Note:

Regional and facility data for SEQC Report Card indicators 12 and 14 are not included in this report.

Appendix B:
Stroke Evaluation and Quality Committee (SEQC) Stroke Report Cards, 2010/11

The Stroke Evaluation and Quality Committee (SEQC) has provided a Stroke Report Card for Ontario and each of the 14 Local Health Integration Networks. The report cards provide a snapshot of stroke care in Ontario using a subset of 20 indicators, colour coded to performance as follows:

Green: indicates exemplary performance on the indicator, results are ≤ a 5% absolute/relative difference from the benchmark;

Yellow: indicates acceptable performance on the indicator, results are at or above the 50th percentile and are > 5% absolute/relative difference from the benchmark;

Red: indicates poor performance, with outcomes below the 50th percentile;

Grey: indicates the benchmark methodology is still in development.

Each LHIN received a copy of their report card along with a one-page interpretation of the data, as provided by the OSS Regional Director and steering committee. The interpretation page outlined areas of success within the LHIN and strategies for addressing areas of poor performance. The LHINs and Regional Directors will work collaboratively to improve stroke care at the LHIN, facility, and individual level.

Ontario Stroke Report Card, 2010/11

Indicator No.	Care Continuum Category	Indicator[1]	Ontario FY 2010/11 (2009/10)	Variance Across LHINs (Min-Max)	Provincial Benchmark[2]	High Performer[3]	
						SubLHIN/Facility	LHIN
1	Public awareness and education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	42.3% (35.3%)	36.0–51.1%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.5)	1.3–2.2	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	14.3 (12.3)	11.9–17.9	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	72.1% (69.6%)	62.6–80.4%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	78.7% (74.7%)	66.9–88.3%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	89.6% (86.3%)	78.1–97.3%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	32.4% (29.6%)	8.6–51.7%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	38.3% (30.3%)	0.0–70.1%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	64.8% (62.3%)	57.4–88.9%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	32.5% (–)	19.0–42.8%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	30.7% (30.7%)	23.7–38.7%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	5.9% (4.6%)	2.4–16.1%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	10.0 (12.0)	7.0–15.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	6.3% (–)	0.0–14.4%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.8 (0.7)	0.5–1.1	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	6.1 (6.5)	4.7–7.6	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	31.2% (31.9%)	21.2–39.8%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	9.8% (10.2%)	4.6–13.0%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	8.0 (8.3)	5.6–9.6	8.0 (8.3)	Kingston General Hospital	10

[1] Facility-based analysis (excluding indicators 1, 2, 11, 12 and 19) for patients aged 18–108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.

[2] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used; 2009/10 benchmarks are displayed in brackets. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.

[3] High-performing acute facilities include only high-volume institutions (those treating more than 100 strokes per year). High-performing rehabilitation facilities include sites with moderate to high volumes (those admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available

n/a = Not applicable

Local Health Integration Networks

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

Erie St. Clair Local Health Integration Network

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	44.8% (43.9%)	43.1–50.8%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.7 (1.9)	1.6–2.0	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	17.9 (10.7)	17.1–25.4	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	70.5% (58.1%)	55.6–100.0%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	81.3% (82.0%)	55.6–100.0%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	88.2% (83.9%)	11.1–96.1%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	27.8% (13.2%)	0.0–40.9%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	61.3% (53.8%)	0.0–87.4%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	59.5% (55.7%)	0.0–100.0%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	27.3% (–)	0.0–42.1%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	38.7% (34.9%)	31.8–52.7%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	2.4% (6.1%)	0.0–4.4%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	9.0 (10.0)	6.0–17.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	8.2% (–)	0.0–11.9%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.9 (0.7)	0.7–1.4	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	6.3 (7.8)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	39.8% (35.5%)	14.3–42.2%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	7.7% (9.5%)	4.9–8.6%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	8.3 (9.4)	0.0–10.0	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

South West Local Health Integration Network

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	51.1% (36.3%)	42.0–67.7%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.6)	1.3–1.8	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	15.1 (12.4)	0.0–40.3	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	70.1% (60.6%)	0.0–100.0%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	72.8% (68.0%)	0.0–100.0%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	78.1% (71.6%)	0.0–97.1%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	18.9% (27.6%)	0.0–33.3%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	44.6% (36.6%)	0.0–91.9%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	57.4% (60.3%)	0.0–87.8%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	19.0% (–)	0.0–45.9%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	35.6% (30.4%)	22.9–43.1%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	3.8% (2.0%)	0.0–9.6%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	8.0 (10.0)	6.0–45.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	7.4% (–)	0.0–16.5%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.9 (0.8)	0.6–3.6	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	5.8 (6.0)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	39.8% (40.1%)	0.0–75.0%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	6.6% (10.1%)	1.5–9.5%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	7.4 (7.9)	0.0–27.9	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

Waterloo Wellington Local Health Integration Network

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	44.5% (32.9%)	28.3–49.7%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.4 (1.4)	1.2–1.7	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	15.4 (12.9)	9.8–27.5	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	63.6% (80.3%)	55.4–100.0%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	83.0% (74.9%)	33.3–100.0%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	90.8% (90.1%)	0.0–100.0%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	25.4% (23.5%)	0.0–39.8%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	43.9% (30.2%)	0.0–79.1%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	67.7% (56.7%)	0.0–81.9%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	36.9% (–)	14.5–64.6%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	29.4% (29.5%)	20.5–34.3%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	4.9% (5.2%)	0.0–7.9%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	11.0 (11.0)	9.0–11.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	14.4% (–)	4.9–17.9%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.8 (0.7)	0.6–0.9	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	6.9 (7.0)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	27.4% (25.5%)	21.9–72.7%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	13.0% (13.9%)	8.6–15.4%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	6.6 (7.3)	0.0–10.9	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

Hamilton Niagara Haldimand Brant Local Health Integration Network

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	40.9% (38.2%)	34.2–61.6%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.6 (1.5)	1.1–3.6	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	15.8 (13.3)	7.4–29.1	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	62.6% (63.7%)	0.0–100.0%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	66.9% (68.5%)	0.0–81.8%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	87.2% (86.5%)	0.0–96.0%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	31.8% (32.7%)	0.0–56.6%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	25.4% (16.5%)	0.0–63.5%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	58.4% (57.9%)	0.0–84.4%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	35.9% (–)	0.0–60.4%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	32.6% (29.3%)	0.0–64.7%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	6.2% (6.1%)	0.0–19.8%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	11.0 (11.0)	7.0–13.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	5.4% (–)	0.0–18.3%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.9 (0.9)	0.6–1.5	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	5.5 (5.9)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	35.5% (37.8%)	0.0–46.2%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	12.1% (11.8%)	0.0–20.7%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	7.5 (8.4)	0.0–16.6	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Central West Local Health Integration Network

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	41.7% (24.6%)	33.8–43.1%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.6 (1.5)	1.4–2.0	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	12.5 (11.1)	11.1–15.9	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	73.1% (93.1%)	58.3–86.7%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	88.3% (84.7%)	82.5–93.9%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	97.3% (93.8%)	96.6–97.5%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	8.6% (0.0%)	0.0–18.2%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	0.0% (0.0%)	0.0–0.0%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	64.0% (69.1%)	55.6–70.9%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	29.9% (–)	15.1–35.7%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	25.2% (25.2%)	22.0–33.3%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	8.9% (0.0%)	0.0–25.5%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	15.0 (15.0)	12.0–19.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	0.0% (–)	0.0–0.2%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.5 (0.4)	0.0–0.5	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	7.6 (7.9)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	21.2% (16.5%)	15.1–61.5%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	9.2% (13.9%)	5.6- 22.8%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	8.3 (9.7)	7.7–9.4	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

Mississauga Halton Local Health Integration Network

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	40.9% (36.5%)	35.9–49.2%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.3 (1.4)	0.9–1.6	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	14.4 (12.7)	12.0–19.0	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	72.9% (86.9%)	57.1–100.0%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	82.9% (82.1%)	61.5–90.5%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	95.1% (93.8%)	66.7–97.3%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	51.7% (41.0%)	0.0–64.0%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	40.2% (42.0%)	0.0–68.1%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	70.2% (59.5%)	60.0–71.8%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	24.6% (–)	5.0–40.7%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	23.7% (34.8%)	6.3–33.2%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	6.5% (4.0%)	0.0–11.3%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	8.0 (8.0)	8.0–11.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	0.3% (–)	0.0–1.9%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	1.0 (1.1)	0.7–1.0	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	5.8 (6.6)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	36.3% (39.0%)	32.4–48.8%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	10.8% (8.0%)	8.0–21.2%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	8.8 (8.4)	4.8–9.6	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Toronto Central Local Health Integration Network

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	38.1% (34.3%)	31.8–45.1%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.4 (1.4)	1.1–1.5	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	12.7 (12.1)	9.2–17.0	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	73.1% (71.2%)	60.0–78.8%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	87.4% (76.1%)	75.9–94.6%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	97.1% (95.8%)	95.9–100.0%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	45.5% (41.5%)	0.0–51.2%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	35.8% (35.3%)	0.0–57.7%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	69.6% (63.9%)	54.3–81.6%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	28.8% (–)	11.6–58.1%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	31.4% (29.0%)	25.0–35.9%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	5.2% (3.1%)	1.8–9.2%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	13.0 (14.0)	11.0–15.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	7.8% (–)	0.0–12.3%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.6 (0.5)	0.4–0.7	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	4.7 (5.5)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	21.8% (19.8%)	4.2–26.8%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	10.5% (11.8%)	7.4–17.5%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	9.3 (7.4)	0.0–12.9	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Central Local Health Integration Network

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	36.0% (24.9%)	27.3–46.9%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.3 (1.3)	1.0–1.7	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	14.2 (10.7)	10.7–23.8	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	78.3% (72.0%)	33.3–87.5%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	82.4% (83.8%)	62.5–100.0%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	94.2% (93.4%)	75.0–98.3%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	23.6% (24.5%)	0.0–52.4%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	40.5% (4.9%)	0.0–68.3%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	58.7% (59.0%)	31.8–86.5%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	38.1% (–)	21.1–49.6%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	24.8% (28.4%)	16.3–38.7%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	8.2% (4.4%)	4.3–14.8%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	10.0 (11.0)	8.0–22.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	0.7% (–)	0.0–1.4%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.7 (0.8)	0.6–1.7	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	6.5 (7.0)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	22.4% (31.9%)	9.5–80.0%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	12.8% (10.4%)	7.5–19.4%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	8.6 (9.8)	6.5–11.6	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

Central East Local Health Integration Network

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	39.0% (30.7%)	35.4–43.9%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.4 (1.4)	1.3–1.4	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	13.8 (12.4)	5.3–20.7	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	75.4% (59.2%)	41.7–100.0%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	73.1% (69.7%)	16.7–100.0%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	88.2% (83.2%)	22.2–97.5%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	36.8% (22.6%)	0.0–56.6%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	28.4% (16.3%)	0.0–69.9%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	68.3% (56.9%)	16.7–77.7%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	32.5% (–)	0.0–49.2%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	33.4% (32.9%)	23.7–42.4%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	4.7% (3.0%)	3.4–6.0%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	7.0 (9.0)	6.0–12.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	3.7% (–)	0.0–17.7%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	1.1 (0.9)	0.8–1.3	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	6.4 (6.2)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	36.1% (34.7%)	21.6–47.4%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	8.7% (10.4%)	6.1–11.5%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	7.5 (7.8)	0.0–29.3	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

South East Local Health Integration Network

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	37.0% (39.9%)	23.0–49.4%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.4)	1.0–2.1	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	17.8 (13.5)	0.0–23.3	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	71.5% (74.9%)	50.0–100.0%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	78.7% (90.5%)	33.3–100.0%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	81.9% (72.8%)	0.0–96.4%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	43.9% (29.9%)	0.0–60.7%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	47.3% (46.1%)	0.0–76.1%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	57.6% (62.6%)	0.0–71.4%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	34.1% (–)	0.0–40.6%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	29.4% (28.4%)	0.0–60.0%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	4.6% (9.7%)	0.0–27.3%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	13.0 (13.0)	11.0–16.5	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	6.9% (–)	2.1–12.1%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.7 (0.6)	0.5–0.9	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	6.7 (6.2)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	36.7% (30.2%)	33.3–50.0%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	11.2% (10.2%)	0.0–54.5%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	5.6 (7.9)	3.2–12.1	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

Champlain Local Health Integration Network

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	48.4% (39.9%)	42.3–57.8%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.3 (1.2)	1.0–2.3	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	15.3 (12.3)	0.0–63.6	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	80.4% (80.7%)	33.3–100.0%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	78.6% (71.5%)	0.0–100.0%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	92.8% (89.9%)	16.7–98.7%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	31.6% (34.2%)	0.0–47.4%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	52.1% (42.0%)	0.0–87.3%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	67.0% (72.5%)	0.0–88.2%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	36.7% (–)	0.0–72.6%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	30.2% (30.9%)	12.5–49.5%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	3.6% (6.4%)	2.0–7.5%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	13.0 (16.0)	7.0–60.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	5.8% (–)	0.0–49.6%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.7 (0.6)	0.1–1.4	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	5.3 (6.1)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	25.9% (25.5%)	0.0–66.7%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	11.6% (10.4%)	2.9–19.3%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	7.3 (7.0)	0.0–12.4	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

North Simcoe Muskoka Local Health Integration Network

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	41.9% (36.4%)	29.8–67.6%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.6 (1.6)	1.4–1.9	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	14.0 (11.2)	10.2–24.6	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	71.9% (60.1%)	55.8–100.0%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	67.6% (51.1%)	30.8–100.0%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	89.9% (82.5%)	76.9–97.2%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	29.1% (37.9%)	0.0–66.7%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	22.4% (24.5%)	0.0–58.4%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	72.9% (75.7%)	45.5–88.2%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	34.0% (–)	19.0–47.8%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	27.9% (32.8%)	15.0–33.5%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	5.7% (3.4%)	0.0–13.1%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	8.0 (14.0)	6.0–11.5	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	4.9% (–)	1.2–7.9%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	1.0 (0.9)	0.8–1.6	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	6.1 (6.5)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	36.6% (39.4%)	17.6–54.5%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	7.6% (8.7%)	5.6–15.5%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	8.7 (9.2)	2.3–12.3	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

North East Local Health Integration Network

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	46.4% (42.7%)	0.0–51.9%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	2.0 (2.1)	1.7–3.7	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	17.0 (13.4)	0.0–50.9	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	75.4% (59.6%)	48.4–100.0%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	84.5% (64.8%)	0.0–100.0%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	80.0% (78.2%)	0.0–94.5%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	25.7% (17.3%)	0.0–75.0%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	41.4% (33.0%)	0.0–90.0%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	64.8% (57.1%)	0.0–100.0%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	37.4% (–)	0.0–70.2%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	32.1% (28.8%)	14.7–40.7%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	9.8% (6.3%)	0.0–22.7%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	12.0 (13.0)	5.0–20.5	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	10.2% (–)	1.6–12.8%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.6 (0.6)	0.6–1.3	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	6.4 (7.6)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	27.2% (38.5%)	22.2–42.9%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	4.6% (4.4%)	0.0–6.6%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	9.2 (8.3)	0.0–32.3	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Poor Performance[1] | Acceptable Performance[2] | Exemplary Performance[3] | Benchmark not available[4]

North West Local Health Integration Network

Indicator No.	Care Continuum Category	Indicator[5]	LHIN FY 2010/11 (2009/10)	Variance Within LHIN (Min-Max)	Provincial Benchmark[6]	High Performer[7]	
						SubLHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3.5 hours from stroke symptom onset.	43.7% (30.3%)	29.6–50.0%	52.0% (41.5%)	Elgin SubLHIN	2, 11
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	2.2 (2.3)	2.1–2.6	1.1 (1.1)	Northwest Mississauga SubLHIN	None
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.9 (10.5)	0.0–30.6	14.3 (12.3)	Lakeridge Health – Bowmanville Site	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care.	72.2% (85.2%)	50.0–75.0%	86.0% (93.6%)	Queensway-Carleton Hospital	None
5	Prevention of stroke	Proportion of ischemic stroke patients without atrial fibrillation who received carotid imaging prior to hospital discharge.	85.4% (73.1%)	0.0–93.5%	92.8% (92.5%)	Markham Stouffville Hospital	5
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED.	91.0% (81.1%)	0.0–95.3%	97.7% (97.7%)	Cambridge Memorial Hospital	5, 7
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3.5 hours from symptom onset and received acute thrombolytic therapy (tPA) (excluding those with contraindications).	31.5% (11.0%)	0.0–100.0%	61.2% (58.9%)	Trillium Health Centre	None
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their inpatient stay.	70.1% (66.7%)	0.0–87.8%	87.5% (77.3%)	North Bay General Hospital	None
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	88.9% (88.3%)	50.0–96.6%	83.7% (87.8%)	Thunder Bay Regional Health Sciences Centre	14
10	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	42.8% (–)	0.0–95.7%	14.0% (–)	Halton Healthcare Services – Oakville Site	2
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	35.1% (37.6%)	14.8–48.0%	42.3% (40.7%)	Chatham-Kent SubLHIN	1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	16.1% (7.0%)	8.2–23.5%	12.1% (13.2%)	Burlington SubLHIN	14, 13
13	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation (RCG-1 and RCG-2).	15.0 (14.0)	15.0–15.0	7.0 (7.0)	Grey Bruce Health Services – Owen Sound Site	9
14	Stroke rehabilitation	Rehabilitation therapy staff/bed ratio for inpatient stroke rehabilitation.	–	–	–	–	–
15	Stroke rehabilitation	Proportion of ALC days to total length of stay in inpatient rehabilitation (Active + ALC) (RCG-1).	7.5% (–)	7.5–7.5%	6.3% (–)	Trillium Health Centre	6
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation (RCG-1).	0.7 (0.7)	0.7–0.7	1.1 (1.2)	Royal Victoria Hospital	9
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2008/09 and 2009/10.	4.8 (5.1)	n/a	6.8 (7.6)	n/a	5, 3
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110) (RCG-1).	29.6% (31.5%)	29.6–29.6%	46.9% (49.4%)	Royal Victoria Hospital	None
19	Re-integration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	6.6% (5.4%)	2.9–7.8%	4.7% (3.6%)	Manitoulin-Sudbury SubLHIN	13
20	Re-integration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	9.6 (10.0)	0.0–40.7	8.0 (8.3)	Kingston General Hospital	10

[1] Performance below the 50th percentile.
[2] Performance at or above the 50th percentile and greater than 5% absolute/relative difference from the benchmark.
[3] Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.
[4] Data not available or benchmark under development.
[5] Facility-based analysis (excluding indicators 1, 2,11, 12 and 19) for patients aged 18 to 108. Indicators 1, 4–9 and 12 are based on 2010/11 OSA data; otherwise, CIHI data. The 2009/10 report card metric is in brackets. Low rates are desired for indicators 2, 3, 10, 13, 15, 19 and 20.
[6] Provincial benchmarks were calculated using the ABC methodology, except for indicators 3, 15 and 20 where the provincial rate was used. For benchmarking methodology, see Weissman et al. *J Eval Clin Pract*. 1999; 5(3):269-81.
[7] High-performing acute sites include high-volume institutions (treating more than 100 strokes per year). High-performing rehabilitation sites include those with moderate volumes (admitting more than 42 stroke patients per year).

Hospital Service Accountability Agreement indicators, 2010/11

-- Data not available n/a = Not applicable

Appendix C:
ICD-10-CA Codes Used in the Report

Adult ICD-10-CA codes

Category	Code
Stroke Type	
Transient ischemic attack	G45 (excl. G45.4)
Acute stroke	H34.1, I60 (excl. I60.8), I61, I63 (excl. I63.6), I64
Subarachnoid hemorrhage	I60 (excl. I60.8)
Intracerebral hemorrhage	I61
Ischemic stroke	I63 (excl. I63.6), I64, H34.1
Stroke type not specified/undetermined	I64
Inhospital Complications	
Pneumonia	J10.0, J11.0, J12.0–J12.2, J12.8, J12.9, J13, J14, J15.0–J15.9, J16.0, J16.8, J17.0–J17.3, J17.8, J18.0–J18.2, J18.8, J18.9
Vascular Surgery	
Carotid stenting	1JE.50
Carotid endarterectomy	1JE.57, 1JE.87

Ontario Stroke Audit ICD-10-CA codes

Category	Code
Age Group	
Adult	I60 (excl. I60.8), I61, I63 (excl. I63.6), I64, G45 (excl. G45.4), H34.1
Paediatric	I60, I61 (excl. I61.7), I62, I63, I64, I65, I66, I67.0, I67.5–I67.9, I69, G08, G45.9, G81, G97, R47.0, R47.1

Appendix D:
Institutional Resources for Stroke[1] in Ontario, 2010/11

Legend
Regional stroke centre: A facility that meets all the requirements of a district stroke centre, plus neurosurgical facilities and interventional radiology.
Enhanced district stroke centre: A facility established to provide leadership integration in the regions of Ontario where the designation of a regional stroke centre cannot be met. Enhanced district stroke centres were established after the 2002/03 audit had been completed. For the purposes of analysis, calculations for these centres were included in the district stroke centre designation.
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 a district or regional stroke centre.

Local Health Integration Network/ Institution (Site)	Location	OSS Region	Stroke Unit	CT Scanner	MRI	Telestroke Centre[2]	Stroke Prevention Clinic[3]	AlphaFIM
Ontario			37*	97	58	17	45**	86
1. Erie St. Clair								
Bluewater Health (Petrolia)	Petrolia	Southwest						
Bluewater Health (Sarnia)	Sarnia	Southwest	X	X	X		X	X
Chatham Kent Health Alliance (Chatham)	Chatham	Southwest	X	X	X		X	X[4]
Chatham Kent Health Alliance (Sydenham)	Wallaceburg	Southwest						X
Hotel-Dieu Grace Hospital (St. Joseph's)[11]	Windsor	Southwest	X	X	X		X	X
Leamington District Memorial Hospital	Leamington	Southwest		X				
Windsor Regional Hospital (Western)	Windsor	Southwest	X[5,6]	X	X			X[4]
2. South West								
Alexandra Hospital	Ingersoll	Southwest						X[4]
Alexandra Marine & General Hospital	Goderich	Southwest		X		X		X
Clinton Public Hospital	Clinton	Southwest						
Four Counties Health Services Corp.	Newbury	Southwest						X
Grey Bruce Health Services (Lion's Head)[7]	Lion's Head	Southwest						X
Grey Bruce Health Services (Markdale)	Markdale	Southwest						X
Grey Bruce Health Services (Meaford)	Meaford	Southwest						X
Grey Bruce Health Services (Owen Sound)	Owen Sound	Southwest		X	X		X	X[4]
Grey Bruce Health Services (Southampton)	Southampton	Southwest						X[4]
Grey Bruce Health Services (Wiarton)	Wiarton	Southwest						X
Hanover & District Hospital	Hanover	Southwest						
Listowel Memorial Hospital	Listowel	Southwest						
London Health Sciences Centre (University)	London	Southwest	X	X	X		X	
London Health Sciences Centre (Victoria)	London	Southwest		X	X			
Seaforth Community Hospital	Seaforth	Southwest						
South Bruce Grey Health Centre (Chesley)	Chesley	Southwest						X[4]
South Bruce Grey Health Centre (Durham)	Durham	Southwest						X[4]
South Bruce Grey Health Centre (Kincardine)	Kincardine	Southwest						
South Bruce Grey Health Centre (Walkerton)	Walkerton	Southwest		X				
South Huron Hospital	Exeter	Southwest						
St. Joseph's Health Care (London)	London	Southwest		X	X			
St. Marys Memorial Hospital	St. Marys	Southwest						
St. Thomas-Elgin General Hospital	St. Thomas	Southwest		X				X[4]
Stratford General Hospital	Stratford	Southwest		X			X	X[4]
Strathroy Middlesex General Hospital	Strathroy	Southwest		X				X

Local Health Integration Network/ Institution (Site)	Location	OSS Region	Stroke Unit	CT Scanner	MRI	Telestroke Centre[2]	Stroke Prevention Clinic[3]	AlphaFIM
Tillsonburg District Memorial Hospital	Tillsonburg	Southwest		X				X
Wingham & District Hospital	Wingham	Southwest						
Woodstock General Hospital	Woodstock	Southwest		X	X			X
3. Waterloo Wellington								
Cambridge Memorial Hospital	Cambridge	Central South		X				
Grand River Hospital Corp. (Waterloo)	Kitchener	Central South	X	X	X		X	X
Groves Memorial Community Hospital	Fergus	Central South						
Guelph General Hospital	Guelph	Central South		X	X			
North Wellington Health Care (Mount Forest)	Mount Forest	Central South						
North Wellington Health Care (Palmerston)	Palmerston	Central South						
St. Mary's General Hospital	Kitchener	Central South		X				
4. Hamilton Niagara Haldimand Brant								
Brant Community Health Care System (Brantford)	Brantford	Central South	X[6]	X	X	X	X	X[4]
Haldimand War Memorial Hospital	Dunnville	Central South						
Hamilton Health Sciences Corp. (General)	Hamilton	Central South	X	X	X		X	X[4]
Hamilton Health Sciences Corp. (Juravinski)	Hamilton	Central South		X	X			X
Hamilton Health Sciences Corp. (McMaster)	Hamilton	Central South		X	X			
Joseph Brant Memorial Hospital	Burlington	Central South	X[6]	X	X			X[4]
Niagara Health System (Douglas)[7]	Fort Erie	Central South						
Niagara Health System (Greater Niagara)	Niagara Falls	Central South	X	X	X	X	X	X[4]
Niagara Health System (Port Colborne)[7]	Port Colborne	Central South						
Niagara Health System (St. Catharines)	St. Catharines	Central South		X	X			X[4]
Niagara Health System (Welland County)	Welland	Central South		X				
Norfolk General Hospital	Simcoe	Central South		X			X	X[4]
St. Joseph's Health Care System (Hamilton)	Hamilton	Central South		X	X		X	X
West Haldimand General Hospital	Hagersville	Central South						
West Lincoln Memorial Hospital	Grimsby	Central South						
5. Central West								
Headwaters Health Care Centre (Dufferin)	Orangeville	West GTA		X				X
William Osler Health Centre (Brampton)	Brampton	West GTA	X[6]	X	X		X[8]	
William Osler Health Centre (Etobicoke)	Etobicoke	West GTA	X[6]	X	X		X[8]	
6. Mississauga Halton								
Halton Healthcare Services Corp. (Georgetown)	Georgetown	West GTA						X[4]
Halton Healthcare Services Corp. (Milton)	Milton	West GTA		X				X[4]
Halton Healthcare Services Corp. (Oakville)	Oakville	West GTA		X	X			X[4]
Credit Valley Hospital	Mississauga	West GTA	X[6]	X	X			X
Trillium Health Centre (Mississauga)	Mississauga	West GTA	X	X	X		X	X[4]
7. Toronto Central								
Hospital for Sick Children	Toronto	Toronto West		X	X		X[9]	
Mount Sinai Hospital	Toronto	Toronto West		X	X			
St. Joseph's Health Centre	Toronto	Toronto West		X	X			
St. Michael's Hospital	Toronto	Toronto – Southeast	X	X	X		X[9]	X[4]
Sunnybrook & Women's College Health Sciences Centre	Toronto	Toronto – North & East	X	X	X		X	X[4]
Toronto East General Hospital	Toronto	Toronto – Southeast		X	X		X[9]	

Local Health Integration Network/ Institution (Site)	Location	OSS Region	Stroke Unit	CT Scanner	MRI	Telestroke Centre[2]	Stroke Prevention Clinic[3]	AlphaFIM
University Health Network (General)	Toronto	Toronto West		X	X			X
University Health Network (Toronto Western)	Toronto	Toronto West	X[6]	X	X		X	X[4]
8. Central								
Humber River Regional Hospital (Humber Memorial)	Weston	Toronto West	X[5]	X				X
Humber River Regional Hospital (York-Finch)	Downsview	Toronto West	X	X	X		X[9]	
North York General Hospital	Toronto	Toronto – North & East	X	X	X		X[9]	X[4]
Southlake Regional Health Centre	Newmarket	Central East	X	X	X		X[9]	X
Stevenson Memorial Hospital	Alliston (New Tecumseth Township)	Central East		X				X[4]
York Central Hospital	Richmond Hill	Central East	X	X	X		X[9]	X[4]
9. Central East								
Campbellford Memorial Hospital	Campbellford	Central East		X				X
Haliburton Highlands Health Services Corp. (Haliburton)	Haliburton	Central East						
Lakeridge Health Corp. (Bowmanville)	Clarington	Central East		X				X
Lakeridge Health Corp. (Oshawa)	Oshawa	Central East	X	X	X	X	X	X[4]
Lakeridge Health Corp. (Port Perry)	Port Perry	Central East						X[4]
Markham Stouffville Hospital (Markham)	Markham	Central East		X	X		X[9]	
Markham Stouffville Hospital (Uxbridge)	Uxbridge	Central East		X	X			
Northumberland Hills Hospital	Cobourg	Central East		X	X			
Peterborough Regional Health Centre	Peterborough	Central East	X[6]	X	X	X	X[9]	X[4]
Ross Memorial Hospital	Lindsay	Central East		X				X
Rouge Valley Health System (Ajax)	Ajax	Toronto – Southeast		X	X			X
Rouge Valley Health System (Centenary)	Scarborough	Toronto – Southeast		X	X			X
Scarborough Hospital (Birchmount)	Scarborough	Toronto – North & East		X				X
Scarborough Hospital (General)	Scarborough	Toronto – North & East	X	X	X			X[4]
10. South East								
Brockville General Hospital	Brockville	South East		X			X	
Hotel Dieu Hospital[7]	Kingston	South East		X				
Kingston General Hospital	Kingston	South East	X	X	X		X	X[4]
Lennox & Addington County General Hospital	Napanee	South East						X
Perth & Smiths Falls District Hospital (Perth)	Perth	South East		X[10]			X	
Perth & Smiths Falls District Hospital (Smith Falls)	Smith Falls	South East		X[10]				
Quinte Healthcare Corp. (Belleville)	Belleville	South East	X[6]	X	X	X	X	X[4]
Quinte Healthcare Corp. (Bancroft)	Bancroft	South East						X
Quinte Healthcare Corp. (Picton)	Picton	South East						X
Quinte Healthcare Corp. (Trenton)	Trenton	South East		X				X
11. Champlain								
Almonte General Hospital	Almonte	East – Champlain						X

Local Health Integration Network/ Institution (Site)	Location	OSS Region	Stroke Unit	CT Scanner	MRI	Telestroke Centre[2]	Stroke Prevention Clinic[3]	AlphaFIM
Carleton Place & District Memorial Hospital	Carleton Place	East – Champlain						
Children's Hospital of Eastern Ontario	Ottawa	East – Champlain		X	X			
Cornwall Community Hospital (McConnell)	Cornwall	East – Champlain		X		X		X[4]
Cornwall Community Hospital (Second)	Cornwall	East – Champlain						X
Deep River & District Hospital	Deep River	East – Champlain						
Glengarry Memorial Hospital	Alexandria	East – Champlain	X					X[4]
Hawkesbury & District General Hospital	Hawkesbury	East – Champlain		X		X	X	
Hôpital Montfort	Ottawa	East – Champlain		X	X			X[4]
Kemptville District Hospital	Kemptville	East – Champlain						
Pembroke Regional Hospital Inc.	Pembroke	East – Champlain	X	X		X	X	X[4]
Queensway-Carleton Hospital	Ottawa	East – Champlain		X	X		X[9]	
Renfrew Victoria Hospital	Renfrew	East – Champlain		X				X
St. Francis Memorial Hospital	Barry's Bay	East – Champlain						
Arnprior & District Memorial Hospital	Arnprior	East – Champlain						
The Ottawa Hospital (Civic)	Ottawa	East – Champlain	X	X	X		X	X[4]
The Ottawa Hospital (General)	Ottawa	East – Champlain		X	X			X[4]
Winchester District Memorial Hospital	Winchester	East – Champlain		X				X
12. North Simcoe Muskoka								
Collingwood General & Marine Hospital	Collingwood	Central East		X				X[4]
Georgian Bay General Hospital	Midland	Central East		X				X
Muskoka Algonquin Healthcare (Huntsville)	Huntsville	Central East		X				X[4]
Muskoka Algonquin Healthcare (Bracebridge)	Bracebridge	Central East		X				X[4]
Orillia Soldiers' Memorial Hospital	Orillia	Central East		X	X			X[4]
Royal Victoria Hospital of Barrie[12]	Barrie	Central East	X	X	X		X	X[4]
13. North East								
Anson General Hospital	Iroquois Falls	Northeast						
Bingham Memorial Hospital[7]	Matheson	Northeast						
Blind River District Health Centre/ Pavillon Santé	Blind River	Northeast						
Englehart & District Hospital[7]	Englehart	Northeast						
Espanola Regional Hospital & Health Centre[7]	Espanola	Northeast						
Hornepayne Community Hospital[7]	Hornepayne	Northeast						
Health Sciences North/Horizon Santé-Nord (Ramsey Lake Health Centre)[12]	Sudbury	Northeast	X	X	X	X	X	X[4]
Kirkland & District Hospital	Kirkland Lake	Northeast						
Lady Dunn Health Centre[7]	Wawa	Northeast						
Lady Minto Hospital	Cochrane	Northeast						

Local Health Integration Network/ Institution (Site)	Location	OSS Region	Stroke Unit	CT Scanner	MRI	Telestroke Centre[2]	Stroke Prevention Clinic[3]	AlphaFIM
Manitoulin Health Centre (Little Current)	Little Current	Northeast						
Manitoulin Health Centre (Mindemoya)	Mindemoya	Northeast						
Mattawa General Hospital	Mattawa	Northeast						
North Bay Regional Health Centre	North Bay	Northeast	X	X	X	X	X	X[4]
Hôpital Notre-Dame Hospital	Hearst	Northeast						
Sault Area Hospital (Sault Ste. Marie)	Sault Ste. Marie	Northeast	X	X	X	X	X	X[4]
Sensenbrenner Hospital	Kapuskasing	Northeast						
Services de santé de Chapleau Health Services[7]	Chapleau	Northeast						
Smooth Rock Falls Hospital[7]	Smooth Rock Falls	Northeast						
St. Joseph's General Hospital	Elliot Lake	Northeast						
Temiskaming Hospital	New Liskeard	Northeast		X		X		
Timmins & District General Hospital	Timmins	Northeast	X	X	X	X	X	X[4]
Weeneebayko Area Health Authority	Moose Factory	Northeast						
West Nipissing General Hospital	Sturgeon Falls	Northeast						
West Parry Sound Health Centre	Parry Sound	Northeast		X				X[4]
14. North West								
Atikokan General Hospital[7]	Atikokan	Northwest						
Dryden Regional Health Centre	Dryden	Northwest		X		X		X[4]
Geraldton District Hospital	Geraldton	Northwest						
Lake-of-the-Woods District Hospital	Kenora	Northwest		X		X	X	X
Manitouwadge General Hospital[7]	Manitouwadge	Northwest						
McCausland Hospital[7]	Terrace Bay	Northwest						
Nipigon District Memorial Hospital[7]	Nipigon	Northwest						
Riverside Health Care Facilities (La Verendrye)	Fort Frances	Northwest		X		X	X	X
Sioux Lookout Meno Ya Win Health Centre (District)	Sioux Lookout	Northwest		X			X	
Red Lake Margaret Cochenour Memorial Hospital	Red Lake	Northwest						
Thunder Bay Regional Health Sciences Centre	Thunder Bay	Northwest	X	X	X		X	X[4]
Wilson Memorial General Hospital	Marathon	Northwest					X	

Notes:

[1] Based on provincial hospital resources as of November 2011.

[2] A funded Ontario Telemedicine Network site.

[3] A Ministry of Health and Long-Term Care-designated secondary prevention clinic (SPC).

[4] Hospital with AlphaFIM documentation found in charts at time of OSA abstraction.

[5] For rehabilitation patients only.

[6] Hospital does not have a designated stroke unit as defined by best practice standards but has clustered beds for stroke patients. All were included in the admission to stroke unit analysis.

[7] Hospital not included in the 2010/11 Ontario Stroke Audit.

[8] Cardiovascular clinic; not specific to stroke.

[9] Stroke prevention clinic not funded by the Ontario Ministry of Health and Long-Term Care. The Peterborough Vascular Health Network (an SPC) is not affiliated with Peterborough Regional Health Centre; the Humber River SPC located at York-Finch serves the Church site.

[10] CT scanner shared between the Perth and Smith Falls sites.

[11] Analyzed as a district stroke centre.

[12] For OSA exhibits, analyzed as a district stroke centre in 2002/03, 2004/05 and 2008/09 and as a regional stroke centre in 2010/11. For administrative exhibits, analyzed as a regional stroke centre for all years.

* Includes institutions identified in footnotes 5 and 6.

** Includes institutions identified in footnotes 8 and 9.

Appendix E:
Rehabilitation Reporting System Coding for Discharge Destination

Discharge Disposition	Coding Algorithm
Home without services	dliveset = 1
Home with services	dliveset = 2
Other community services	dliveset = 3, 4, 6, 7
Long-term care facility	dliveset = 5
Acute care facility	referto = 02, 03
Deceased	dreason = 8
Unavailable/unknown	dliveset = –50, –70

Appendix F:
Designated Rehabilitation Beds/Facilities by Ontario Stroke System Region, 2003–2010

OSS Region	NRS Facility Number/Type	Institution (Site)
Central East	2771	Southlake Regional Health Centre
	3507	Royal Victoria Hospital of Barrie
	3617	Peterborough Regional Health Centre
	3858	York Central Hospital
	4705	Georgian Bay General Hospital (Penetanguishene)
	3934	Lakeridge Health (Oshawa)
	4307	Markham Stouffville Hospital
	4450	Northumberland Hills Hospital
	4483	Ross Memorial Hospital
	4688	Orillia Soldiers' Memorial Hospital
Central South	1912	Grand River Hospital (Freeport)
	3155	St. Joseph's Health Care System (Hamilton)
	3736	Grand River Hospital (Waterloo)
	3778	Joseph Brant Memorial Hospital
	3880	Hamilton Health Sciences (Juravinski, formerly Henderson)
	3881/Freestanding	Hamilton Health Sciences (Chedoke)
	3912	St. Joseph's Health Centre (Guelph)
	4289	St. Mary's General Hospital
	4342	Hamilton Health Sciences (General)
	4385	Guelph General Hospital
	4433	William Osler Health Centre (Georgetown)
	4678	Brant Community Healthcare System (Brantford)
	4595	Hotel Dieu Shaver Health & Rehabilitation Centre
	4711/Freestanding	Hamilton Health Sciences (Regional Rehabilitation Centre)
	4720	Cambridge Memorial Hospital
East – Champlain	3782/Freestanding	Bruyère Continuing Care Inc.
	4299	Pembroke Regional Hospital
	4329	The Ottawa Hospital (Civic)
	4429/Freestanding	The Ottawa Hospital (Rehabilitation Centre)
	4461	Hôpital Montfort
	4470	Cornwall Community Hospital (General)
	4584	Queensway-Carleton Hospital
	4695	The Ottawa Hospital (General)
	4722	Glengarry Memorial Hospital
Northeast	3413	North Bay General Hospital (St. Joseph's)
	3416	Timmins & District General Hospital
	4061/Freestanding	Health Sciences North [formerly Sudbury Regional Hospital]
	4409	Sault Area Hospital
	4592	West Parry Sound Health Centre
Northwest	3891/Freestanding	St. Joseph's Care Group
South East	2223/Freestanding	Providence Care Centre (St. Mary's of the Lake)
	3990	Quinte Health Care (Belleville)
	4339	Providence Care Centre (St. Vincent)
	4369	Kingston General Hospital
	4647	Brockville General Hospital

OSS Region	NRS Facility Number/Type	Institution (Site)
Southwest	3612	Stratford General Hospital
	3846/Freestanding*	Windsor Regional Hospital (Western)
	3884	St. Joseph's Health Care, London – Parkwood Hospital [integrated]
	3916/Freestanding	St. Joseph's Health Care, London – Parkwood Hospital [freestanding]
	3897	Wingham & District Hospital
	3946	Grey Bruce Health Services (Owen Sound)
	4149	Hotel-Dieu Grace Hospital (St. Joseph's)
	4162	St. Thomas-Elgin General Hospital
	4204	Leamington District Memorial Hospital
	4417	Bluewater Health (Sarnia)
	4649	South Huron Hospital
	4361	St. Joseph's Health Services Association of Chatham
Toronto – North and East	1337/Freestanding	St. John's Rehabilitation Hospital
	4155	Scarborough Hospital (General)
	4156	Scarborough Hospital (Grace)
	4273	Sunnybrook Health Sciences Centre
	4335	North York General Hospital (Branson)
	3439/Freestanding	Baycrest Centre for Geriatric Care
Toronto – Southeast	3941	Rouge Valley Health System (Centenary)
	4151	Rouge Valley Health System (Ajax)
	4279	Toronto East General
	1355/Freestanding	Providence Healthcare
	1436	Bridgepoint Hospital
Toronto – West	3950/Freestanding	Toronto Rehabilitation Institute (Hillcrest)
	4366	St. Joseph's Health Centre
	4293	Humber River Regional Hospital
West GTA	1471/Freestanding	West Park Healthcare Centre
	3288	Credit Valley Hospital
	4136	Halton Healthcare Services (Oakville)
	4150	Trillium Health Centre
	4277	William Osler Health System (Etobicoke)
	4684	William Osler Health System (Civic)

* Windsor Regional Hospital is classified as a specialty facility in the National Rehabilitation Reporting System (NRS), but it is not a freestanding inpatient facility.

Notes:

(1) Assignment of OSS region is based on the geographic location of the facility/corporation.

(2) Based on fiscal year 2010/11.

(3) Freestanding is considered "Specialty" in the NRS database.

Appendix G:

Most Frequent 30-Day Readmission Diagnoses among Stroke/TIA Patients Discharged in Ontario, 2007/08–2009/10

ICD-10-CA Code	Diagnosis	Frequency (%)
I639	Cerebral infarction, unspecified	7.6
I64	Stroke, not specified as haemorrhage or infarction	6.6
G459	Transient cerebral ischaemic attack, unspecified	5.8
N390	Urinary tract infection, site not specified	2.4
I500	Congestive heart failure	2.3
Z515	Palliative care	2.1
I652	Occlusion and stenosis of carotid artery	1.9
I635	Cerebral infarction due to unspecified occlusion or stenosis of cerebral arteries	1.8
I638	Other cerebral infarction	1.7
J189	Pneumonia, unspecified	1.6
I480	Atrial fibrillation	1.3
J690	Pneumonitis due to food and vomit	1.2
I619	Intracerebral haemorrhage, unspecified	1.1
R55	Syncope and collapse	1.1
K922	Gastrointestinal haemorrhage, unspecified	1.1
R53	Malaise and fatigue	1.0
A419	Sepsis, unspecified	1.0
N179	Acute renal failure, unspecified	0.9
I634	Cerebral infarction due to embolism of cerebral arteries	0.9
Z751	Person awaiting admission to adequate facility elsewhere	0.9
I632	Cerebral infarction due to unspecified occlusion or stenosis of precerebral arteries	0.9
J440	Chronic obstructive pulmonary disease with acute lower respiratory infection	0.8
R410	Disorientation, unspecified	0.8
F03	Unspecified dementia	0.8
I2149	Acute subendocardial myocardial infarction, unspecified site	0.7
C793	Secondary malignant neoplasm of brain and cerebral meninges	0.7
I620	Subdural haemorrhage (acute) (nontraumatic)	0.7
I269	Pulmonary embolism without mention of acute cor pulmonale	0.6
R074	Chest pain, unspecified	0.6
I609	Subarachnoid haemorrhage, unspecified	0.6
R42	Dizziness and giddiness	0.6
R568	Other and unspecified convulsions	0.6
E860	Dehydration	0.6
I219	Acute myocardial infarction, unspecified	0.5
I100	Benign hypertension	0.5
I2510	Atherosclerotic heart disease of native coronary artery	0.5
F059	Delirium, unspecified	0.5
E871	Hypo-osmolality and hyponatraemia	0.5
R64	Cachexia	0.5
K529	Noninfective gastroenteritis and colitis, unspecified	0.5
S72100	Intertrochanteric fracture, closed	0.5
Z540	Convalescence following surgery	0.5

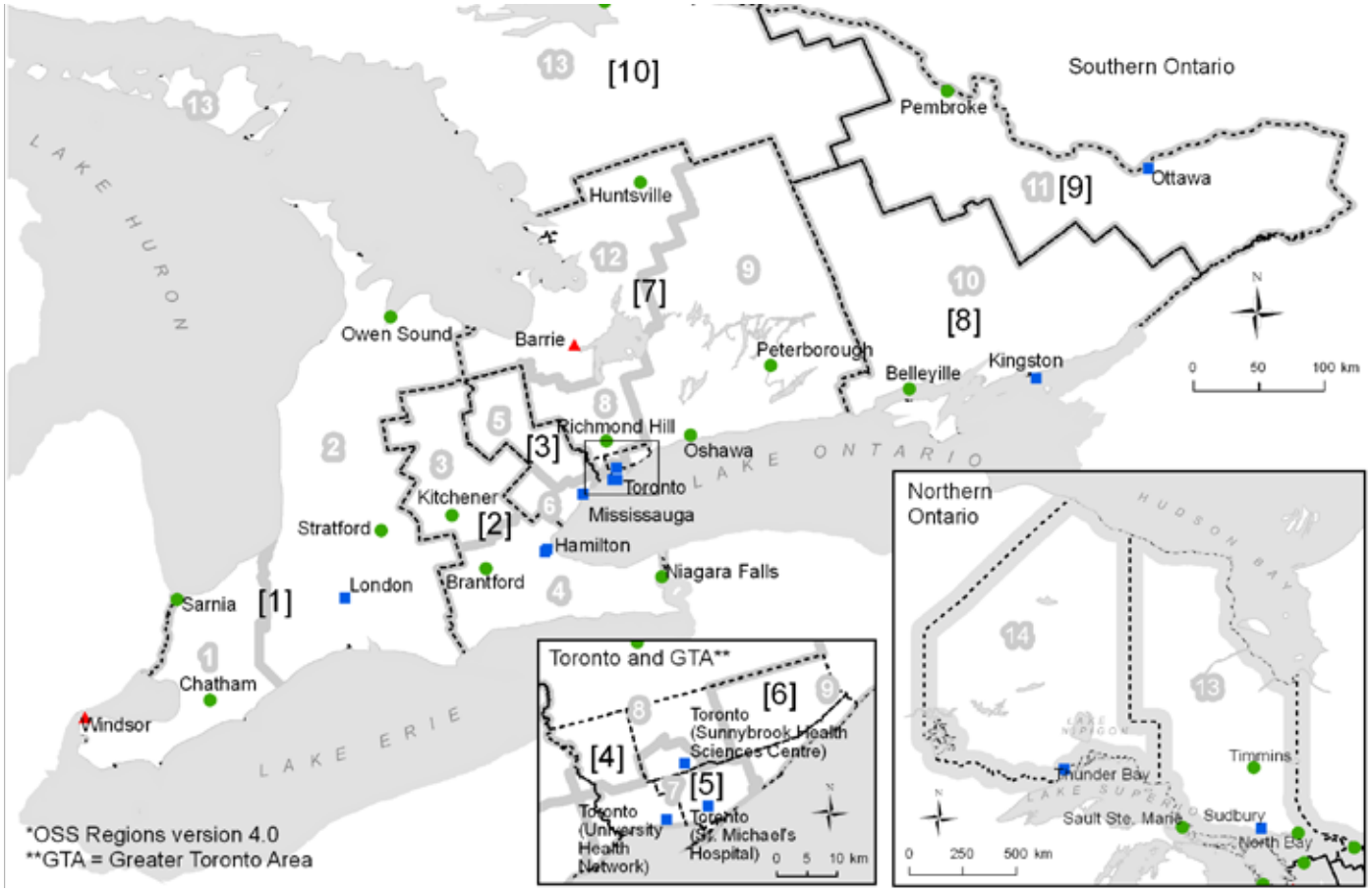
Data source: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), 2007/08–2009/10.

Inclusion criteria: All patients aged ≥18 years readmitted for any cause to an acute care inpatient setting within 30 days of initial stroke (ischemic or hemorrhagic) or transient ischemic attack event in each year (N=5,582).

Exclusion criteria: Patients with an elective admission or transfer within a facility or between facilities within 24 hours of discharge from either the emergency department or inpatient care.

Appendix H:

Map of LHIN Boundaries, OSS Regions and OSS Stroke Centre Classifications



Local Health Integration Networks (LHINs)	
1. Erie St. Clair	8. Central
2. South West	9. Central East
3. Waterloo Wellington	10. South East
4. Hamilton Niagara Haldimand Brant	11. Champlain
5. Central West	12. North Simcoe Muskoka
6. Mississauga Halton	13. North East
7. Toronto Central	14. North West
LHIN boundary	

OSS Regions		
[1] Southwest	[5] Toronto – Southeast	[9] East – Champlain
[2] Central South	[6] Toronto – North and East	[10] Northeast
[3] West GTA	[7] Central East	[11] Northwest
[4] Toronto – West	[8] South East	
OSS boundary		

OSS Stroke Centre Classifications
Regional Stroke Centre
District Stroke Centre
Enhanced District Stroke Centre

Appendix I:
Glossary of Terms

	Term/Acronym	Definition
1.	**Academic hospital**	University-affiliated facility; member of the Council of Academic Hospitals of Ontario
2.	**Acute stroke unit**	Specialized, geographically-located hospital unit with a dedicated stroke team and stroke resources
3.	**AF**	Atrial fibrillation
4.	**AlphaFIM**	A standardized assessment tool used to evaluate the disability and functional status of patients in acute care 3–5 days following admission for stroke
5.	**Alternate level of care (ALC)**	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.
6.	**Annual stroke patient volume**	Indicates the annual number of hospital separations (inpatient and emergency) for stroke or transient ischemic attack
7.	**Charlson score**	A comorbidity index score where higher scores indicate more comorbid illness
8.	**CCAC**	Community Care Access Centre
9.	**CCC**	Complex continuing care
10.	**CNS**	Canadian Neurological Scale, designed to assess neurological function in conscious stroke patients. The scale ranges from 0 to 11.5, with a higher score indicating less impairment. A CNS score of 8 or less indicates severe stroke
11.	**CSN**	Canadian Stroke Network
12	**CSS**	Canadian Stroke Strategy (or System)
13.	**CT**	Computed tomography
14	**District stroke centre**	A facility that has written stroke protocols for emergency services, emergency department 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.
15.	**ED**	Emergency department
16.	**Enhanced district stroke centre**	A facility established to provide leadership and integration in the regions of Ontario where the designation of regional stroke centre cannot be met. Enhanced district stroke centres were established after the 2002/03 audit had been completed. For the purposes of analysis, calculations for these centres were included in the district stroke centre designation.
17.	**GTA**	Greater Toronto Area
18.	**ICH**	Intracerebral hemorrhage
19.	**Large community hospital**	A hospital that does not qualify as a small hospital, academic hospital, or district or regional stroke centre
20.	**Local Health Integration Network (LHIN)**	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.

Term/Acronym		Definition
21	**LOS**	Length of stay
22.	**LSN**	Last seen normal; time prior to onset of stroke symptoms
23.	**LTC**	Long-term care
24.	**MOHLTC**	Ontario Ministry of Health and Long-Term Care
25.	**MRI**	Magnetic resonance imaging
26.	**Non-designated hospital**	An acute care hospital that does not fit the definition of a district or regional stroke centre
27	**OHA**	Ontario Hospital Association
28.	**OSA**	Ontario Stroke Audit
29.	**OSN**	Ontario Stroke Network; provides provincial leadership and coordination for the OSS
30.	**OSS**	Ontario Stroke Strategy (or System); a collaborative system of a provider organization and partners who deliver stroke care across the province and care continuum
31.	**RAI–MDS**	Resident Assessment Instrument–Minimum Data Set; used to assess patients in complex continuing care and long-term care homes
32.	**Rankin score**	From the Rankin Scale; a measure of functional status after stroke with a range from 0 (no disability) to 6 (death)
33.	**Regional stroke centre**	A facility that has all the requirements of a district stroke centre plus neurosurgical facilities and interventional radiology
34.	**SEQC**	Stroke Evaluation and Quality Committee
35.	**SPC**	Secondary stroke prevention clinic; an ambulatory clinic that aims to reduce recurrent vascular events following an initial stroke
36.	**Small community hospital**	A facility that generally provides fewer than 3,500 weighted cases, has a referral population of less than 20,000 people, and is the only hospital in its community, as defined by the Joint Policy and Planning Committee
37.	**Stroke unit**	Specialized, geographically-located hospital unit with a dedicated stroke team and stroke resources
38.	**Telestroke**	A telemedicine application that provides emergency physicians with immediate access to neurologists with expertise in the assessment and treatment of patients experiencing acute ischemic stroke
39.	**TIA**	Transient ischemic attack, or “mini-stroke”
40.	**tPA**	Tissue plasminogen activator
41.	**UTD**	Unable to determine; based on available data in the patient’s medical records, or on clinical presentation and/or findings

Appendix J:
2010/11 Ontario Stroke Audit Provincial Sample Size by Exhibit

Exhibit ii Ontario Stroke Audit patient characteristics

Table Section	Cohort	Weighted	Sample
Overall	Stroke, transient ischemic attack and patients with uncertain diagnosis	19,570	13,250
Risk factors	Stroke excluding subarachnoid hemorrhage and transient ischemic attack patients	18,290	12,346
Final diagnosis	Stroke, transient ischemic attack and patients with uncertain diagnosis	19,570	13,250
Stroke type	Stroke patients	12,171	8,462

Exhibit 1.5 Number and percentage of adult stroke or transient ischemic attack patients who sought medical attention within the treatment window

Table Section	Cohort	Weighted	Sample
Overall	Stroke, transient ischemic attack and patients with uncertain diagnosis and with a valid postal code	19,387	13,124

Exhibit 1.6 Number and percentage of adult stroke or transient ischemic attack patients who received neuroimaging within 24 hours of presenting to the emergency department and prior to discharge

Table Section	Cohort	Weighted	Sample
Within 24 hours	Stroke, transient ischemic attack and patients with uncertain diagnosis that had an available scan time	17,453	11,941
Before discharge	All inpatient (admitted) stroke, transient ischemic attack and patients with uncertain diagnosis	12,775	8,916

Exhibit 1.7 Number and percentage of ischemic and eligible adult stroke patients who received acute thrombolytic therapy (tPA) and the door-to-needle time

Table Section	Cohort	Weighted	Sample
Ischemic	Ischemic stroke patients	10,158	6,935
Ischemic within 60 minutes	Ischemic stroke patients administered tPA	965	916
Eligible	Ischemic stroke patients who arrived within 3.5 hours of symptom onset and had no contraindications to tPA	2,895	2,268
Eligible within 60 minutes	Ischemic stroke patients who were given tPA after arriving within 3.5 hours of symptom onset and did not have any contraindications to tPA	930	882
Door-to-needle time	All patients administered intravenous tPA	942	894

Exhibit 2.4 Number and percentage of adult patients with stroke or transient ischemic attack admitted to an acute care hospital and treated on a stroke unit at any time during their stay

Table Section	Cohort	Weighted	Sample
Overall	Stroke or transient ischemic attack inpatients	12,771	8,913

Exhibit 2.6 Number and proportion of adult patients with documentation that an initial dysphagia screening was performed during admission to acute care

Table Section	Cohort	Weighted	Sample
Overall	Stroke inpatients excluding those that were unconscious at time of initial assessment	10,316	7,223

Exhibit 2.8b Referral to secondary prevention services among stroke/TIA patients

Table Section	Cohort	Weighted	Sample
From ED	Stroke/TIA patients discharged directly from ED	5,868	3,782
From ED or acute inpatient care	Stroke/TIA patients discharged from ED or inpatient care	15,561	10,471

Exhibit 2.9 Number and percentage of adult ischemic stroke patients without atrial fibrillation who received carotid imaging while in hospital or had an appointment booked for carotid imaging prior to hospital discharge

Table Section	Cohort	Weighted	Sample
Prior to discharge	Ischemic stroke inpatients without atrial fibrillation	6,327	4,283
Booked	Ischemic stroke inpatients without atrial fibrillation who did not have carotid imaging while in hospital	1,345	831

Exhibit 2.11 Number and percentage of adult patients with ischemic stroke or transient ischemic attack who were prescribed three recommended secondary prevention medications on discharge from acute care

Table Section	Cohort	Weighted	Sample
Overall	Ischemic stroke or transient ischemic attack patients discharged alive from an ED or inpatient care	15,839	10,660

Exhibit 2.12 Number and percentage of adult patients with ischemic stroke or transient ischemic attack and atrial fibrillation who were prescribed or recommended anticoagulant therapy on discharge from acute care

Table Section	Cohort	Weighted	Sample
Overall	Ischemic stroke or transient ischemic attack patients with atrial fibrillation discharged alive from an ED or inpatient care	3,331	2,359

Exhibit 2.13 Degree of functional ability at discharge (modified Rankin score)

Table Section	Cohort	Weighted	Sample
Overall	Stroke or transient ischemic attack patients discharged alive from an ED or inpatient care with a modified Rankin score and a postal code	16,549	11,360

Exhibit 2.14a Discharge destinations among stroke/TIA inpatients with modified Rankin scores of 0–2

Table Section	Cohort	Weighted	Sample
Overall	Stroke or transient ischemic attack patients discharged alive from an ED or inpatient care with a modified Rankin score of 0–2 and a postal code	10,198	6,942

Exhibit 2.14b Discharge destinations among stroke/TIA inpatients with modified Rankin scores of 3–5

Table Section	Cohort	Weighted	Sample
Overall	Stroke or transient ischemic attack patients discharged alive from an ED or inpatient care with a modified Rankin score of 3–5 and postal code	6,351	4,418

Exhibit 2.15 Characteristics of patients who received AlphaFIM assessments

Table Section	Cohort	Weighted	Sample
Overall	Stroke or transient ischemic attack patients with an AlphaFIM score	2,201	1,985

Appendix K:
Risk-Adjusted Mortality Models

Variable	Risk-Adjustment Model[1] for Inhospital Stroke/TIA Mortality, 2010/11			Risk-Adjustment Model[2] for 30-Day Stroke/TIA Mortality, 2009/10			Risk-Adjustment Model[3] for One-Year Stroke/TIA Mortality, 2009/10		
	Coefficient	Adjusted OR[4] (95% CI)	P Value	Coefficient	Adjusted OR[4] (95% CI)	P Value	Coefficient	Adjusted OR[4] (95% CI)	P Value
Intercept	-5.638			-5.762			-5.802		
Age	0.037	1.04 (1.03 –1.04)	0.121	0.042	1.04 (1.04 –1.05)		0.056	1.06 (1.05–1.06)	
Female	-0.071	0.93 (0.85–1.02)		0.032	1.03 (0.94–1.14)	0.53	0.033	1.03 (0.96–1.11)	0.389
Ambulance arrival	1.067	2.91 (2.42–3.49)		1.120	3.07 (2.63–3.57)		0.823	2.28 (2.05–2.54)	
Atrial fibrillation	0.229	1.26 (1.12–1.41)		0.252	1.29 (1.16–1.42)		0.282	1.33 (1.21–1.46)	
Previous stroke/ transient ischemic attack	0.488	1.63 (1.19–2.22)	0.002	0.594	1.81 (1.47–2.23)		0.625	1.87 (1.56–2.24)	
History of CAD/CABG/PCI	0.418	1.52 (1.29–1.79)		0.466	1.59 (1.37–1.86)		0.393	1.48 (1.31–1.68)	
History of carotid disease/CEA/CAS	-0.548	0.58 (0.40–0.83)	0.003	-0.631	0.53 (0.37–0.76)		-0.405	0.67 (0.52–0.86)	0.002
Diabetes	0.18	1.20 (1.06–1.35)	0.003	0.002	1.00 (0.89–1.13)	0.97	0.123	1.13 (1.03–1.24)	0.009
Peripheral vascular disease	0.28	1.32 (0.89–1.97)	0.169	0.401	1.49 (1.09–2.04)	0.01	0.534	1.71 (1.27–2.29)	
Hypertension	-0.153	0.86 (0.77–0.96)	0.007	-0.362	0.70 (0.63–0.78)		-0.407	0.67 (0.61–0.73)	
Hyperlipidemia	-0.526	0.59 (0.49–0.72)		-0.724	0.49 (0.39–0.60)		-0.585	0.56 (0.47–0.67)	
Intracerebral hemorrhage	1.233	3.43 (3.01–3.91)		1.348	3.85 (3.33–4.45)		1.097	2.99 (2.64–3.39)	
Subarachnoid hemorrhage	1.232	3.43 (2.59–4.55)		1.186	3.28 (2.43–4.42)		0.849	2.34 (1.78–3.08)	
Transient ischemic attack	-3.584	0.03 (0.02–0.05)		-2.673	0.07 (0.05–0.10)		-1.329	0.27 (0.23–0.30)	

[1] C-statistic = 0.78

[2] C-statistic = 0.79

[3] C-statistic = 0.77

[4] Odds ratio(OR) was adjusted for patient baseline characteristics set by fitting logistic regression models using generalized estimating equations accounting for within-hospital correlation. Reference category: ischemic stroke.

CI = confidence interval; CAD = coronary artery disease; CABG = coronary artery bypass graft; PCI = percutaneous coronary intervention; CEA = carotid endarterectomy; CAS = coronary artery stent

Appendix L:
List of Supplementary Exhibits

The following exhibits are available at **www.ices.on.ca**.

1. Emergency Department Care

Exhibit 1.2s: Age- and sex-adjusted rates of emergency department visits for adult stroke or transient ischemic attack patients per 1,000 subLHIN population, in Ontario and by sub-Local Health Integration Network, 2003/04 and 2008/09–2010/11

Exhibit 1.4s-1: Number and percentage of adult stroke or transient ischemic attack patients transported to hospital by ambulance, in Ontario and by facility, 2003/04, 2008/09–2010/11

Exhibit 1.4s-2: Number and percentage of adult stroke or transient ischemic attack patients transported to hospital by ambulance, in Ontario and by sub-Local Health Integration Network, 2003/04, 2008/09–2010/11

Exhibit 1.5s: Number and percentage of adult stroke or transient ischemic attack patients who sought medical attention within the treatment window, in Ontario and by sub-Local Health Integration Network, 2002/03, 2004/05, 2008/09 and 2010/11

Exhibit 1.6s: Number and percentage of adult stroke or transient ischemic attack patients who received neuroimaging within 24 hours of presenting to the emergency department and prior to discharge, in Ontario and by facility, 2002/03, 2004/05, 2008/09 and 2010/11

Exhibit 1.7s: Number and percentage of eligible adult stroke patients who received acute thrombolytic therapy (tPA) and the door-to-needle time, in Ontario and by facility, 2002/03, 2004/05, 2008/09 and 2010/11

2. Acute Inpatient Care

Exhibit 2.2s: Number and percentage of adult patients admitted to acute care hospitals for stroke or transient ischemic attack, in Ontario and by OSS region, Local Health Integration Network and stroke type, 2003/04 and 2008/09–2010/11

Exhibit 2.3s: Age- and sex-adjusted inpatient admission rates for adults with stroke or transient ischemic attack per 1,000 subLHIN population, in Ontario and by sub-Local Health Integration Network, 2003/04 and 2008/09–2010/11

Exhibit 2.4s: Number and percentage of adult patients with stroke or transient ischemic attack admitted to an acute care hospital and treated on a stroke unit at any time during their stay, in Ontario and by facility, 2002/03, 2004/05, 2008/09 and 2010/11

Exhibit 2.5s–1: Inpatient length of stay for adults with stroke or transient ischemic attack, in Ontario and by facility, 2003/04 and 2008/09–2010/11

Exhibit 2.5s–2: Inpatient length of stay for all stroke patients and ischemic patients, in Ontario and by OSS region, OSS classification and Local Health Integration Network, 2003/04 and 2008/09–2010/11

Exhibit 2.6s: Number and percentage of adult patients with documentation that an initial dysphagia screening was performed during admission to acute care, in Ontario and by facility, 2002/03, 2004/05, 2008/09 and 2010/11

Exhibit 2.7s: Risk-adjusted inhospital complication rates for pneumonia among adult patients with stroke or transient ischemic attack, in Ontario and by facility, 2003/04 and 2008/09–2010/11

Exhibit 2.8s: Discharge destination of adult patients with stroke or transient ischemic attack following an acute hospitalization, in Ontario and by facility, 2003/04 and 2008/09–2010/11

Exhibit 2.9s: Number and percentage of adult ischemic stroke patients without atrial fibrillation who received carotid imaging while in hospital or who had an appointment booked for carotid imaging prior to hospital discharge, in Ontario and by facility, 2002/03, 2004/05, 2008/09 and 2010/11

Exhibit 2.10s: Time to carotid intervention within six months of hospitalization for adults with stroke or transient ischemic attack, in Ontario and by facility, 2003/04 and 2008/09–2010/11

Exhibit 2.11s: Number and percentage of adult patients with ischemic stroke or transient ischemic attack who were prescribed three recommended secondary prevention medications upon discharge from acute care, in Ontario and by facility, 2002/03, 2004/05, 2008/09 and 2010/11

Exhibit 2.12s: Number and percentage of adult patients with ischemic stroke or transient ischemic attack and atrial

fibrillation who were prescribed anticoagulant therapy upon discharge from acute care, in Ontario and by facility, 2002/03, 2004/05, 2008/09 and 2010/11

3. Inpatient Rehabilitation

Exhibit 3.4s: Characteristics and outcomes of adult stroke patients in inpatient rehabilitation, in Ontario and by sub-Local Health Integration Network, 2003/04 and 2008/09–2010/11

Exhibit 3.7s–1: Characteristics of adults stroke patients in inpatient rehabilitation, in Ontario and by OSS region and National Rehabilitation Reporting System facility number, 2003/04

Exhibit 3.7s–2: Characteristics of adults stroke patients in inpatient rehabilitation, in Ontario and by OSS region and National Rehabilitation Reporting System facility number, 2008/09

Exhibit 3.7s–3: Characteristics of adults stroke patients in inpatient rehabilitation, in Ontario and by OSS region and National Rehabilitation Reporting System facility number, 2009/10

Exhibit 3.7s–4: Characteristics of adults stroke patients in inpatient rehabilitation, in Ontario and by OSS region and National Rehabilitation Reporting System facility number, 2010/11

4. Home Care Services

Exhibit 4.2s: Community Care Access Centre support services provided to home care clients (active and new) within 180 days following an acute hospitalization for stroke, in Ontario and by Local Health Integration Network, 2006/07–2009/10

5. Patient Outcomes

Exhibit 5.2s: Age- and sex-adjusted revisit or readmission rates within 365 days following stroke or transient ischemic attack, in Ontario and by stroke type, OSS region, OSS classification and Local Health Integration Network, 2003/04 and 2007/08–2009/10

Exhibit 5.3s: Age- and sex-adjusted all-cause readmission rates within 30 days following stroke or transient ischemic attack, in Ontario and by facility, 2003/04 and 2007/08–2009/10