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Findings and Exhibits—Adult Stroke

1. Emergency Department Care

Emergency Department Admissions

Findings

- **Exhibit 1.1:** While the median age did not change, over half of stroke/TIA patients visiting emergency departments in Ontario were aged 66–84. In 2009/10, those aged 18–65 represented 29.3% of patients arriving at the emergency department with suspected stroke/TIA, a 12% relative increase from 2003/04 (26.1%). The proportion of stroke patients over age 85 also increased from 14.5% in 2003/04 to 17.2% in 2009/10, a relative increase of 18.6%.
- **Exhibit 1.2:** There was a decrease in the number of stroke-related ED visits per 1,000 population at the provincial level. In 2009/10, the age- and sex-adjusted rate per 1,000 population was 1.9 compared to 2.0 in 2003/04 (p=0.0001). There continued to be modest variation across the LHINs from 2003/04 onward. The Erie St. Clair and Northwest LHINs consistently had the highest rates of stroke-related ED visits.
- **Exhibit 1.3:** The number of patients arriving at the emergency departments of designated stroke centres increased from 40.1% in 2003/04 to 48.2% in 2009/10. Although rates remained high, the use of the "unable to determine" diagnostic code for stroke decreased from 51.0% in 2003/04 to 43.4% in 2009/10 across all designations, and particularly in the district stroke centres.

Conclusions

The increase in stroke prevalence in younger age groups (18–65 years) emphasizes the need to address modifiable risk factors, such as hypertension and tobacco smoking. The increase in stroke/TIAs in this age group could also be attributed to the fact that a large proportion of the Ontario population—the "baby boomers"—are members. Also, elderly people are living longer, thereby increasing their likelihood of experiencing a stroke. However, it is unclear whether the observed trends are solely reflective of the aging population or involve other contributing factors.

Between 2003/04 and 2009/10, emergency department volumes for stroke/TIA registered a relative decrease of 5%. Stroke prevention efforts may be having an effect overall; however, the variation across the LHINs suggests that there is a need for targeted campaigns. According to the 2008/09 Ontario Stroke Audit,[5] the Northwest LHIN had the highest rates of atrial fibrillation and diabetes, and the Erie St. Clair LHIN had the highest rates of hypertension and hyperlipidemia—all known risk factors for stroke.

Recommendations

The OSS regions need to work with their health promotion partners to identify strategies targeted at the relevant modifiable risk factors for stroke.

The quality of stroke administrative data is improving; however, further efforts should be made to eliminate the "unable to determine" stroke type, as it is important to know the cause of stroke. Improvements in adherence to best practices in diagnosis and health records data-capture levels are recommended. The OSN should encourage clinicians to specify the stroke type in their diagnoses. The OSN should work with the Canadian Institute for Health Information to produce educational material to improve stroke abstracting by health records technicians.

Arrival by Ambulance

Findings

- **Exhibit 1.4:** There was a 5.1% relative increase in the proportion of stroke/TIA patients arriving at the emergency department by ambulance. The Northwest region made a substantial improvement, increasing from 41.3% in 2003/04 to 55.6% in 2009/10. The increase in stroke/TIA patients arriving at designated stroke hospitals was dramatic, with particular improvement in the district stroke hospitals, which rose from 52.2% in 2003/04 to 61.5% in 2009/10, a 17.8% relative increase.

[5] Kapral MK, Hall R, Stamplecoski M, Meyer S, Asllani E, Fang J, Richards J, O'Callaghan C, Silver FL. *Registry of the Canadian Stroke Network – Report on the 2008/09 Ontario Stroke Audit.* Toronto: Institute for Clinical Evaluative Sciences; 2011.

Conclusions

The proportion of stroke/TIA patients arriving at hospitals by ambulance has remained stable over the past three years. This corresponds to the period of time when the Heart and Stroke Foundation of Ontario's warning signs campaign was not airing on television. Almost half of suspected stroke/TIA patients (44.5%) do not dial 911 to request assistance.

Recommendations

The OSN will continue to monitor this indicator in light of a commitment made by the Ministry of Health and Long-Term Care to the Heart and Stroke Foundation of Ontario to fund further advertising in 2010/11.

The dramatic improvement observed in the proportion of stroke/TIA patients arriving at designated stroke hospitals may reflect the pre-hospital medical redirect protocols established by the OSS regions since 2003/04.

Emergency Department Arrival Time

Findings

- **Exhibit 1.5:** Overall, in 2008/09, 35.3% of patients arrived at hospital within 2.5 hours of stroke onset, a slight improvement from 2002/03. In 2008/09, patients seen at regional stroke centres were more likely than those at other hospital types to arrive within 2.5 hours of stroke onset. There were variations in rates across OSS regions, ranging from 27.9% (Toronto West) to 42.7% (Northeast), as well as variations by LHIN, with a low of 24.6% (Central West) and a high of 43.9% (Erie St. Clair).

Conclusions

Only about one in three stroke/TIA patients seeks medical attention within 2.5 hours of stroke onset, suggesting a need for increased public awareness campaigns that emphasize the importance of seeking medical attention quickly.

Recommendations

The OSN in partnership with the Ontario Heart and Stroke Foundation needs to advocate for increasing the penetration of the public awareness campaigns. In particular, certain regions may need to consult with relevant cultural groups in order to improve the effectiveness of these public campaigns.

Neuroimaging Rates

Findings

- **Exhibit 1.6:** In 2008/09, 86.3% of patients underwent neuroimaging within 24 hours of hospital arrival, a significant improvement from 47.4% in 2002/03 ($p \leq 0.0001$). Neuroimaging rates varied across OSS regions in 2008/09; however, these were less pronounced than in previous years. Neuroimaging rates continued to be highest at regional stroke centres. Regional stroke centres had imaging rates prior to discharge of 99.9% vs. 98.1% and 96.4%, respectively, at district stroke centres and non-designated centres.

Conclusions

Stroke/TIA patients were more likely to undergo neuroimaging within 24 hours of presenting to the emergency department at designated stroke centres than at non-designated centres.

Recommendations

Patients should be cared for in specialized stroke centres.

The OSN considers retiring this as an indicator to monitor acute stroke care due to the high level of performance (greater than 95% at the provincial level).

tPA Administration

Findings

- **Exhibit 1.7:** In patients with ischemic stroke presenting to hospital within 2.5 hours of stroke onset, the provincial thrombolysis administration rate increased from 10.8% in 2002/03 to 29.6% in 2008/09 ($p \leq 0.0001$) . Rates of tissue plasminogen activator (tPA) administration were highest at regional stroke centres and lowest at non-designated centres. The median door-to-needle time was 69.7 minutes, an improvement from 82.6 minutes in 2004/05 but still above the benchmark of 60 minutes. Four OSS regions were able to administer tPA in 60 minutes or less (South East, Northwest, Toronto-Southeast and West GTA). Regional stroke centres delivered tPA the fastest, at 66.0 minutes, followed by 74.7 minutes at district stroke centres and 91.3 minutes at non-designated centres. All designations improved compared to 2004/05 but were still above the benchmark of 60 minutes.

Conclusions

Improvements have been made in door-to-needle time, but continued effort is needed across most regions to achieve the 60-minute benchmark. According to the 2008/09 Ontario Stroke Audit, 8.4% of all ischemic stroke patients received tPA; this is similar to rates reported in the international literature.

Recommendations

The OSN continues to work to increase access to thrombolysis through Telestroke. The OSS regions need to look to facilities that are achieving the benchmark of 60 minutes and learn from their best practice.

Exhibit 1.1

Number and percentage of adult patients[1] presenting to the emergency department with stroke or transient ischemic attack (TIA), in Ontario and by sex and age group, 2003/04 to 2009/10

Characteristic	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/2010
Ontario, n	**18,961**	**19,547**	**19,639**	**18,840**	**19,066**	**19,477**	**20,002**
Sex, n (%)							
Female	9,600 (50.6)	9,987 (51.1)	10,109 (51.5)	9,671 (51.3)	9,600 (50.4)	9,894 (50.8)	10,238 (51.2)
Male	9,361 (49.4)	9,560 (48.9)	9,530 (48.5)	9,169 (48.7)	9,466 (49.6)	9,583 (49.2)	9,764 (48.8)
Age							
Mean ± SD	72.6 ± 13.3	72.4 ± 13.4	72.4 ± 13.7	72.5 ± 13.6	72.4 ± 13.7	72.1 ± 13.9	72.3 ± 14.0
Median (IQR)	75 (65–82)	75 (64–82)	75 (64–83)	75 (64–83)	75 (64–83)	75 (63–83)	75 (63–83)
Age group, n (%)							
18–55	2,248 (11.9)	2,406 (12.3)	2,510 (12.8)	2,351 (12.5)	2,424 (12.7)	2,636 (13.5)	2,717 (13.6)
56–65	2,684 (14.2)	2,833 (14.5)	2,893 (14.7)	2,843 (15.1)	2,909 (15.3)	3,093 (15.9)	3,131 (15.7)
66–75	4,825 (25.4)	4,798 (24.5)	4,611 (23.5)	4,456 (23.7)	4,438 (23.3)	4,447 (22.8)	4,445 (22.2)
76–85	6,449 (34.0)	6,719 (34.4)	6,676 (34.0)	6,282 (33.3)	6,265 (32.9)	6,222 (31.9)	6,265 (31.3)
>85	2,755 (14.5)	2,791 (14.3)	2,949 (15.0)	2,908 (15.4)	3,030 (15.9)	3,079 (15.8)	3,444 (17.2)
Female age							
Mean ± SD	74.6 ± 13.4	74.3 ± 13.5	74.4 ± 13.8	74.3 ± 13.9	74.5 ± 13.8	74.1 ± 14.2	74.2 ± 14.3
Median (IQR)	77 (68–84)	78 (67–84)	78 (67–84)	78 (66–84)	78 (67–84)	77 (66–84)	78 (66–85)
Female age group, n (%)							
18–55	964 (10.0)	1,057 (10.6)	1,132 (11.2)	1,082 (11.2)	1,088 (11.3)	1,183 (12.0)	1,243 (12.1)
56–65	1,101 (11.5)	1,183 (11.8)	1,173 (11.6)	1,201 (12.4)	1,124 (11.7)	1,256 (12.7)	1,261 (12.3)
66–75	2,124 (22.1)	2,106 (21.1)	2,091 (20.7)	1,955 (20.2)	1,949 (20.3)	1,969 (19.9)	2,025 (19.8)
76–85	3,523 (36.7)	3,748 (37.5)	3,701 (36.6)	3,436 (35.5)	3,399 (35.4)	3,391 (34.3)	3,391 (33.1)
>85	1,888 (19.7)	1,893 (19.0)	2,012 (19.9)	1,997 (20.6)	2,040 (21.3)	2,095 (21.2)	2,318 (22.6)
Male age							
Mean ± SD	70.5 ± 12.9	70.4 ± 13.0	70.3 ± 13.3	70.6 ± 13.0	70.3 ± 13.2	70.0 ± 13.3	70.3 ± 13.4
Median (IQR)	73 (63–80)	73 (62–80)	73 (62–80)	73 (62–80)	72 (62–80)	72 (61–80)	72 (61–80)
Male age group, n (%)							
18–55	1,284 (13.7)	1,349 (14.1)	1,378 (14.5)	1,269 (13.8)	1,336 (14.1)	1,453 (15.2)	1,474 (15.1)
56–65	1,583 (16.9)	1,650 (17.3)	1,720 (18.0)	1,642 (17.9)	1,785 (18.9)	1,837 (19.2)	1,870 (19.2)
66–75	2,701 (28.9)	2,692 (28.2)	2,520 (26.4)	2,501 (27.3)	2,489 (26.3)	2,478 (25.9)	2,420 (24.8)
76–85	2,926 (31.3)	2,971 (31.1)	2,975 (31.2)	2,846 (31.0)	2,866 (30.3)	2,831 (29.5)	2,874 (29.4)
>85	867 (9.3)	898 (9.4)	937 (9.8)	911 (9.9)	990 (10.5)	984 (10.3)	1,126 (11.5)

Data source: Canadian Institute for Health Information, National Ambulatory Care Reporting System (CIHI-NACRS), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years discharged from an emergency department with a diagnosis of stroke (ischemic or hemorrhagic) or TIA.

Exclusion criteria: Patients with a scheduled emergency department visit.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) SD = standard deviation; IQR = interquartile range (25^{th}–75^{th} percentile).

(2) Excludes all NACRS records with ICD codes that include the prefix "Q" (suspected, questionable diagnoses) starting in 2008/09.

Exhibit 1.2

Age- and sex-adjusted[1] rates of adult stroke or transient ischemic attack (TIA) patients[2] arriving in the emergency department per 1,000 LHIN population, in Ontario and by Local Health Integration Network, 2003/04 to 2009/10

Group/Sub-Group	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
	Age- and Sex-adjusted Rate, % (n)						
Ontario	**2.0 (18,935)**	**2.0 (19,527)**	**2.0 (19,617)**	**1.9 (18,827)**	**1.9 (19,051)**	**1.9 (19,463)**	**1.9 (19,979)**
Local Health Integration Network							
1. Erie St. Clair	2.4 (1,236)	2.5 (1,330)	2.5 (1,329)	2.1 (1,155)	2.0 (1,094)	2.3 (1,234)	2.5 (1,360)
2. South West	1.7 (1,347)	1.8 (1,436)	1.9 (1,522)	1.8 (1,483)	1.9 (1,560)	1.9 (1,557)	2.1 (1,712)
3. Waterloo Wellington	1.9 (920)	2.2 (1,069)	2.0 (1,016)	1.8 (911)	1.8 (915)	1.9 (981)	1.9 (1,044)
4. Hamilton Niagara Haldimand Brant	2.0 (2,411)	2.1 (2,473)	2.1 (2,507)	1.9 (2,295)	2.0 (2,409)	1.9 (2,400)	1.9 (2,424)
5. Central West	2.0 (811)	1.9 (797)	1.9 (800)	1.9 (822)	1.9 (845)	1.9 (908)	1.8 (884)
6. Mississauga Halton	1.8 (1,069)	1.9 (1,129)	1.8 (1,145)	1.7 (1,097)	1.6 (1,093)	1.6 (1,173)	1.7 (1,252)
7. Toronto Central	1.8 (1,605)	1.8 (1,659)	1.7 (1,594)	1.7 (1,578)	1.7 (1,588)	1.8 (1,600)	1.8 (1,666)
8. Central	1.9 (1,882)	1.9 (1,933)	1.8 (1,957)	1.8 (1,950)	1.7 (1,951)	1.7 (2,065)	1.7 (1,996)
9. Central East	2.0 (2,232)	2.0 (2,322)	2.1 (2,391)	2.0 (2,304)	1.9 (2,288)	1.9 (2,300)	2.0 (2,412)
10. South East	2.2 (1,010)	2.3 (1,045)	2.1 (948)	2.1 (944)	2.2 (1,019)	2.0 (935)	2.0 (942)
11. Champlain	2.2 (1,976)	2.2 (1,973)	2.2 (1,996)	2.1 (1,990)	2.1 (1,959)	2.0 (1,946)	2.0 (1,902)
12. North Simcoe Muskoka	2.3 (785)	2.3 (806)	2.1 (751)	1.9 (701)	2.1 (780)	2.0 (755)	2.0 (778)
13. North East	2.4 (1,172)	2.1 (1,062)	2.3 (1,183)	2.2 (1,105)	2.2 (1,115)	2.2 (1,132)	2.2 (1,124)
14. North West	2.5 (479)	2.5 (493)	2.4 (478)	2.5 (492)	2.2 (435)	2.4 (477)	2.5 (483)

Data sources: Canadian Institute for Health Information, National Ambulatory Care Reporting System (CIHI-NACRS), 2003/04 to 2009/10; Statistics Canada, Ontario census data, 1996.

Inclusion criteria: All patients aged ≥18 years with a diagnosis of stroke (ischemic or hemorrhagic) or TIA.

Exclusion criteria: Patients with a scheduled emergency department visit.

[1] Age- and sex-adjusted rates used each year's Ontario population as the standard.

[2] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) Population-based analysis (i.e., the location of the patient's residence is used to report regional performance).

(2) Excludes all NACRS records with ICD codes that include the prefix "Q" (suspected, questionable diagnoses) starting in 2008/09.

(3) Indicates significance difference from provincial rate at the p<0.0001 level.

Exhibit 1.3

Number and percentage of adult stroke or transient ischemic attack (TIA) patients[1] arriving at the emergency department of regional stroke centres, district stroke centres and non-designated centres, in Ontario and by stroke type, OSS region and Local Health Integration Network, 2003/04 to 2009/10

	2003/04				2004/05			
Group/Sub-Group	**All**	**Regional Stroke Centre**	**District Stroke Centre**	**Non-designated**	**All**	**Regional Stroke Centre**	**District Stroke Centre**	**Non-designated**
	n (%)							
Ontario	**18,961**	**4,710 (24.8)**	**2,903 (15.3)**	**11,348 (59.8)**	**19,547**	**4,940 (25.3)**	**3,182 (16.3)**	**11,425 (58.4)**
Stroke Type								
Intracerebral hemorrhage	1,121 (5.9)	406 (8.6)	141 (4.9)	574 (5.1)	1,092 (5.6)	411 (8.3)	176 (5.5)	505 (4.4)
Ischemic stroke	968 (5.1)	290 (6.2)	160 (5.5)	518 (4.6)	901 (4.6)	333 (6.7)	133 (4.2)	435 (3.8)
Subarachnoid hemorrhage	604 (3.2)	252 (5.4)	78 (2.7)	274 (2.4)	566 (2.9)	234 (4.7)	63 (2.0)	269 (2.4)
Transient ischemic attack	6,597 (34.8)	1,477 (31.4)	1,014 (34.9)	4,106 (36.2)	7,293 (37.3)	1,585 (32.1)	1,149 (36.1)	4,559 (39.9)
Unable to determine[2]	9671 (51)	2,285 (48.5)	1,510 (52.0)	5,876 (51.8)	9,695 (49.6)	2,377 (48.1)	1,661 (52.2)	5,657 (49.5)
Ontario Stroke System Region								
Central East	2,821 (14.9)	252 (5.4)	966 (33.3)	1,603 (14.1)	2,885 (14.8)	258 (5.2)	1,038 (32.6)	1,589 (13.9)
Central South	3,294 (17.4)	460 (9.8)	663 (22.8)	2,171 (19.1)	3,508 (17.9)	454 (9.2)	887 (27.9)	2,167 (19.0)
East – Champlain	2,016 (10.6)	489 (10.4)	115 (4.0)	1,412 (12.4)	1,996 (10.2)	505 (10.2)	105 (3.3)	1,386 (12.1)
Northeast	1,149 (6.1)	320 (6.8)	436 (15.0)	393 (3.5)	1,033 (5.3)	280 (5.7)	378 (11.9)	375 (3.3)
Northwest	480 (2.5)	305 (6.5)	n/a	175 (1.5)	495 (2.5)	296 (6.0)	n/a	199 (1.7)
South East	1,009 (5.3)	389 (8.3)	143 (4.9)	477 (4.2)	1,043 (5.3)	409 (8.3)	144 (4.5)	490 (4.3)
Southwest	2,580 (13.6)	907 (19.3)	580 (20.0)	1,093 (9.6)	2,774 (14.2)	942 (19.3)	630 (19.8)	1,202 (10.5)
Toronto – North & East	1,329 (7)	383 (8.1)	n/a	946 (8.3)	1,477 (7.6)	454 (9.2)	n/a	1,023 (9.0)
Toronto – Southeast	973 (5.1)	167 (3.5)	n/a	806 (7.1)	1,081 (5.5)	249 (5.0)	n/a	832 (7.3)
Toronto – West	1,407 (7.4)	447 (9.5)	n/a	960 (8.5)	1,362 (7)	504 (10.2)	n/a	858 (7.5)
West GTA	1,903 (10.0)	591 (12.5)	n/a	1,312 (11.6)	1,893 (9.7)	589 (11.9)	n/a	1,304 (11.4)
Local Health Integration Network								
1. Erie St. Clair	1,185 (6.2)	441 (9.4)	368 (12.7)	376 (3.3)	1,281 (6.6)	485 (9.8)	423 (13.3)	373 (3.3)
2. South West	1,395 (7.4)	466 (9.9)	212 (7.3)	717 (6.3)	1,493 (7.6)	457 (9.3)	207 (6.5)	829 (7.3)
3. Waterloo Wellington	876 (4.6)	n/a	257 (8.9)	619 (5.5)	1,060 (5.4)	n/a	468 (14.7)	592 (5.2)
4. Hamilton Niagara Haldimand Brant	2,418 (12.8)	460 (9.8)	406 (14.0)	1,552 (13.7)	2,448 (12.5)	454 (9.2)	419 (13.2)	1,575 (13.8)
5. Central West	784 (4.1)	n/a	n/a	784 (6.9)	739 (3.8)	n/a	n/a	739 (6.5)
6. Mississauga Halton	1,119 (5.9)	591 (12.5)	n/a	528 (4.7)	1,154 (5.9)	589 (11.9)	n/a	565 (4.9)
7. Toronto Central	1,806 (9.5)	997 (21.2)	n/a	809 (7.1)	1,986 (10.2)	1,207 (24.4)	n/a	779 (6.8)
8. Central	1,663 (8.8)	n/a	266 (9.2)	1,397 (12.3)	1,656 (8.5)	n/a	317 (10.0)	1,339 (11.7)
9. Central East	2,211 (11.7)	n/a	625 (21.5)	1,586 (14.0)	2,305 (11.8)	n/a	636 (20.0)	1,669 (14.6)
10. South East	1,009 (5.3)	389 (8.3)	143 (4.9)	477 (4.2)	1,043 (5.3)	409 (8.3)	144 (4.5)	490 (4.3)
11. Champlain	2,016 (10.6)	489 (10.4)	115 (4.0)	1,412 (12.4)	1,996 (10.2)	505 (10.2)	105 (3.3)	1,386 (12.1)
12. North Simcoe Muskoka	850 (4.5)	252 (5.4)	75 (2.6)	523 (4.6)	858 (4.4)	258 (5.2)	85 (2.7)	515 (4.5)
13. North East	1,149 (6.1)	320 (6.8)	436 (15.0)	393 (3.5)	1,033 (5.3)	280 (5.7)	378 (11.9)	375 (3.3)
14. North West	480 (2.5)	305 (6.5)	n/a	175 (1.5)	495 (2.5)	296 (6.0)	n/a	199 (1.7)

Data source: Canadian Institute for Health Information, National Ambulatory Care Reporting System (CIHI-NACRS), 2003/04 to 2009/10.

Inclusion criteria: Unique patients aged ≥18 years discharged from an emergency department with a diagnosis of stroke (ischemic or hemorrhagic) or TIA.

Exclusion criteria: Patients with a scheduled emergency department visit.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

[2] Unable to determine = stroke, not specified as hemorrhagic or infarction.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) See Appendix D for list of hospitals classified as regional and district stroke centres by the OSS.

(3) n/a = not applicable

(4) Excludes all NACRS records with ICD codes that include the prefix "Q" (suspected, questionable diagnoses) starting in 2008/09.

Group/Sub-Group	2005/06				2006/07				2007/08				2008/09				2009/10			
	All	Regional Stroke Centre	District Stroke Centre	Non-designated	All	Regional Stroke Centre	District Stroke Centre	Non-designated	All	Regional Stroke Centre	District Stroke Centre	Non-designated	All	Regional Stroke Centre	District Stroke Centre	Non-designated	All	Regional Stroke Centre	District Stroke Centre	Non-designated
	n (%)																			
Ontario	**19,639**	**5,273 (26.8)**	**3,336 (17.0)**	**11,030 (56.2)**	**18,840**	**5,034 (26.0)**	**3,370 (17.9)**	**10,436 (55.4)**	**19,066**	**5,425 (28.5)**	**3,432 (18.0)**	**10,209 (53.5)**	**19,477**	**5,687 (29.2)**	**3,514 (18.0)**	**10,276 (52.8)**	**20,002**	**5,881 (29.4)**	**3,754 (18.8)**	**10,367 (51.8)**
Stroke Type																				
Intracerebral hemorrhage	1,151 (5.9)	424 (8.0)	175 (5.2)	552 (5.0)	1,147 (6.1)	376 (7.5)	210 (6.2)	561 (5.4)	1,285 (6.7)	465 (8.6)	236 (6.9)	584 (5.7)	1,266 (6.5)	456 (8.0)	227 (6.5)	583 (5.7)	1,382 (6.9)	508 (8.6)	300 (8.0)	574 (5.5)
Ischemic stroke	1,120 (5.7)	432 (8.2)	256 (7.7)	432 (3.9)	1,394 (7.4)	440 (8.7)	402 (11.9)	552 (5.3)	1,649 (8.6)	647 (11.9)	420 (12.2)	582 (5.7)	1,749 (9)	585 (10.3)	517 (14.7)	647 (6.3)	1,890 (9.4)	639 (10.9)	572 (15.2)	679 (6.5)
Subarachnoid hemorrhage	653 (3.3)	292 (5.5)	73 (2.2)	288 (2.6)	632 (3.4)	209 (4.2)	84 (2.5)	339 (3.2)	694 (3.6)	261 (4.8)	87 (2.5)	346 (3.4)	666 (3.4)	224 (3.9)	93 (2.6)	349 (3.4)	677 (3.4)	245 (4.2)	100 (2.7)	332 (3.2)
Transient ischemic attack	7,288 (37.1)	1,625 (30.8)	1,204 (36.1)	4,459 (40.4)	6,657 (35.3)	1,639 (32.6)	1,124 (33.4)	3,894 (37.3)	6,730 (35.3)	1,698 (31.3)	1,156 (33.7)	3,876 (38.0)	7,122 (36.6)	1,838 (32.3)	1,194 (34.0)	4,090 (39.8)	7,380 (36.9)	1,946 (33.1)	1,280 (34.1)	4,154 (40.1)
Unable to determine[2]	9,427 (48)	2,500 (47.4)	1,628 (48.8)	5,299 (48.0)	9,010 (47.8)	2,370 (47.1)	1,550 (46.0)	5,090 (48.8)	8,708 (45.7)	2,354 (43.4)	1,533 (44.7)	4,821 (47.2)	8,674 (44.5)	2,584 (45.4)	1,483 (42.2)	4,607 (44.8)	8,673 (43.4)	2,543 (43.2)	1,502 (40.0)	4,628 (44.6)
Ontario Stroke System Region																				
Central East	2,905 (14.8)	250 (4.7)	1,041 (31.2)	1,614 (14.6)	2,915 (15.5)	248 (4.9)	1,217 (36.1)	1,450 (13.9)	2,999 (15.7)	308 (5.7)	1,198 (34.9)	1,493 (14.6)	3,004 (15.4)	345 (6.1)	1,238 (35.2)	1,421 (13.8)	3,101 (15.5)	321 (5.5)	1,300 (34.6)	1,480 (14.3)
Central South	3,452 (17.6)	497 (9.4)	871 (26.1)	2,084 (18.9)	3,164 (16.8)	457 (9.1)	909 (27.0)	1,798 (17.2)	3,273 (17.2)	514 (9.5)	953 (27.8)	1,806 (17.7)	3,347 (17.2)	496 (8.7)	974 (27.7)	1,877 (18.3)	3,426 (17.1)	474 (8.1)	1,054 (28.1)	1,898 (18.3)
East – Champlain	2,042 (10.4)	526 (10.0)	147 (4.4)	1,369 (12.4)	2,015 (10.7)	524 (10.4)	161 (4.8)	1,330 (12.7)	1,991 (10.4)	588 (10.8)	136 (4.0)	1,267 (12.4)	1,970 (10.1)	733 (12.9)	119 (3.4)	1,118 (10.9)	1,950 (9.7)	735 (12.5)	126 (3.4)	1,089 (10.5)
Northeast	1,161 (5.9)	299 (5.7)	461 (13.8)	401 (3.6)	1,061 (5.6)	301 (6.0)	361 (10.7)	399 (3.8)	1,067 (5.6)	290 (5.3)	394 (11.5)	383 (3.8)	1,099 (5.6)	317 (5.6)	437 (12.4)	345 (3.4)	1,092 (5.5)	280 (4.8)	441 (11.7)	371 (3.6)
Northwest	484 (2.5)	289 (5.5)	n/a	195 (1.8)	492 (2.6)	279 (5.5)	n/a	213 (2.0)	437 (2.3)	270 (5.0)	n/a	167 (1.6)	477 (2.4)	285 (5.0)	n/a	192 (1.9)	480 (2.4)	296 (5.0)	n/a	184 (1.8)
South East	936 (4.8)	346 (6.6)	147 (4.4)	443 (4.0)	932 (4.9)	346 (6.9)	116 (3.4)	470 (4.5)	995 (5.2)	402 (7.4)	140 (4.1)	453 (4.4)	919 (4.7)	329 (5.8)	133 (3.8)	457 (4.4)	921 (4.6)	349 (5.9)	135 (3.6)	437 (4.2)
Southwest	2,830 (14.4)	962 (18.2)	669 (20.1)	1,199 (10.9)	2,640 (14)	916 (18.2)	606 (18.0)	1,118 (10.7)	2,635 (13.8)	1,008 (18.6)	611 (17.8)	1,016 (10.0)	2,791 (14.3)	1,031 (18.1)	613 (17.4)	1,147 (11.2)	3,092 (15.5)	1,171 (19.9)	698 (18.6)	1,223 (11.8)
Toronto – North & East	1,510 (7.7)	578 (11.0)	n/a	932 (8.4)	1,331 (7.1)	453 (9.0)	n/a	878 (8.4)	1,363 (7.1)	492 (9.1)	n/a	871 (8.5)	1,377 (7.1)	530 (9.3)	n/a	847 (8.2)	1,332 (6.7)	581 (9.9)	n/a	751 (7.2)
Toronto – Southeast	986 (5)	265 (5.0)	n/a	721 (6.5)	980 (5.2)	273 (5.4)	n/a	707 (6.8)	996 (5.2)	315 (5.8)	n/a	681 (6.7)	1,014 (5.2)	340 (6.0)	n/a	674 (6.6)	1,078 (5.4)	372 (6.3)	n/a	706 (6.8)
Toronto – West	1,396 (7.1)	567 (10.8)	n/a	829 (7.5)	1,407 (7.5)	558 (11.1)	n/a	849 (8.1)	1,398 (7.3)	569 (10.5)	n/a	829 (8.1)	1,412 (7.2)	589 (10.4)	n/a	823 (8.0)	1,440 (7.2)	603 (10.3)	n/a	837 (8.1)
West GTA	1,937 (9.9)	694 (13.2)	n/a	1,243 (11.3)	1,903 (10.1)	679 (13.5)	n/a	1,224 (11.7)	1,912 (10)	669 (12.3)	n/a	1,243 (12.2)	2,067 (10.6)	692 (12.2)	n/a	1,375 (13.4)	2,090 (10.4)	699 (11.9)	n/a	1,391 (13.4)
Local Health Integration Network																				
1. Erie St. Clair	1,274 (6.5)	454 (8.6)	440 (13.2)	380 (3.4)	1,115 (5.9)	406 (8.1)	400 (11.9)	309 (3.0)	1,041 (5.5)	380 (7.0)	383 (11.2)	278 (2.7)	1,195 (6.1)	428 (7.5)	384 (10.9)	383 (3.7)	1,311 (6.6)	473 (8.0)	457 (12.2)	381 (3.7)
2. South West	1,556 (7.9)	508 (9.6)	229 (6.9)	819 (7.4)	1,525 (8.1)	510 (10.1)	206 (6.1)	809 (7.8)	1,594 (8.4)	628 (11.6)	228 (6.6)	738 (7.2)	1,596 (8.2)	603 (10.6)	229 (6.5)	764 (7.4)	1,781 (8.9)	698 (11.9)	241 (6.4)	842 (8.1)
3. Waterloo Wellington	972 (4.9)	n/a	399 (12.0)	573 (5.2)	884 (4.7)	n/a	400 (11.9)	484 (4.6)	876 (4.6)	n/a	423 (12.3)	453 (4.4)	972 (5)	n/a	444 (12.6)	528 (5.1)	1,021 (5.1)	n/a	467 (12.4)	554 (5.3)
4. Hamilton Niagara Haldimand Brant	2,480 (12.6)	497 (9.4)	472 (14.1)	1,511 (13.7)	2,280 (12.1)	457 (9.1)	509 (15.1)	1,314 (12.6)	2,397 (12.6)	514 (9.5)	530 (15.4)	1,353 (13.3)	2,375 (12.2)	496 (8.7)	530 (15.1)	1,349 (13.1)	2,405 (12)	474 (8.1)	587 (15.6)	1,344 (13.0)
5. Central West	644 (3.3)	n/a	n/a	644 (5.8)	643 (3.4)	n/a	n/a	643 (6.2)	670 (3.5)	n/a	n/a	670 (6.6)	733 (3.8)	n/a	n/a	733 (7.1)	725 (3.6)	n/a	n/a	725 (7.0)
6. Mississauga Halton	1,293 (6.6)	694 (13.2)	n/a	599 (5.4)	1,260 (6.7)	679 (13.5)	n/a	581 (5.6)	1,242 (6.5)	669 (12.3)	n/a	573 (5.6)	1334 (6.8)	692 (12.2)	n/a	642 (6.2)	1,365 (6.8)	699 (11.9)	n/a	666 (6.4)
7. Toronto Central	2,052 (10.4)	1,410 (26.7)	n/a	642 (5.8)	1,949 (10.3)	1,284 (25.5)	n/a	665 (6.4)	2,062 (10.8)	1,376 (25.4)	n/a	686 (6.7)	2,109 (10.8)	1,459 (25.7)	n/a	650 (6.3)	2,274 (11.4)	1,556 (26.5)	n/a	718 (6.9)
8. Central	1,673 (8.5)	n/a	315 (9.4)	1,358 (12.3)	1,717 (9.1)	n/a	420 (12.5)	1,297 (12.4)	1,681 (8.8)	n/a	427 (12.4)	1,254 (12.3)	1757 (9)	n/a	443 (12.6)	1,314 (12.8)	1,671 (8.4)	n/a	407 (10.8)	1,264 (12.2)
9. Central East	2,270 (11.6)	n/a	649 (19.5)	1,621 (14.7)	2,200 (11.7)	n/a	709 (21.0)	1,491 (14.3)	2,155 (11.3)	n/a	671 (19.6)	1,484 (14.5)	2,127 (10.9)	n/a	720 (20.5)	1,407 (13.7)	2,185 (10.9)	n/a	812 (21.6)	1,373 (13.2)
10. South East	936 (4.8)	346 (6.6)	147 (4.4)	443 (4.0)	932 (4.9)	346 (6.9)	116 (3.4)	470 (4.5)	995 (5.2)	402 (7.4)	140 (4.1)	453 (4.4)	919 (4.7)	329 (5.8)	133 (3.8)	457 (4.4)	921 (4.6)	349 (5.9)	135 (3.6)	437 (4.2)
11. Champlain	2,042 (10.4)	526 (10.0)	147 (4.4)	1,369 (12.4)	2,015 (10.7)	524 (10.4)	161 (4.8)	1,330 (12.7)	1,991 (10.4)	588 (10.8)	136 (4.0)	1,267 (12.4)	1,970 (10.1)	733 (12.9)	119 (3.4)	1,118 (10.9)	1,950 (9.7)	735 (12.5)	126 (3.4)	1,089 (10.5)
12. North Simcoe Muskoka	802 (4.1)	250 (4.7)	77 (2.3)	475 (4.3)	767 (4.1)	248 (4.9)	88 (2.6)	431 (4.1)	858 (4.5)	308 (5.7)	100 (2.9)	450 (4.4)	814 (4.2)	345 (6.1)	75 (2.1)	394 (3.8)	821 (4.1)	321 (5.5)	81 (2.2)	419 (4.0)
13. North East	1161 (5.9)	299 (5.7)	461 (13.8)	401 (3.6)	1061 (5.6)	301 (6.0)	361 (10.7)	399 (3.8)	1,067 (5.6)	290 (5.3)	394 (11.5)	383 (3.8)	1,099 (5.6)	317 (5.6)	437 (12.4)	345 (3.4)	1,092 (5.5)	280 (4.8)	441 (11.7)	371 (3.6)
14. North West	484 (2.5)	289 (5.5)	n/a	195 (1.8)	492 (2.6)	279 (5.5)	n/a	213 (2.0)	437 (2.3)	270 (5.0)	n/a	167 (1.6)	477 (2.4)	285 (5.0)	n/a	192 (1.9)	480 (2.4)	296 (5.0)	n/a	184 (1.8)

Exhibit 1.4

Number and percentage of adult stroke or transient ischemic attack (TIA) patients[1] transported to hospital by ambulance in Ontario and by OSS region, OSS classification, and Local Health Integration Network, 2003/04 to 2009/10

Group/Sub-Group	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
	n (%)						
Ontario	**18,961**	**19,547**	**19,639**	**18,840**	**19,066**	**19,477**	**20,002**
Ontario Stroke System Region	**10,006 (52.8)**	**9,959 (50.9)**	**10,273 (52.3)**	**9,841 (52.2)**	**10,463 (54.9)**	**10,711 (55.0)**	**11,110 (55.5)**
Central East	1,373 (48.7)	1,405 (48.7)	1,456 (50.1)	1,513 (51.9)	1,661 (55.4)	1,727 (57.5)	1,721 (55.5)
Central South	1,790 (54.3)	1,806 (51.5)	1,828 (53.0)	1,760 (55.6)	1,794 (54.8)	1,943 (58.1)	2,005 (58.5)
East – Champlain	1,064 (52.8)	1,072 (53.7)	1,098 (53.8)	1,097 (54.4)	1,171 (58.8)	1,131 (57.4)	1,141 (58.5)
Northeast	587 (51.1)	523 (50.6)	624 (53.7)	540 (50.9)	549 (51.5)	557 (50.7)	603 (55.2)
Northwest	198 (41.3)	188 (38.0)	224 (46.3)	212 (43.1)	211 (48.3)	233 (48.8)	267 (55.6)
South East	577 (57.2)	539 (51.7)	526 (56.2)	496 (53.2)	567 (57.0)	500 (54.4)	513 (55.7)
Southwest	1,370 (53.1)	1,381 (49.8)	1,396 (49.3)	1,325 (50.2)	1,436 (54.5)	1,464 (52.5)	1,608 (52.0)
Toronto – North & East	755 (56.8)	794 (53.8)	849 (56.2)	701 (52.7)	748 (54.9)	753 (54.7)	764 (57.4)
Toronto – Southeast	520 (53.4)	495 (45.8)	512 (51.9)	512 (52.2)	569 (57.1)	550 (54.2)	578 (53.6)
Toronto – West	803 (57.1)	758 (55.7)	775 (55.5)	691 (49.1)	784 (56.1)	791 (56.0)	789 (54.8)
West GTA	969 (50.9)	998 (52.7)	985 (50.9)	994 (52.2)	973 (50.9)	1,062 (51.4)	1,121 (53.6)
Ontario Stroke System Classification							
Regional stroke centre	2,773 (58.9)	2,882 (58.3)	3,309 (62.8)	3,021 (60.0)	3,454 (63.7)	3,661 (64.4)	3,866 (65.7)
District stroke centre	1,515 (52.2)	1,653 (51.9)	1,873 (56.1)	1,942 (57.6)	2,092 (61.0)	2,176 (61.9)	2,307 (61.5)
Non-designated	5,718 (50.4)	5,424 (47.5)	5,091 (46.2)	4,878 (46.7)	4,917 (48.2)	4,874 (47.4)	4,937 (47.6)
Local Health Integration Network							
1. Erie St. Clair	651 (54.9)	665 (51.9)	671 (52.7)	592 (53.1)	612 (58.8)	651 (54.5)	726 (55.4)
2. South West	719 (51.5)	716 (48.0)	725 (46.6)	733 (48.1)	824 (51.7)	813 (50.9)	882 (49.5)
3. Waterloo Wellington	477 (54.5)	522 (49.2)	502 (51.6)	491 (55.5)	486 (55.5)	570 (58.6)	584 (57.2)
4. Hamilton Niagara Haldimand Brant	1,313 (54.3)	1,284 (52.5)	1,326 (53.5)	1,269 (55.7)	1,308 (54.6)	1,373 (57.8)	1,421 (59.1)
5. Central West	428 (54.6)	396 (53.6)	339 (52.6)	352 (54.7)	345 (51.5)	373 (50.9)	375 (51.7)
6. Mississauga Halton	541 (48.3)	602 (52.2)	646 (50.0)	642 (51.0)	628 (50.6)	689 (51.6)	746 (54.7)
7. Toronto Central	959 (53.1)	1,017 (51.2)	1,183 (57.7)	990 (50.8)	1,173 (56.9)	1,166 (55.3)	1,268 (55.8)
8. Central	928 (55.8)	842 (50.8)	829 (49.6)	900 (52.4)	953 (56.7)	968 (55.1)	920 (55.1)
9. Central East	1,153 (52.1)	1,172 (50.8)	1,182 (52.1)	1,165 (53.0)	1,172 (54.4)	1,198 (56.3)	1,205 (55.1)
10. South East	577 (57.2)	539 (51.7)	526 (56.2)	496 (53.2)	567 (57.0)	500 (54.4)	513 (55.7)
11. Champlain	1,064 (52.8)	1,072 (53.7)	1,098 (53.8)	1,097 (54.4)	1,171 (58.8)	1,131 (57.4)	1,141 (58.5)
12. North Simcoe Muskoka	411 (48.4)	421 (49.1)	398 (49.6)	362 (47.2)	464 (54.1)	489 (60.1)	459 (55.9)
13. North East	587 (51.1)	523 (50.6)	624 (53.7)	540 (50.9)	549 (51.5)	557 (50.7)	603 (55.2)
14. North West	198 (41.3)	188 (38.0)	224 (46.3)	212 (43.1)	211 (48.3)	233 (48.8)	267 (55.6)

Data source: Canadian Institute for Health Information, National Ambulatory Care Reporting System (CIHI-NACRS), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years discharged from an emergency department with a diagnosis of stroke (ischemic or hemorrhagic) or TIA.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) See Appendix D for list of hospitals classified as Regional and District Stroke Centres by the OSS.

(3) Excludes all NACRS records with ICD codes that include the prefix "Q" (suspected, questionable diagnoses) starting in 2008/09.

Exhibit 1.5

Number and percentage of adult stroke or transient ischemic attack (TIA) patients who sought medical attention within 2.5 hours of stroke symptom onset, in Ontario and by OSS region, OSS classification and Local Health Integration Network, 2002/03, 2004/05 and 2008/09

Group/Sub-Group	2002/03	2004/05	2008/09
	n (%)		
Ontario	**8,478 (33.8)**	**8,001 (34.2)**	**7,939 (35.3)**
Ontario Stroke System Region			
Central East	1,190 (32.9)	1,046 (31.4)	1,132 (33.8)
Central South	1,752 (39.7)	1,410 (33.3)	1,404 (36.6)
East – Champlain	1,096 (39.4)	991 (46.2)	842 (39.9)
Northeast	520 (33.7)	486 (35.4)	574 (42.7)
Northwest	192 (34.6)	196 (38.4)	160 (30.3)
South East	503 (41.8)	440 (43.1)	386 (39.9)
Southwest	1,328 (38.7)	1,288 (37.0)	1,282 (39.5)
Toronto – North & East	585 (31.9)	582 (31.8)	428 (28.9)
Toronto – Southeast	370 (27.9)	235 (19.0)	409 (30.8)
Toronto – West	714 (38.4)	478 (27.5)	456 (27.9)
West GTA	228 (9.1)	849 (34.2)	865 (32.4)
Ontario Stroke System Classification			
Regional stroke centre	1,462 (30.2)	1,704 (38.5)	2,290 (40.5)
District stroke centre	1,792 (39.4)	1,577 (34.3)	2,195 (43.4)
Non-designated	5,224 (33.3)	4,720 (32.9)	3,453 (29.3)
Local Health Integration Network			
1. Erie St. Clair	653 (45.4)	523 (34.1)	600 (43.9)
2. South West	675 (33.8)	765 (39.3)	682 (36.3)
3. Waterloo Wellington	469 (41.1)	451 (35.5)	371 (32.9)
4. Hamilton Niagara Haldimand Brant	1,283 (39.3)	959 (32.3)	1,033 (38.2)
5. Central West	63 (6.4)	282 (31.3)	230 (24.6)
6. Mississauga Halton	165 (10.7)	567 (35.8)	635 (36.5)
7. Toronto Central	831 (32.7)	647 (26.4)	869 (34.3)
8. Central	690 (33.9)	581 (28.2)	499 (24.9)
9. Central East	988 (33.8)	823 (31.3)	693 (30.7)
10. South East	518 (41.4)	470 (43.0)	386 (39.9)
11. Champlain	1,081 (39.6)	961 (46.4)	842 (39.9)
12. North Simcoe Muskoka	350 (30.9)	290 (29.1)	364 (36.4)
13. North East	520 (33.7)	486 (35.4)	574 (42.7)
14. North West	192 (34.6)	196 (38.4)	160 (30.3)

Data source: Registry of the Canadian Stroke Network, Ontario Stroke Audit (OSA), 2002/03, 2004/05 and 2008/09.

Inclusion criteria: All patients agd ≥18 years admitted to an emergency department at an acute care facility in Ontario for stroke or TIA with known stroke onset time.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) See Appendix D for alist of hospitals classified as regional and district stroke centres by the OSS.

(3) Excludes all NACRS records with ICD codes that include the prefix "Q" (suspected, questionable diagnoses) starting in 2008/09.

Exhibit 1.6

Number and percentage of adult stroke or transient ischemic attack (TIA) patients who received neuroimaging within 24 hours of presenting to the emergency department and prior to discharge, in Ontario and by OSS region, OSS classification and Local Health Integration Network, 2002/03, 2004/05 and 2008/09

	2002/03		2004/05		2008/09	
	Neuroimaging Completed, n (%)					
Group/Sub-Group	**Within 24 hours[1]**	**Before Discharge[2]**	**Within 24 hours[1]**	**Before Discharge[2]**	**Within 24 hours[1]**	**Before Discharge[2]**
Ontario	**6,344 (47.4)**	**14,699 (90.3)**	**11,705 (68.6)**	**14,345 (92.4)**	**15,897 (86.3)**	**14,818 (97.8)**
Ontario Stroke System Region						
Central East	563 (31.7)	1,857 (89.0)	1,692 (64.6)	2,020 (92.3)	1,789 (84.5)	1,899 (99.0)
Central South	1,721 (52.9)	2,427 (89.1)	1,506 (60.5)	2,618 (92.5)	2,752 (87.5)	2,417 (98.0)
East – Champlain	846 (50.4)	1,361 (85.7)	1,176 (67.3)	1,060 (89.0)	1,636 (89.9)	1,192 (99.4)
Northeast	559 (44.1)	953 (88.6)	378 (46.6)	872 (84.7)	807 (78.2)	983 (94.2)
Northwest	222 (41.9)	331 (81.9)	284 (59.3)	325 (86.7)	399 (81.1)	413 (91.3)
South East	9 (1.8)	636 (81.4)	483 (53.7)	632 (92.4)	612 (72.8)	595 (94.4)
Southwest	757 (42.1)	2,113 (86.3)	1,323 (54.1)	2,008 (86.0)	2,418 (76.9)	2,114 (95.9)
Toronto – North & East	477 (68.8)	1,206 (97.1)	1,308 (90.8)	1,278 (99.1)	757 (91.0)	1,143 (100.0)
Toronto – Southeast	144 (61.0)	898 (97.1)	963 (90.7)	754 (100.0)	1,157 (94.9)	901 (99.3)
Toronto – West	524 (82.1)	1,438 (99.4)	946 (85.8)	1,182 (97.1)	1,313 (95.8)	1,320 (100.0)
West GTA	522 (52.3)	1,479 (95.6)	1,646 (83.4)	1,596 (98.0)	2,255 (93.8)	1,842 (98.7)
Ontario Stroke System Classification						
Regional stroke centre	960 (57.4)	3,274 (96.8)	3,610 (90.6)	3,147 (98.9)	4,982 (95.1)	4,359 (99.9)
District stroke centre	1,847 (57.8)	2,863 (90.8)	2,158 (69.7)	3,176 (93.4)	3,868 (90.7)	3,427 (98.1)
Non-designated	3,537 (41.5)	8,562 (88.0)	5,937 (59.4)	8,022 (89.7)	7,048 (79.1)	7,033 (96.4)
Local Health Integration Network						
1. Erie St. Clair	601 (56.3)	969 (85.9)	639 (62.1)	969 (91.7)	1,138 (83.9)	883 (96.9)
2. South West	156 (21.3)	1,144 (86.7)	684 (48.2)	1,039 (81.3)	1,281 (71.6)	1,231 (95.1)
3. Waterloo Wellington	423 (50.1)	596 (88.3)	519 (60.2)	698 (91.8)	809 (90.1)	689 (98.0)
4. Hamilton Niagara Haldimand Brant	1,298 (53.9)	1,831 (89.4)	987 (60.7)	1,920 (92.7)	1,943 (86.5)	1,729 (98.0)
5. Central West	522 (72.5)	558 (95.4)	654 (85.8)	534 (98.9)	777 (93.8)	590 (100.0)
6. Mississauga Halton	-	921 (95.7)	992 (81.8)	1,062 (97.5)	1,478 (93.8)	1,252 (98.1)
7. Toronto Central	747 (81.8)	1,822 (98.5)	2,043 (94.2)	1,787 (99.4)	2,209 (95.8)	1,967 (100.0)
8. Central	349 (58.6)	1,321 (98.1)	1,008 (81.0)	1,277 (95.3)	1,118 (93.4)	1,329 (99.1)
9. Central East	601 (41.5)	1,659 (90.1)	1,575 (72.1)	1,546 (97.2)	1,112 (83.2)	1,369 (99.1)
10. South East	9 (1.7)	656 (81.4)	501 (51.9)	662 (92.7)	612 (72.8)	595 (94.4)
11. Champlain	846 (51.5)	1,341 (85.7)	1,158 (68.8)	1,030 (88.7)	1,636 (89.9)	1,192 (99.4)
12. North Simcoe Muskoka	11 (2.8)	597 (89.9)	283 (45.0)	624 (86.5)	579 (82.5)	596 (100.0)
13. North East	559 (44.1)	953 (88.6)	378 (46.6)	872 (84.7)	807 (78.2)	983 (94.2)
14. North West	222 (41.9)	331 (81.9)	284 (59.3)	325 (86.7)	399 (81.1)	413 (91.3)

Data source: Registry of the Canadian Stroke Network, Ontario Stroke Audit (OSA), 2002/03, 2004/05 and 2008/09.

Inclusion criteria: All patients aged ≥18 years admitted to an acute care facility in Ontario for suspected stroke or TIA.

[1] Among all patients admitted to an emergency department or to inpatient care with a scan date and time (N=13,384 in 2002/03; 17,072 in 2004/05; and 18,416 in 2008/09).

[2] Among all patients admitted to inpatient care (N=16,269 in 2002/03; 15,525 in 2004/05; and 15,150 in 2008/09).

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

(3) Cells in which there was no reported/available data are marked with a hyphen (-).

(4) Excludes all NACRS records with ICD codes that include the prefix "Q" (suspected, questionable diagnoses) starting in 2008/09.

Exhibit 1.7

Number and percentage of eligible adult stroke patients who received acute thrombolytic therapy (tPA) and the door-to-needle time,[1] in Ontario and by OSS region, OSS classification and Local Health Integration Network, 2002/03, 2004/05 and 2008/09

Group/Sub-Group	2002/03			2004/05			2008/09		
	tPA Administered[2] n (%)	Mean Time to tPA Administration[3] (minutes)	Median Time to tPA Administration[3] (minutes)	tPA Administered[2] n (%)	Mean Time to tPA Administration[3] (minutes)	Median Time to tPA Administration[3] (minutes)	tPA Administered[2] n (%)	Mean time to tPA Administration[3] (minutes)	Median Time to tPA Administration[3] (minutes)
Ontario	**284 (10.8)**	**82.6**	**80.5**	**398 (15.2)**	**82.4**	**82.6**	**809 (29.6)**	**88.4**	**69.7**
Ontario Stroke System Region									
Central East	-	-	-	12 (3.2)	110.0	95.0	121 (33.6)	130.5	75.5
Central South	9 (2.5)	109.5	82.0	42 (9.7)	99.6	94.0	126 (31.4)	85.5	71.9
East – Champlain	56 (14.5)	91.4	85.0	52 (19.2)	89.4	76.0	82 (34.2)	100.6	93.3
Northeast	28 (18.9)	103.2	100.4	33 (21.2)	96.2	100.7	30 (17.3)	75.6	63.6
Northwest	9 (10.5)	119.0	119.0	20 (33.9)	74.8	67.0	7 (11.0)	54.0	49.2
South East	63 (39.1)	69.5	60.0	25 (14.9)	43.0	38.0	44 (29.9)	54.1	43.2
Southwest	54 (10.3)	64.0	53.2	63 (18.7)	84.4	79.3	97 (19.9)	97.3	77.5
Toronto – North & East	-	-	-	42 (16.7)	84.8	71.0	83 (45.0)	69.6	64.4
Toronto – Southeast	18 (15.0)	114.5	111.0	-	-	-	33 (24.6)	68.2	58.5
Toronto – West	38 (14.8)	68.6	49.8	43 (20.3)	91.2	85.0	47 (29.6)	93.6	87.4
West GTA	9 (33.3)	84.1	75.5	66 (20.8)	65.3	66.5	139 (36.1)	73.0	58.6
Ontario Stroke System Classification									
Regional stroke centre	164 (34.0)	80.4	71.7	253 (40.4)	74.4	71.3	476 (47.2)	75.5	66.0
District stroke centre	82 (14.0)	82.0	84.2	78 (14.5)	94.9	95.5	295 (36.1)	106.9	74.7
Non-designated	38 (2.4)	97.2	84.9	67 (4.6)	99.7	111.0	37 (4.1)	111.4	91.3
Local Health Integration Network									
1. Erie St. Clair	36 (14.2)	92.5	82.0	16 (10.7)	84.0	64.0	35 (13.2)	131.3	78.9
2. South West	18 (6.6)	27.3	21.4	47 (25.1)	84.6	79.5	63 (27.6)	75.0	70.2
3. Waterloo Wellington	-	82.0	82.0	6 (4.7)	85.0	85.0	13 (23.5)	64.5	63.0
4. Hamilton Niagara Haldimand Brant	9 (4.1)	137.0	137.0	36 (11.7)	102.0	103.0	113 (32.7)	87.9	73.9
5. Central West	-	-	-	-	-	-	-	-	-
6. Mississauga Halton	9 (33.3)	84.1	75.5	66 (34.6)	65.3	66.5	139 (41.0)	73.0	58.6
7. Toronto Central	56 (22.8)	86.2	74.6	60 (24.8)	87.0	90.0	156 (41.5)	77.1	64.8
8. Central	-	-	-	37 (14.0)	98.6	87.5	46 (24.5)	79.8	77.2
9. Central East	-	-	-	-	-	-	33 (22.6)	275.9	63.6
10. South East	63 (38.0)	69.5	60.0	25 (14.4)	43.0	38.0	44 (29.9)	54.1	43.2
11. Champlain	56 (14.7)	91.4	85.0	52 (19.6)	89.4	76.0	82 (34.2)	100.6	93.3
12. North Simcoe Muskoka	-	-	-	-	-	-	49 (37.9)	72.2	70.6
13. North East	28 (18.9)	103.2	100.4	33 (21.2)	96.2	100.7	30 (17.3)	75.6	63.6
14. North West	9 (10.5)	119.0	119.0	20 (33.9)	74.8	67.0	7 (11.0)	54.0	49.2

Data source: Registry of the Canadian Stroke Network, Ontario Stroke Audit (OSA), 2002/03, 2004/05 and 2008/09.

Inclusion criteria: All ischemic stroke patients aged ≥18 years admitted to an emergency department or inpatient care at an acute care facility in Ontario.

[1] Time between a patient's arrival in hospital to the time tPA was first administered.

[2] Among ischemic stroke patients who arrived at an emergency department within 2.5 hours of symptom onset who do not have contraindications to tPA (N=2,636 in 2002/03; 2,625 in 2004/05; and 2,735 in 2008/09).

[3] Among patients who received tPA intravenously (N=357 in 2002/03; 369 in 2004/05; and 884 in 2008/09).

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) Cells in which there was no reported/available data are marked with a hypen (-).

(3) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

(4) Excludes all NACRS records with ICD codes that include the prefix "Q" (suspected, questionable diagnoses) starting in 2008/09.

2. Acute Inpatient Care

Inpatient Admissions

Findings

- **Exhibit 2.1:** The average age of stroke/TIA patients admitted to acute care hospitals remained stable at 73 years. The proportion of females admitted to acute care with stroke/TIA was consistently higher than males over time, with women comprising 50.9% of patients in 2009/10. The average age of women admitted to acute care was also consistently higher, with a median age of 79 years for women and 73 years for men in 2009/10. Among Ontarians over age 85, there were twice as many females (25.2%) as males (12.6%).
- **Exhibit 2.2:** Nearly one in five inpatient admissions was for TIA, a stable trend from 2003/04 onward. Admission for TIA was more common in non-designated centres (20.1%) than at regional stroke centres (13.2%). Provincially, the number and proportion of patients discharged from an inpatient stay with an "unable to determine" (UTD) stroke type decreased from 32.7% in 2003/04 to 22.8% in 2009/10. Patients were more likely to receive a UTD diagnosis at non-designated stroke centres than at designated centres, with rates of 29.7% in non-designated centres, 25.3% in district stroke centres, and 11.8% in regional stroke centres in 2009/10.
- **Exhibit 2.3:** The number of inpatient stroke admissions declined in Ontario during the study period. Similarly, the provincial age- and sex-adjusted rate of admission for stroke dropped 12%, from 1.7 per 1,000 population in 2003/04 to 1.5 per 1,000 population in 2009/10 ($p \leq 0.0001$). From 2003/04 onward, the Erie St. Clair, North East and North West LHINs had a significantly higher inpatient admission rate ($p \leq 0.0001$) compared to the overall provincial rate. Much variability existed across the Local Health Integration Networks. The Champlain LHIN consistently had a significantly lower rate of inpatient stroke/TIA admissions ($p < 0.0001$) over the seven years.

Conclusions

The median age of females admitted to acute inpatient care was significantly higher than for males. This may have implications for admission to long-term care facilities and readmission to hospital.

The reduction in the use of the "unable to determine" (UTD) stroke type diagnosis code is a positive trend, reflecting improved coding and/or diagnosis of stroke. However, there is still room for improvement, as a quarter of patients continue to leave hospitals without a definitive diagnosis. "UTD" stroke type is not an appropriate diagnosis, and for the prevention of future strokes, it is important to determine the cause of stroke. Regional stroke centres and, to a lesser degree, district stroke centres are less likely to have a UTD diagnosis, reinforcing the importance of having patients go to designated stroke centres. Regional stroke centres are also more likely to classify TIAs as stroke, accounting for the substantial difference in TIA rates among hospital types.

Admitting TIA patients to hospital continues to occur in Ontario and has increased slightly since 2003/04, despite an increase in the number of stroke secondary prevention clinics across the province over the past seven years. This may represent better awareness of the signs of TIA and stroke. A small percentage of TIA patients require an inpatient admission.

Recommendations

The median length of stay of three days for TIA patients is high. This indicates that there is an opportunity to impact emergency department and ALC days through the use of coordinated rapid TIA assessment outpatient clinics. Annually, this represents over 2,000 potentially avoidable inpatient admissions. Regional and district stroke centres appear to be more able to identify the cause of stroke. The OSN needs to investigate patient outcomes following an inpatient stay for TIA to gain a better understanding of this observed pattern of care. It is recommended that patients with TIA and mild stroke be treated on an outpatient basis to alleviate the demand for acute care beds, and that secondary prevention clinics review their practice patterns in an effort to reduce readmissions. It is also recommended that rapid cardiovascular response clinics be enabled for the treatment of TIAs and mild strokes to alleviate demands on acute care hospital beds.

Stroke Unit Admission

Findings

- **Exhibit 2.4:** There were regional variations in rates of admission to acute care stroke units. In 2008/09, 30.3% of patients admitted to hospital with stroke or TIA spent some part of their hospital stay in a stroke unit—an improvement from 2.7% in 2002/03 and 18.6% in 2004/05. This trend was observed for all hospital types and in virtually all regions ($p \leq 0.0001$).

Regional stroke centres had consistently higher rates of stroke unit admission than district or non-designated stroke centres, at 63.0% vs. 40.1%, and 4.9%, respectively, in 2008/09.

Conclusions

In Ontario, stroke/TIA patients are much more likely to be treated on a stroke unit if they are admitted to a regional stroke centre, as compared to a district or non-designated centre. Differences in severity of stroke may account for some of the difference in rates between hospital types. Coding errors may also account for underrepresentation of stroke units at some hospitals.

Significant improvement has been made; further improvement is achievable. Patients cared for on designated stroke units have been shown to have improved outcomes (less disability and lower mortality).[6] Stroke unit admission will be a monitoring indicator in the 2011/12 Hospital Service Accountability Agreements between the LHINs and the specialized stroke centres.

Recommendations

Stroke patients need to be transferred to facilities where stroke units exist.

The OSN should support further investigation into understanding whether a dose-response relationship exists for stroke unit care and examine outcomes of patients admitted to stroke units compared to similar patients not admitted.

The OSN continues to work with the Ministry of Health and Long-Term Care and the Canadian Institute for Health Information to have this data element move from a CIHI special project to a mandatory field in CIHI data.

Length of Stay and Inpatient Care

Findings

- **Exhibit 2.5:** There was a slight decrease in length of stay for ischemic stroke patients, from a median of eight days in 2003/04 to seven days in 2009/10. Median length of stay for TIA patients remained stable at three days. Nearly one-quarter of stroke patients were designated as alternate level of care (ALC) in 2009/10. There was wide variation in the number of ALC days across the LHINs, with the lowest rates observed in the Northwest and Central LHINs (five days) and the highest rate in the Champlain LHIN (12 days).
- **Exhibit 2.6:** The proportion of stroke inpatients that underwent screening for dysphagia (swallowing disorder) increased from 47.9% in 2002/03 to 62.3% in 2008/09 ($p \leq 0.0001$).This was observed for all hospital types. In 2008/09, dysphagia screening rates were highest at district stroke centres at 69.5% followed by regional stroke centres at 65.0% and non-designated centres at 57.0%. In 2008/09, dysphagia screening rates varied across OSS regions, with the lowest rate observed in the Toronto – North and East region (44.5%) and the highest rate in the Northwest region (88.3%). Similar variations were observed across the LHINs, ranging from 58.7% in the Erie St. Clair LHIN to 88.3% in the North West LHIN.
- **Exhibit 2.7:** Pneumonia rates decreased provincially from 1.7% in 2003/04 to 1.3% in 2009/10. Rates in the Local Health Integration Networks varied from as low as 0.5% in the North East LHIN to 2.3% in the Champlain LHIN.

Conclusions

There was wide variation in the number of emergency department ALC days across the province. This suggests the OSN should continue its work with the Emergency Department ALC-Stroke Reference Group to address emergency ALC issues. The OSN will continue to monitor ALC days among admitted stroke patients.

Rates for dysphagia screening have improved over time and may reflect the efforts of the OSS in implementing best practices for screening; however, there is room for further improvement in screening rates. Wide variability in screening exists across the province.

The reduction of pneumonia rates may be a reflection of the marked improvements in dysphagia screening and management. A rate of 1.3% is much lower than rates reported in the literature. Fluctuating numbers across the table could represent variation in coding since the identification of this diagnosis code was not based on the most responsible diagnosis data field and therefore merits further examination. Data from regional stroke centres in Ontario report a rate of 7%.[7]

[6] Saposnik G, Fang J, O'Donnell M, Hachinski V, Kapral MK, Investigators of the Registry of the Canadian Stroke Network (RCSN) for the Stroke Outcome Research Canada Working Group. Escalating levels of access to inhospital care and stroke mortality. *Stroke*. 2008: 39(9):2522–30.

[7] Finlayson O, Kapral, MK, Hall, R, Asllani, E, Selchen, D, Saposnik, G, on behalf of the Investigators of the Registry of the Canadian Stroke Network for the Stroke Outcome Research Canada Working Group. Pneumonia after acute ischemic stroke: risk factors, organized inpatient care, and impact on clinical outcomes. (Unpublished manuscript.)

Patients with TIA continue to be admitted to hospital for a median stay of three days. This is surprising, given that Ontario has over 30 secondary stroke prevention clinics to provide investigations and assessments.

Recommendations

Stroke units save lives and reduce disability. The OSN should advocate for all stroke patients seen at non-designated hospitals to be treated on a stroke unit, and each non-designated hospital should identify a location for inpatient stroke unit use.

It is recommended that the OSN investigate outcomes among patients admitted to stroke units in Ontario.

Regions and facilities should examine their overall inhospital pneumonia rates to gain a better understanding of them. The OSN will continue to monitor pneumonia rates and compare these to national data and the next Ontario Stroke Audit.

The OSN examines access to rapid TIA triage clinics and secondary prevention clinics as a means to reduce TIA hospitalizations.

Inpatient Discharge Destinations

Findings

- **Exhibit 2.8:** Provincially, the proportion of stroke patients with a discharge destination to inpatient rehabilitation has increased from 20.5% in 2003/04 to 22.7% in 2009/10 ($p<0.0001$), and the proportion discharged to long-term care has decreased from 8.5% in 2003/04 to 7.0% in 2009/10 ($p<0.0001$). Patients seen at regional and district stroke centres were more likely to be discharged to inpatient rehabilitation and less likely to be discharged to long-term care. Although more patients in non-designated centres were discharged to inpatient rehabilitation, rates were still significantly lower (19.4% in 2009/10) than for regional and district stroke centres (24.8% and 27.2%, respectively, in 2009/10). Across the Local Health Integration Networks, there was a wide variation in the proportion of stroke patients discharged to inpatient rehabilitation following an acute stroke hospitalization: from 17.3% in the South East LHIN to 28.3% in the Erie St. Clair LHIN.

Conclusions

There was an increase in the proportion of stroke patients discharged to inpatient rehabilitation.

Recommendations

Further improvements can be made in this area by clarifying admission criteria and ensuring that stroke rehabilitation services have the capacity to manage more complex stroke patients.

The OSN should lead the development of a province-wide inpatient rehabilitation admission criteria, and continue efforts to implement alpha FIM® across acute care hospitals in the province and work with CIHI to have this collected in the hospital discharge abstract.

Carotid Intervention

Findings

- **Exhibit 2.9:** Overall in 2008/09, 91.9% of patients with stroke or transient ischemic attack (TIA) had carotid imaging done in hospital or had a scheduled appointment following hospital discharge, a considerable increase from 62.4% of patients in 2002/03 ($p\leq0.0001$). There was improvement across all OSS regions in accessing carotid imaging prior to hospital discharge; in 2002/03, only half of these patients received imaging, but by 2008/09 almost three of every four patients received imaging prior to discharge. Yet regional variations in rates of carotid imaging remain: the Southeast LHIN had the highest rate of carotid imaging prior to discharge (90.5%) compared to the North Simcoe Muskoka LHIN (51.1%).
- **Exhibit 2.10:** The number of patients receiving carotid intervention within six months of hospitalization for acute stroke remained fairly stable from 2003/04 to 2008/09; however, the time to carotid intervention decreased substantially in Ontario. The median number of days for intervention was 47 days in 2003/04 and 20 days in 2008/09 ($p=0.001$); the latter rate is still higher than the two-week best practice benchmark. In 2008/09, patients discharged from regional stroke centres had considerably shorter wait times for carotid intervention (median nine days) compared to district or non-designated centres (median 43 days and 35 days, respectively).

Conclusions

Carotid imaging is important for diagnosing the cause of TIAs and strokes and preventing further events. Provincially, most ischemic stroke patients without atrial fibrillation are receiving their carotid imaging prior to discharge and overall carotid imaging has increased significantly since the implementation of the OSS ($p \leq 0.0001$). The time to carotid intervention has improved significantly in Ontario outside of the provincial wait time strategy initiative.

Recommendations

There is a need for continued efforts to ensure timely carotid artery imaging and prompt referrals to surgeons in order to achieve the stroke care best practice recommendation of two weeks. Regional stroke centres have significantly lower carotid intervention wait times than district or non-designated centres, reinforcing the importance for patients to go to regional stroke centres for stroke care. The OSN needs to continue to contribute to and advise the provincial wait time strategy as it relates to access to carotid interventions. Our report bases wait time from time of index stroke/TIA hospitalization to time of carotid intervention, while the wait time strategy establishes its benchmark based on time from surgeon visit. The OSN needs to understand the prolonged delay to carotid intervention among patients seen at district stroke centres, despite the finding that over 78% of patients seen at these centres are having carotid imaging done while in hospital.

Prescription Rates

Findings

- **Exhibit 2.11:** The proportion of patients who were prescribed anti-thrombotic/coagulant, anti-hypertensive and anti-lipid drug therapy at discharge increased significantly from 19.9% in 2002/03 to 52.1% in 2008/09 ($p \leq 0.0001$). The performance of this practice was best at regional and district stroke centres (approximately 56% in 2008/09) compared to non-designated centres (48.1%). Wide variations existed in prescribing all three medications, with the highest prescribing rates observed in the South East LHIN (68.4%) and the lowest rates in the Waterloo Wellington LHIN (46.7%).
- **Exhibit 2.12:** The proportion of stroke/TIA patients with atrial fibrillation who were prescribed warfarin upon discharge from acute care in 2008/09 declined to near 2002/03 levels. Improvement was observed from 2002/03 to 2004/05 (rising from 68.9% to 74.6%), but by 2008/09 this best practice was 69.6%, a 5.0% decline from 2004/05. This pattern was observed for all facility types. Although regional stroke centres demonstrated consistently higher prescribing rates, their percentage decrease in performance was the largest (from 84.4% to 72.8%) compared to the district centres (73.7% to 68.7%) and non-designated centres (72.2% to 68.1%) from 2004/05 to 2008/09.

Conclusions and Recommendations

Significant improvements have been made in prescribing all three secondary stroke prevention medications (anti-thrombotics/anti-coagulants, anti-hypertensives and anti-lipids) upon discharge from acute care facilities in Ontario.

The decrease in prescription rates for warfarin for stroke/TIA patients with atrial fibrillation upon discharge from acute care may be attributed to the fact that it is left to primary care providers to initiate this therapy. The next provincial audit has been revised to capture whether this best practice is being acknowledged upon discharge. Continual monitoring is needed as patients with atrial fibrillation are at high risk for stroke and stroke recurrence.

Exhibit 2.1

Number and percentage of adult patients[1] admitted to acute care hospitals for stroke or transient ischemic attack (TIA), in Ontario and by sex and age group, 2003/04 to 2009/10

Characteristic		2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
		n (%)						
Ontario		**15,731**	**15,857**	**15,668**	**15,181**	**15,182**	**15,107**	**15,347**
Sex	Female	8,010 (50.9)	8,254 (52.1)	8,143 (52.0)	7,798 (51.4)	7,728 (50.9)	7,663 (50.7)	7,816 (50.9)
	Male	7,721 (49.1)	7,603 (47.9)	7,525 (48.0)	7,383 (48.6)	7,454 (49.1)	7,444 (49.3)	7,531 (49.1)
Age	Mean ± SD	73.7 ± 13.0	73.6 ± 13.2	73.5 ± 13.6	73.5 ± 13.6	73.2 ± 13.7	73.1 ± 13.7	73.2 ± 13.9
	Median (IQR)	76 (67–83)	76 (66–83)	76 (66–83)	76 (65–84)	76 (65–83)	76 (65–83)	76 (64–84)
Age group	18–55	1,648 (10.5)	1,756 (11.1)	1,800 (11.5)	1,743 (11.5)	1,819 (12.0)	1,818 (12.0)	1,938 (12.6)
	56–65	1,923 (12.2)	1,968 (12.4)	2,108 (13.5)	2,090 (13.8)	2,134 (14.1)	2,194 (14.5)	2,207 (14.4)
	66–75	3,840 (24.4)	3,793 (23.9)	3,488 (22.3)	3,369 (22.2)	3,404 (22.4)	3,346 (22.1)	3,265 (21.3)
	76–85	5,708 (36.3)	5,768 (36.4)	5,619 (35.9)	5,262 (34.7)	5,152 (33.9)	5,101 (33.8)	5,016 (32.7)
	85+	2,612 (16.6)	2,572 (16.2)	2,653 (16.9)	2,717 (17.9)	2,673 (17.6)	2,648 (17.5)	2,921 (19.0)
Female age	Mean ± SD	75.8 ± 13.0	75.6 ± 13.2	75.8 ± 13.4	75.6 ± 13.7	75.5 ± 13.6	75.3 ± 13.7	75.4 ± 14.0
	Median (IQR)	79 (70–85)	79 (70–84)	79 (69–85)	79 (69–85)	79 (69–85)	79 (68–85)	79 (68-86)
Female age group	18–55	697 (8.7)	764 (9.3)	783 (9.6)	768 (9.8)	785 (10.2)	765 (10.0)	836 (10.7)
	56–65	763 (9.5)	783 (9.5)	791 (9.7)	822 (10.5)	797 (10.3)	844 (11.0)	856 (11.0)
	66–75	1,681 (21.0)	1,700 (20.6)	1,557 (19.1)	1,458 (18.7)	1,503 (19.4)	1,487 (19.4)	1,474 (18.9)
	76–85	3,076 (38.4)	3,257 (39.5)	3,127 (38.4)	2,904 (37.2)	2,836 (36.7)	2,778 (36.3)	2,680 (34.3)
	85+	1,793 (22.4)	1,750 (21.2)	1,885 (23.1)	1,846 (23.7)	1,807 (23.4)	1,789 (23.3)	1,970 (25.2)
Male age	Mean ± SD	71.6 ± 12.7	71.4 ± 12.8	70.9 ± 13.3	71.2 ± 13.2	70.8 ± 13.3	70.8 ± 13.3	70.9 ± 13.5
	Median (IQR)	74 (64–81)	74 (64–81)	73 (62–81)	74 (63–81)	73 (62–81)	73 (62–81)	73 (62-81)
Male age group	18–55	951 (12.3)	992 (13.0)	1,017 (13.5)	975 (13.2)	1,034 (13.9)	1,053 (14.1)	1,102 (14.6)
	56–65	1,160 (15.0)	1,185 (15.6)	1,317 (17.5)	1,268 (17.2)	1,337 (17.9)	1,350 (18.1)	1,351 (17.9)
	66–75	2,159 (28.0)	2,093 (27.5)	1,931 (25.7)	1,911 (25.9)	1,901 (25.5)	1,859 (25.0)	1,791 (23.8)
	76–85	2,632 (34.1)	2,511 (33.0)	2,492 (33.1)	2,358 (31.9)	2,316 (31.1)	2,323 (31.2)	2,336 (31.0)
	85+	819 (10.6)	822 (10.8)	768 (10.2)	871 (11.8)	866 (11.6)	859 (11.5)	951 (12.6)

Data source: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years.

Exclusion criteria: Patients with elective admissions.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

Note: SD = standard deviation; IQR = interquartile range (25th–75th percentile).

Exhibit 2.2

Number and percentage of adult patients[1] admitted to acute care hospitals for stroke or transient ischemic attack (TIA), in Ontario and by stroke type, OSS region and Local Health Integration Network, 2003/04 to 2009/10

Group/Sub-Group	2003/04				2004/05				2005/06				2006/07			
	All	Regional Stroke Centre	District Stroke Centre	Non-designated	All	Regional Stroke Centre	District Stroke Centre	Non-designated	All	Regional Stroke Centre	District Stroke Centre	Non-designated	All	Regional Stroke Centre	District Stroke Centre	Non-designated
	n (%)															
Ontario	**15,731**	**4,238 (26.9)**	**2,539 (16.1)**	**8,954 (56.9)**	**15,857**	**4,509 (28.4)**	**2,660 (16.8)**	**8,688 (54.8)**	**15,668**	**4,843 (30.9)**	**2,720 (17.4)**	**8,105 (51.7)**	**15,181**	**4,660 (30.7)**	**2,715 (17.9)**	**7,806 (51.4)**
Stroke Type																
Intracerebral hemorrhage	1,691 (10.7)	652 (15.4)	246 (9.7)	793 (8.9)	1,571 (9.9)	647 (14.3)	244 (9.2)	680 (7.8)	1,536 (9.8)	672 (13.9)	217 (8.0)	647 (8.0)	1,577 (10.4)	643 (13.8)	248 (9.1)	686 (8.8)
Ischemic stroke	5,640 (35.9)	1,701 (40.1)	898 (35.4)	3,041 (34.0)	5,737 (36.2)	1,848 (41.0)	918 (34.5)	2,971 (34.2)	6,078 (38.8)	2,158 (44.6)	936 (34.4)	2,984 (36.8)	6,262 (41.2)	2,120 (45.5)	1,144 (42.1)	2,998 (38.4)
Subarachnoid hemorrhage	584 (3.7)	487 (11.5)	26 (1.0)	71 (0.8)	636 (4.0)	513 (11.4)	31 (1.2)	92 (1.1)	676 (4.3)	540 (11.2)	41 (1.5)	95 (1.2)	682 (4.5)	532 (11.4)	37 (1.4)	113 (1.4)
Transient ischemic attack	2,670 (17.0)	502 (11.8)	481 (18.9)	1,687 (18.8)	2,887 (18.2)	587 (13.0)	518 (19.5)	1,782 (20.5)	2,744 (17.5)	590 (12.2)	560 (20.6)	1,594 (19.7)	2,515 (16.6)	566 (12.1)	475 (17.5)	1,474 (18.9)
Unable to determine[2]	5,146 (32.7)	896 (21.1)	888 (35.0)	3,362 (37.5)	5,026 (31.7)	914 (20.3)	949 (35.7)	3,163 (36.4)	4,634 (29.6)	883 (18.2)	966 (35.5)	2,785 (34.4)	4,145 (27.3)	799 (17.1)	811 (29.9)	2,535 (32.5)
Ontario Stroke System Region																
Central East	2,182 (13.9)	207 (4.9)	782 (30.8)	1,193 (13.3)	2,151 (13.6)	223 (4.9)	790 (29.7)	1,138 (13.1)	2,129 (13.6)	217 (4.5)	757 (27.8)	1,155 (14.3)	2,109 (13.9)	199 (4.3)	879 (32.4)	1,031 (13.2)
Central South	2,824 (18.0)	427 (10.1)	558 (22.0)	1,839 (20.5)	2,803 (17.7)	426 (9.4)	664 (25.0)	1,713 (19.7)	2,722 (17.4)	471 (9.7)	663 (24.4)	1,588 (19.6)	2,670 (17.6)	477 (10.2)	698 (25.7)	1,495 (19.2)
East – Champlain	1,265 (8.0)	205 (4.8)	110 (4.3)	950 (10.6)	1,302 (8.2)	258 (5.7)	125 (4.7)	919 (10.6)	1,398 (8.9)	323 (6.7)	181 (6.7)	894 (11.0)	1,262 (8.3)	296 (6.4)	155 (5.7)	811 (10.4)
Northeast	1,054 (6.7)	335 (7.9)	405 (16.0)	314 (3.5)	1,025 (6.5)	332 (7.4)	388 (14.6)	305 (3.5)	1,106 (7.1)	352 (7.3)	470 (17.3)	284 (3.5)	1,045 (6.9)	316 (6.8)	404 (14.9)	325 (4.2)
Northwest	400 (2.5)	277 (6.5)	n/a	123 (1.4)	436 (2.7)	295 (6.5)	n/a	141 (1.6)	485 (3.1)	352 (7.3)	n/a	133 (1.6)	480 (3.2)	364 (7.8)	n/a	116 (1.5)
South East	756 (4.8)	283 (6.7)	144 (5.7)	329 (3.7)	765 (4.8)	323 (7.2)	139 (5.2)	303 (3.5)	682 (4.4)	277 (5.7)	128 (4.7)	277 (3.4)	620 (4.1)	280 (6.0)	104 (3.8)	236 (3.0)
Southwest	2,491 (15.8)	853 (20.1)	540 (21.3)	1,098 (12.3)	2,443 (15.4)	884 (19.6)	554 (20.8)	1,005 (11.6)	2,302 (14.7)	828 (17.1)	521 (19.2)	953 (11.8)	2,261 (14.9)	867 (18.6)	475 (17.5)	919 (11.8)
Toronto – North & East	1,029 (6.5)	324 (7.6)	n/a	705 (7.9)	1,211 (7.6)	385 (8.5)	n/a	826 (9.5)	1,218 (7.8)	511 (10.6)	n/a	707 (8.7)	1,165 (7.7)	398 (8.5)	n/a	767 (9.8)
Toronto – Southeast	865 (5.5)	269 (6.3)	n/a	596 (6.7)	829 (5.2)	275 (6.1)	n/a	554 (6.4)	751 (4.8)	291 (6.0)	n/a	460 (5.7)	828 (5.5)	324 (7.0)	n/a	504 (6.5)
Toronto – West	1,288 (8.2)	477 (11.3)	n/a	811 (9.1)	1,301 (8.2)	537 (11.9)	n/a	764 (8.8)	1,311 (8.4)	592 (12.2)	n/a	719 (8.9)	1,201 (7.9)	552 (11.8)	n/a	649 (8.3)
West GTA	1,577 (10.0)	581 (13.7)	n/a	996 (11.1)	1,591 (10.0)	571 (12.7)	n/a	1,020 (11.7)	1,564 (10.0)	629 (13.0)	n/a	935 (11.5)	1,540 (10.1)	587 (12.6)	n/a	953 (12.2)
Local Health Integration Network																
1. Erie St. Clair	1,092 (6.9)	386 (9.1)	342 (13.5)	364 (4.1)	1,110 (7.0)	388 (8.6)	368 (13.8)	354 (4.1)	1,008 (6.4)	344 (7.1)	329 (12.1)	335 (4.1)	945 (6.2)	345 (7.4)	323 (11.9)	277 (3.5)
2. South West	1,399 (8.9)	467 (11.0)	198 (7.8)	734 (8.2)	1,333 (8.4)	496 (11.0)	186 (7.0)	651 (7.5)	1,294 (8.3)	484 (10.0)	192 (7.1)	618 (7.6)	1,316 (8.7)	522 (11.2)	152 (5.6)	642 (8.2)
3. Waterloo Wellington	721 (4.6)	n/a	199 (7.8)	522 (5.8)	765 (4.8)	n/a	357 (13.4)	408 (4.7)	720 (4.6)	n/a	309 (11.4)	411 (5.1)	695 (4.6)	n/a	335 (12.3)	360 (4.6)
4. Hamilton Niagara Haldimand Brant	2,103 (13.4)	427 (10.1)	359 (14.1)	1,317 (14.7)	2,038 (12.9)	426 (9.4)	307 (11.5)	1,305 (15.0)	2,002 (12.8)	471 (9.7)	354 (13.0)	1,177 (14.5)	1,975 (13.0)	477 (10.2)	363 (13.4)	1,135 (14.5)
5. Central West	559 (3.6)	n/a	n/a	559 (6.2)	540 (3.4)	n/a	n/a	540 (6.2)	486 (3.1)	n/a	n/a	486 (6.0)	492 (3.2)	n/a	n/a	492 (6.3)
6. Mississauga Halton	1,018 (6.5)	581 (13.7)	n/a	437 (4.9)	1,051 (6.6)	571 (12.7)	n/a	480 (5.5)	1,078 (6.9)	629 (13.0)	n/a	449 (5.5)	1,048 (6.9)	587 (12.6)	n/a	461 (5.9)
7. Toronto Central	1,674 (10.6)	1,070 (25.2)	n/a	604 (6.7)	1,756 (11.1)	1,197 (26.5)	n/a	559 (6.4)	1,867 (11.9)	1,394 (28.8)	n/a	473 (5.8)	1,736 (11.4)	1,274 (27.3)	n/a	462 (5.9)
8. Central	1,345 (8.5)	n/a	249 (9.8)	1,096 (12.2)	1,391 (8.8)	n/a	273 (10.3)	1,118 (12.9)	1,364 (8.7)	n/a	259 (9.5)	1,105 (13.6)	1,419 (9.3)	n/a	352 (13.0)	1,067 (13.7)
9. Central East	1,643 (10.4)	n/a	473 (18.6)	1,170 (13.1)	1,616 (10.2)	n/a	459 (17.3)	1,157 (13.3)	1,502 (9.6)	n/a	437 (16.1)	1,065 (13.1)	1,541 (10.2)	n/a	465 (17.1)	1,076 (13.8)
10. South East	756 (4.8)	283 (6.7)	144 (5.7)	329 (3.7)	765 (4.8)	323 (7.2)	139 (5.2)	303 (3.5)	682 (4.4)	277 (5.7)	128 (4.7)	277 (3.4)	620 (4.1)	280 (6.0)	104 (3.8)	236 (3.0)
11. Champlain	1,265 (8.0)	205 (4.8)	110 (4.3)	950 (10.6)	1,302 (8.2)	258 (5.7)	125 (4.7)	919 (10.6)	1,398 (8.9)	323 (6.7)	181 (6.7)	894 (11.0)	1,262 (8.3)	296 (6.4)	155 (5.7)	811 (10.4)
12. North Simcoe Muskoka	702 (4.5)	207 (4.9)	60 (2.4)	435 (4.9)	729 (4.6)	223 (4.9)	58 (2.2)	448 (5.2)	676 (4.3)	217 (4.5)	61 (2.2)	398 (4.9)	607 (4.0)	199 (4.3)	62 (2.3)	346 (4.4)
13. North East	1,054 (6.7)	335 (7.9)	405 (16.0)	314 (3.5)	1,025 (6.5)	332 (7.4)	388 (14.6)	305 (3.5)	1,106 (7.1)	352 (7.3)	470 (17.3)	284 (3.5)	1,045 (6.9)	316 (6.8)	404 (14.9)	325 (4.2)
14. North West	400 (2.5)	277 (6.5)	n/a	123 (1.4)	436 (2.7)	295 (6.5)	n/a	141 (1.6)	485 (3.1)	352 (7.3)	n/a	133 (1.6)	480 (3.2)	364 (7.8)	n/a	116 (1.5)

Group/Sub-Group	2007/08				2008/09				2009/10			
	All	Regional Stroke Centre	District Stroke Centre	Non-designated	All	Regional Stroke Centre	District Stroke Centre	Non-designated	All	Regional Stroke Centre	District Stroke Centre	Non-designated
	n (%)											
Ontario	**15,182**	**4,743 (31.2)**	**2,678 (17.6)**	**7,761 (51.1)**	**15,107**	**4,962 (32.8)**	**2,720 (18.0)**	**7,425 (49.1)**	**15,347**	**5,244 (34.2)**	**2,854 (18.6)**	**7,249 (47.2)**
Stroke Type												
Intracerebral hemorrhage	1,599 (10.5)	664 (14.0)	226 (8.4)	709 (9.1)	1,521 (10.1)	655 (13.2)	233 (8.6)	633 (8.5)	1,629 (10.6)	756 (14.4)	261 (9.1)	612 (8.4)
Ischemic stroke	6,388 (42.1)	2,237 (47.2)	1,163 (43.4)	2,988 (38.5)	6,461 (42.8)	2,368 (47.7)	1,143 (42.0)	2,950 (39.7)	6,816 (44.4)	2,620 (50.0)	1,267 (44.4)	2,929 (40.4)
Subarachnoid hemorrhage	681 (4.5)	549 (11.6)	28 (1.0)	104 (1.3)	685 (4.5)	515 (10.4)	47 (1.7)	123 (1.7)	690 (4.5)	556 (10.6)	34 (1.2)	100 (1.4)
Transient ischemic attack	2,662 (17.5)	611 (12.9)	529 (19.8)	1,522 (19.6)	2,666 (17.6)	687 (13.8)	539 (19.8)	1,440 (19.4)	2,720 (17.7)	693 (13.2)	570 (20.0)	1,457 (20.1)
Unable to determine[2]	3,852 (25.4)	682 (14.4)	732 (27.3)	2,438 (31.4)	3,774 (25.0)	737 (14.9)	758 (27.9)	2,279 (30.7)	3,492 (22.8)	619 (11.8)	722 (25.3)	2,151 (29.7)
Ontario Stroke System Region												
Central East	2,023 (13.3)	231 (4.9)	810 (30.2)	982 (12.7)	2,070 (13.7)	217 (4.4)	783 (28.8)	1,070 (14.4)	2,068 (13.5)	228 (4.3)	822 (28.8)	1,018 (14.0)
Central South	2,651 (17.5)	496 (10.5)	678 (25.3)	1,477 (19.0)	2,561 (17.0)	471 (9.5)	726 (26.7)	1,364 (18.4)	2,687 (17.5)	503 (9.6)	815 (28.6)	1,369 (18.9)
East – Champlain	1,309 (8.6)	312 (6.6)	132 (4.9)	865 (11.1)	1,167 (7.7)	485 (9.8)	116 (4.3)	566 (7.6)	1,221 (8.0)	559 (10.7)	113 (4.0)	549 (7.6)
Northeast	982 (6.5)	299 (6.3)	400 (14.9)	283 (3.6)	1,066 (7.1)	309 (6.2)	463 (17.0)	294 (4.0)	1,033 (6.7)	311 (5.9)	415 (14.5)	307 (4.2)
Northwest	459 (3.0)	338 (7.1)	n/a	121 (1.6)	452 (3.0)	323 (6.5)	n/a	129 (1.7)	442 (2.9)	334 (6.4)	n/a	108 (1.5)
South East	706 (4.7)	310 (6.5)	132 (4.9)	264 (3.4)	632 (4.2)	297 (6.0)	95 (3.5)	240 (3.2)	624 (4.1)	278 (5.3)	106 (3.7)	240 (3.3)
Southwest	2,248 (14.8)	867 (18.3)	526 (19.6)	855 (11.0)	2,133 (14.1)	789 (15.9)	537 (19.7)	807 (10.9)	2,362 (15.4)	966 (18.4)	583 (20.4)	813 (11.2)
Toronto – North & East	1,122 (7.4)	369 (7.8)	n/a	753 (9.7)	1,130 (7.5)	436 (8.8)	n/a	694 (9.3)	1,118 (7.3)	452 (8.6)	n/a	666 (9.2)
Toronto – Southeast	818 (5.4)	335 (7.1)	n/a	483 (6.2)	868 (5.7)	352 (7.1)	n/a	516 (6.9)	849 (5.5)	354 (6.8)	n/a	495 (6.8)
Toronto – West	1,294 (8.5)	630 (13.3)	n/a	664 (8.6)	1,299 (8.6)	617 (12.4)	n/a	682 (9.2)	1,235 (8.0)	606 (11.6)	n/a	629 (8.7)
West GTA	1,570 (10.3)	556 (11.7)	n/a	1,014 (13.1)	1,729 (11.4)	666 (13.4)	n/a	1,063 (14.3)	1,708 (11.1)	653 (12.5)	n/a	1,055 (14.6)
Local Health Integration Network												
1. Erie St. Clair	958 (6.3)	332 (7.0)	333 (12.4)	293 (3.8)	923 (6.1)	319 (6.4)	323 (11.9)	281 (3.8)	992 (6.5)	361 (6.9)	377 (13.2)	254 (3.5)
2. South West	1,290 (8.5)	535 (11.3)	193 (7.2)	562 (7.2)	1,210 (8.0)	470 (9.5)	214 (7.9)	526 (7.1)	1,370 (8.9)	605 (11.5)	206 (7.2)	559 (7.7)
3. Waterloo Wellington	683 (4.5)	n/a	320 (11.9)	363 (4.7)	714 (4.7)	n/a	349 (12.8)	365 (4.9)	709 (4.6)	n/a	362 (12.7)	347 (4.8)
4. Hamilton Niagara Haldimand Brant	1,968 (13.0)	496 (10.5)	358 (13.4)	1,114 (14.4)	1,847 (12.2)	471 (9.5)	377 (13.9)	999 (13.5)	1,978 (12.9)	503 (9.6)	453 (15.9)	1,022 (14.1)
5. Central West	571 (3.8)	n/a	n/a	571 (7.4)	558 (3.7)	n/a	n/a	558 (7.5)	573 (3.7)	n/a	n/a	573 (7.9)
6. Mississauga Halton	999 (6.6)	556 (11.7)	n/a	443 (5.7)	1,171 (7.8)	666 (13.4)	n/a	505 (6.8)	1,135 (7.4)	653 (12.5)	n/a	482 (6.6)
7. Toronto Central	1,819 (12.0)	1,334 (28.1)	n/a	485 (6.2)	1,903 (12.6)	1,405 (28.3)	n/a	498 (6.7)	1,911 (12.5)	1,412 (26.9)	n/a	499 (6.9)
8. Central	1,380 (9.1)	n/a	320 (11.9)	1,060 (13.7)	1,335 (8.8)	n/a	294 (10.8)	1,041 (14.0)	1,271 (8.3)	n/a	261 (9.1)	1,010 (13.9)
9. Central East	1,420 (9.4)	n/a	428 (16.0)	992 (12.8)	1,482 (9.8)	n/a	434 (16.0)	1,048 (14.1)	1,467 (9.6)	n/a	508 (17.8)	959 (13.2)
10. South East	706 (4.7)	310 (6.5)	132 (4.9)	264 (3.4)	632 (4.2)	297 (6.0)	95 (3.5)	240 (3.2)	624 (4.1)	278 (5.3)	106 (3.7)	240 (3.3)
11. Champlain	1,309 (8.6)	312 (6.6)	132 (4.9)	865 (11.1)	1,167 (7.7)	485 (9.8)	116 (4.3)	566 (7.6)	1,221 (8.0)	559 (10.7)	113 (4.0)	549 (7.6)
12. North Simcoe Muskoka	638 (4.2)	231 (4.9)	62 (2.3)	345 (4.4)	647 (4.3)	217 (4.4)	55 (2.0)	375 (5.1)	621 (4.0)	228 (4.3)	53 (1.9)	340 (4.7)
13. North East	982 (6.5)	299 (6.3)	400 (14.9)	283 (3.6)	1,066 (7.1)	309 (6.2)	463 (17.0)	294 (4.0)	1,033 (6.7)	311 (5.9)	415 (14.5)	307 (4.2)
14. North West	459 (3.0)	338 (7.1)	n/a	121 (1.6)	452 (3.0)	323 (6.5)	n/a	129 (1.7)	442 (2.9)	334 (6.4)	n/a	108 (1.5)

Data source: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years.

Exclusion criteria: Patients with elective admissions.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

[2] Unable to determine = stroke, not specified as hemorrhagic or infarction

Note: SD = standard deviation; IQR = interquartile range (25^{th}–75^{th} percentile).

Exhibit 2.3

Age- and sex-adjusted[1] inpatient admission rates for adults with stroke or transient ischemic attack (TIA) per 1,000 LHIN population aged 18 and older, in Ontario and by Local Health Integration Network, 2003/04 to 2009/10

Group/Sub-Group	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
	Age- and Sex-adjusted Rate, % (n)						
Ontario Patients[2]	**1.7 (15,715)**	**1.7 (15,839)**	**1.6 (15,656)**	**1.5 (15,167)**	**1.5 (15,169)**	**1.5 (15,091)**	**1.5 (15,333)**
Local Health Integration Network							
1. Erie St. Clair	2.2 (1,155)	2.2 (1,153)	2.0 (1,058)	1.8 (989)	1.9 (1,006)	1.7 (951)	1.9 (1,043)
2. South West	1.7 (1,323)	1.6 (1,268)	1.6 (1,255)	1.6 (1,269)	1.5 (1,233)	1.4 (1,148)	1.6 (1,313)
3. Waterloo Wellington	1.6 (778)	1.7 (824)	1.6 (792)	1.5 (760)	1.5 (758)	1.5 (771)	1.4 (759)
4. Hamilton Niagara Haldimand Brant	1.8 (2,092)	1.7 (2,049)	1.6 (1,984)	1.6 (1,941)	1.6 (1,948)	1.5 (1,836)	1.5 (1,937)
5. Central West	1.7 (658)	1.6 (666)	1.5 (653)	1.6 (691)	1.6 (733)	1.6 (753)	1.5 (744)
6. Mississauga Halton	1.6 (936)	1.6 (979)	1.5 (927)	1.4 (906)	1.3 (901)	1.5 (1,044)	1.4 (999)
7. Toronto Central	1.5 (1,360)	1.5 (1,351)	1.4 (1,323)	1.4 (1,279)	1.4 (1,292)	1.5 (1,337)	1.4 (1,311)
8. Central	1.5 (1,495)	1.5 (1,586)	1.5 (1,625)	1.5 (1,607)	1.4 (1,598)	1.4 (1,613)	1.3 (1,558)
9. Central East	1.6 (1,777)	1.5 (1,699)	1.5 (1,699)	1.4 (1,691)	1.3 (1,601)	1.4 (1,664)	1.4 (1,691)
10. South East	1.6 (739)	1.7 (771)	1.5 (695)	1.4 (647)	1.6 (723)	1.4 (646)	1.4 (659)
11. Champlain	1.4 (1,250)	1.4 (1,276)	1.5 (1,356)	1.3 (1,240)	1.4 (1,282)	1.2 (1,154)	1.2 (1,177)
12. North Simcoe Muskoka	2.0 (689)	2.1 (728)	1.8 (668)	1.6 (589)	1.6 (621)	1.6 (626)	1.6 (623)
13. North East	2.2 (1,068)	2.1 (1,054)	2.2 (1,132)	2.1 (1,075)	2.0 (1,014)	2.1 (1,100)	2.1 (1,071)
14. North West	2.0 (395)	2.2 (435)	2.5 (489)	2.5 (483)	2.3 (459)	2.3 (448)	2.3 (448)

Data sources: Canadian Institute for Health Information, Discharge Abstract Database, 2003/04 to 2009/10; Statistics Canada, Ontario census data, 1996.

Inclusion criteria: Patients aged ≥18 years.

Exclusion criteria: Patients with elective admissions.

[1] Age- and sex-adjusted rates used each year's Ontario population as the standard.

[2] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) Population-based analysis (i.e., the location of the patient's residence is used to report regional performance).

(2) Indicates significance difference from provincial rate at the <0.0001 level

Exhibit 2.4

Number and percentage of adult patients with stroke or transient ischemic attack (TIA) admitted to an acute care hospital and treated on a stroke unit[1] at any time during their stay, in Ontario and by OSS region, OSS classification and Local Health Integration Network, 2002/03, 2004/05 and 2008/09

Group/Sub-Group	2002/03	2004/05	2008/09
	n (%)		
Ontario	**446 (2.7)**	**2814 (18.6)**	**4324 (30.3)**
Ontario Stroke System Region			
Central East	-	141 (6.5)	209 (12.2)
Central South	144 (5.3)	521 (19.0)	484 (20.4)
East – Champlain	-	131 (11.1)	496 (42.0)
Northeast	-	133 (12.9)	333 (33.0)
Northwest	-	120 (32.0)	294 (66.7)
South East	-	106 (15.5)	231 (46.1)
Southwest	84 (3.4)	451 (21.2)	892 (43.5)
Toronto – North & East	135 (10.9)	462 (35.8)	333 (30.5)
Toronto – Southeast	-	18 (2.4)	238 (27.8)
Toronto – West	56 (3.9)	227 (19.1)	283 (22.8)
West GTA	27 (1.7)	504 (31.4)	530 (29.0)
Ontario Stroke System Classification			
Regional stroke centre	117 (3.5)	1700 (54.0)	2687 (63.0)
District stroke centre	54 (1.7)	781 (23.9)	1302 (40.1)
Non-designated	275 (2.8)	333 (3.8)	334 (4.9)
Local Health Integration Network			
1. Erie St. Clair	-	210 (23.1)	445 (53.8)
2. South West	84 (6.4)	241 (19.7)	448 (36.6)
3. Waterloo Wellington	45 (6.7)	232 (30.7)	205 (30.2)
4. Hamilton Niagara Haldimand Brant	99 (4.8)	289 (14.5)	278 (16.5)
5. Central West	9 (1.5)	30 (5.6)	-
6. Mississauga Halton	18 (1.9)	474 (44.3)	530 (42.0)
7. Toronto Central	-	474 (27.1)	670 (35.3)
8. Central	56 (4.2)	233 (17.4)	61 (4.9)
9. Central East	135 (7.3)	16 (1.0)	194 (16.3)
10. South East	-	106 (14.8)	231 (46.1)
11. Champlain	-	131 (11.3)	496 (42.0)
12. North Simcoe Muskoka	-	125 (17.3)	139 (24.5)
13. North East	-	133 (12.9)	333 (33.0)
14. North West	-	120 (32.0)	294 (66.7)

Data source: Registry of the Canadian Stroke Network, Ontario Stroke Audit (OSA), 2002/03, 2004/05 and 2008/09.

Inclusion criteria: All patients aged ≥18 years admitted to an acute care facility in Ontario with a final diagnosis of stroke or TIA.

Exclusion criteria: Patients taken directly to an operating room from the emergency department.

[1] A stroke unit is defined as a specialized, geographically-located hospital unit with a dedicated stroke team and stroke resources (e.g., care pathway, educational materials, monitored beds). This unit does not need to have all of these resources nor does it have to be exclusive for stroke patients, but it must be in one location in the hospital.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) This indicator measures care on a stroke unit occuring at any time during hospital admission. This differs from the "stroke unit" indicator measured in the 2002/03 audit, where only the initial admission to a stroke unit was captured, rather than stroke unit care at any point in time.

(3) North York General, Southlake and York Central hospitals were not considered to have a stroke unit at the time of abstraction.

(4) Cells in which there was no reported/available data are marked with a hyphen (-).

(5) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

Exhibit 2.5

Inpatient length of stay for adults with stroke or transient ischemic attack (TIA), in Ontario and by stroke type, OSS region, OSS classification and Local Health Integration Network, 2003/04 to 2009/10

	2003/04			2004/05			2005/06			2006/07			2007/08			2008/09			2009/10			2009/10		
Group/Sub-Group	**No. of Patients[1]**	**Mean Length of Stay (Days)**	**Median Length of Stay (Days)**	**No. of Patients[1]**	**Mean Length of Stay (Days)**	**Median Length of Stay (Days)**	**No. of Patients[1]**	**Mean Length of Stay (Days)**	**Median Length of Stay (Days)**	**No. of Patients[1]**	**Mean Length of Stay (Days)**	**Median Length of Stay (Days)**	**No. of Patients[1]**	**Mean Length of Stay (Days)**	**Median Length of Stay (Days)**	**No. of Patients[1]**	**Mean Length of Stay (Days)**	**Median Length of Stay (Days)**	**No. of Patients[1]**	**Mean Length of Stay (Days)**	**Median Length of Stay (Days)**	**No. of Patients[2]**	**Mean No. of ALC[3] (Days)**	**Median No. of ALC[3] (Days)**
Ontario	**15,731**	**12.5**	**7**	**15,857**	**11.8**	**7**	**15,668**	**11.4**	**6**	**15,181**	**12.2**	**7**	**15,182**	**12.6**	**6**	**15,107**	**13.0**	**6**	**15,347**	**12.6**	**6**	**3,665**	**17.2**	**7**
Stroke Type																								
Intracerebral hemorrhage	1,691	13.8	6	1,571	13.6	7	1,536	13.0	7	1,577	14.6	6	1,599	14.9	7	1,521	15.5	7	1,629	14.3	7	438	17.1	7
Ischemic stroke	10,786	14.2	8	10,763	13.2	8	10,712	12.7	8	10,407	13.5	8	10,240	14.0	8	10,235	14.6	8	10,308	14.3	7	2990	17.6	7
Subarachnoid hemorrhage	584	15.0	9	636	15.7	9	676	12.4	8	682	15.4	9	681	14.0	8	685	15.1	10	690	14.0	10	88	10.6	6
Transient ischemic attack	2,670	4.7	3	2,887	4.8	3	2,744	4.9	3	2,515	4.8	3	2,662	5.3	3	2,666	5.0	3	2,720	4.7	3	149	12.9	6
Ontario Stroke System Region																								
Central East	2,182	11.9	6	2,151	10.5	6	2,129	9.7	6	2,109	10.7	6	2,023	11.1	6	2,070	12.2	7	2,068	12.4	7	614	14.1	6
Central South	2,824	12.8	7	2,803	11.3	6	2,722	10.3	6	2,670	12.3	7	2,651	11.4	6	2,561	13.0	6	2,687	12.0	6	743	16.8	7
East – Champlain	1,265	13.3	7	1,302	12.4	7.5	1,398	12.2	7	1,262	14.1	7	1,309	15.6	7	1,167	15.3	7	1,221	17.5	8	283	28.8	12
Northeast	1,054	12.7	6	1,025	10.6	6	1,106	9.2	5	1,045	12.5	6	982	12.2	6	1,066	13.3	5	1,033	12.7	5	201	26.4	7
Northwest	400	10.9	6	436	9.9	6	485	9.3	7	480	10.2	6	459	12.2	6	452	9.2	6	442	9.8	7	127	7.9	5
South East	756	12.4	6	765	16.6	7	682	16.4	6	620	15.6	6	706	15.6	7	632	15.9	7	624	14.2	6	131	29.4	6
Southwest	2,491	9.5	6	2,443	9.6	6	2,302	10.0	6	2,261	10.2	6	2,248	10.4	6	2,133	10.1	6	2,362	10.3	6	421	13.5	7
Toronto – North & East	1,029	14.2	8	1,211	13.7	7	1,218	13.4	7	1,165	12.7	6	1,122	13.1	6	1,130	13.5	6	1,118	12.5	6	234	17.8	6
Toronto – Southeast	865	13.7	8	829	12.3	7	751	12.5	8	828	13.4	8	818	13.2	7.5	868	14.0	8	849	13.2	8	214	15.3	7
Toronto – West	1,288	17.4	9	1,301	15.5	9	1,311	15.6	9	1,201	14.5	8	1,294	14.8	8	1,299	16.1	8	1,235	15.5	7	341	16.6	7
West GTA	1,577	12.0	7	1,591	11.8	6	1,564	11.3	7	1,540	11.7	7	1,570	13.4	7	1,729	12.6	7	1,708	11.1	6	356	13.5	6
Ontario Stroke System Classification																								
Regional stroke centre	4,238	13.9	7	4,509	13.4	7	4,843	13.5	7	4,660	13.9	7	4,743	13.7	7	4,962	14.1	7	5,244	13.6	7	1052	18.1	7
District stroke centre	2,539	10.8	6	2,660	9.6	6	2,720	8.7	5	2,715	10.3	6	2,678	10.3	6	2,720	11.3	6	2,854	10.8	6	781	14.3	5
Non-designated	8,954	12.4	7	8,688	11.7	6	8,105	11.0	6	7,806	11.9	6	7,761	12.6	6	7,425	12.9	6	7,249	12.5	6	1832	17.9	7
Local Health Integration Network																								
1. Erie St. Clair	1,092	8.5	6	1,110	8.3	6	1,008	8.7	6	945	10.4	7	958	9.2	6	923	8.7	6	992	9.1	6	201	8.6	6
2. South West	1,399	10.3	6	1,333	10.7	6	1,294	11.0	6	1,316	10.1	5	1,290	11.3	5	1,210	11.2	5	1,370	11.1	5	220	18.1	7.5
3. Waterloo Wellington	721	11.5	6	765	9.8	5	720	8.6	5	695	9.2	6	683	10.0	6	714	13.2	6	709	10.3	5	212	14.2	7
4. Hamilton Niagara Haldimand Brant	2,103	13.3	7	2,038	11.8	7	2,002	11.0	6	1,975	13.5	7	1,968	11.9	6	1,847	13.0	6	1,978	12.6	6	531	17.8	7
5. Central West	559	14.0	8	540	13.2	7	486	12.4	8	492	11.6	7	571	14.9	8	558	12.8	7	573	11.4	6	192	11.6	7
6. Mississauga Halton	1,018	11.0	6.5	1,051	11.1	6	1,078	10.8	6	1,048	11.8	6	999	12.5	6	1,171	12.5	7	1,135	11.0	6	164	15.8	6
7. Toronto Central	1,674	15.7	9	1,756	14.0	8	1,867	14.6	8	1,736	13.7	8	1,819	13.8	7	1,903	15.2	8	1,911	12.9	7	508	12.5	6
8. Central	1,345	15.8	9	1,391	14.7	8	1,364	12.4	6	1,419	13.0	7	1,380	13.4	7	1,335	14.6	7	1,271	14.4	7	399	15.6	5
9. Central East	1,643	11.7	7	1,616	10.9	6	1,502	11.0	6	1,541	11.9	7	1,420	12.3	7	1,482	12.3	7	1,467	13.0	6	335	20.5	7
10. South East	756	12.4	6	765	16.6	7	682	16.4	6	620	15.6	6	706	15.6	7	632	15.9	7	624	14.2	6	131	29.4	6
11. Champlain	1,265	13.3	7	1,302	12.4	7.5	1,398	12.2	7	1,262	14.1	7	1,309	15.6	7	1,167	15.3	7	1,221	17.5	8	283	28.8	12
12. North Simcoe Muskoka	702	11.1	5	729	9.5	5	676	9.0	5	607	8.5	5	638	9.5	6	647	10.7	6	621	12.7	6	161	14.0	7
13. North East	1,054	12.7	6	1,025	10.6	6	1,106	9.2	5	1,045	12.5	6	982	12.2	6	1,066	13.3	5	1,033	12.7	5	201	26.4	7
14. North West	400	10.9	6	436	9.9	6	485	9.3	7	480	10.2	6	459	12.2	6	452	9.2	6	442	9.8	7	127	7.9	5

Data source: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), 2003/04 to 2009/10.

Inclusion criteria: All stroke and TIA patients aged ≥18 years admitted to an acute care facility in Ontario for stroke management.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

[2] Based on unique patients (i.e., does not include multiple patient-visits) with ≥1 Alternate Level of Care (ALC) day during admission for an index stroke/TIA event

[3] A patient is designated ALC by a physician or his/her delegate when the patient is occupying a bed in a hospital and does not require the intensity of resources/services provided in the current care setting (Acute, Complex Continuing Care, Mental Health or Rehabilitation). The ALC wait period starts at the time of designation and ends at the time of discharge/transfer to a discharge destination (or when the patient's needs or condition changes and the designation of ALC no longer applies). The standardized provincial ALC definition was implemented across all acute care facilities in Ontario on July 1, 2009.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

Exhibit 2.6

Number and proportion of adult patients with documentation that an initial dysphagia screening[1] was performed during admission to acute care, in Ontario and by OSS region, OSS classification and Local Health Integration Network, 2002/03, 2004/05 and 2008/09

Group/Sub-Group	2002/03	2004/05	2008/09
	n (%)		
Ontario	**5,919 (47.9)**	**6,163 (53.3)**	**7,039 (62.3)**
Ontario Stroke System Region			
Central East	761 (50.8)	821 (51.0)	860 (65.1)
Central South	1,175 (60.3)	1,176 (58.0)	1,067 (57.6)
East – Champlain	591 (47.2)	452 (51.8)	697 (72.5)
Northeast	269 (35.7)	177 (26.8)	333 (57.1)
Northwest	75 (29.0)	108 (46.4)	274 (88.3)
South East	157 (26.0)	277 (48.5)	293 (62.6)
Southwest	648 (33.4)	869 (53.4)	998 (58.5)
Toronto – North & East	477 (48.6)	594 (57.2)	383 (44.5)
Toronto – Southeast	472 (58.6)	363 (55.3)	424 (60.9)
Toronto – West	621 (53.4)	527 (52.8)	784 (73.6)
West GTA	673 (58.1)	799 (63.1)	926 (62.6)
Ontario Stroke System Classification			
Regional stroke centre	1,516 (54.9)	1,532 (58.7)	2,331 (65.0)
District stroke centre	1,047 (45.6)	1,345 (57.3)	1,716 (69.5)
Non-designated	3,356 (45.9)	3,286 (49.8)	2,992 (57.0)
Local Health Integration Network			
1. Erie St. Clair	324 (35.9)	444 (61.2)	383 (55.7)
2. South West	324 (31.2)	425 (47.2)	615 (60.3)
3. Waterloo Wellington	209 (45.2)	315 (61.0)	315 (56.7)
4. Hamilton Niagara Haldimand Brant	966 (65.1)	861 (56.9)	751 (57.9)
5. Central West	252 (57.1)	264 (59.5)	336 (69.1)
6. Mississauga Halton	421 (58.7)	535 (65.0)	591 (59.5)
7. Toronto Central	842 (54.6)	836 (55.9)	1,009 (63.9)
8. Central	505 (49.6)	558 (52.8)	591 (59.0)
9. Central East	775 (55.4)	688 (52.8)	552 (56.9)
10. South East	157 (25.3)	289 (48.6)	293 (62.6)
11. Champlain	591 (47.8)	440 (51.9)	697 (72.5)
12. North Simcoe Muskoka	209 (42.8)	243 (49.8)	300 (75.7)
13. North East	269 (35.7)	177 (26.8)	333 (57.1)
14. North West	75 (29.0)	108 (46.4)	274 (88.3)

Data source: Registry of the Canadian Stroke Network, Ontario Stroke Audit, 2002/03, 2004/05 and 2008/09.

Inclusion criteria: All patients age ≥18 years admitted to an acute care facility in Ontario with a final diagnosis of stroke.

Exclusion criteria: Patients with a diagnosis of TIA; patients who were unconscious at the time of initial assessment while in hospital.

[1] A speech language pathology assessment or swallowing screen performed within 72 hours of arrival at hospital. This includes bedside assessments done by health care providers (e.g., nurses) or standardized swallowing screen tests (e.g., TOR-BSST).

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

Exhibit 2.7

Age- and sex-adjusted inhospital complication rates for pneumonia among adult patients[1] with stroke or transient ischemic attack (TIA), in Ontario and by OSS region, OSS classification and Local Health Integration Network, 2003/04 to 2009/10

	2003/04			2004/05			2005/06			2006/07			2007/08			2008/09			2009/10		
Group/Sub-Group	n	N	Adjusted Rate (%)	n	N	Adjusted Rate (%)	n	N	Adjusted Rate (%)	n	N	Adjusted Rate (%)	n	N	Adjusted Rate (%)	n	N	Adjusted Rate (%)	n	N	Adusted Rate (%)
Ontario	**262**	**15,731**	**1.7**	**243**	**15,857**	**1.5**	**218**	**15,668**	**1.4**	**229**	**15,181**	**1.5**	**187**	**15,182**	**1.2**	**178**	**15,107**	**1.2**	**205**	**15,347**	**1.3**
Ontario Stroke System Region																					
Central East	38	2,182	1.8	24	2,151	1.1	26	2,129	1.2	32	2,109	1.5	18	2,023	0.9	17	2,070	0.8	34	2,068	1.6
Central South	37	2,824	1.3	37	2,803	1.3	33	2,722	1.2	31	2,670	1.2	35	2,651	1.3	26	2,561	1.0	38	2,687	1.4
East – Champlain	18	1,265	1.4	20	1,302	1.5	19	1,398	1.4	25	1,262	2.0	21	1,309	1.6	19	1,167	1.6	28	1,221	2.3
Northeast	8	1,054	0.8	**	1,025	0.6	**	1,106	0.5	13	1,045	1.2	**	982	0.6	8	1,066	0.8	**	1,033	0.5
Northwest	**	400	0.5	**	436	0.7	**	485	0.8	**	480	0.2	8	459	1.8	**	452	1.1	7	442	1.6
South East	13	756	1.7	10	765	1.3	7	682	1.0	7	620	1.1	7	706	1.0	**	632	1.0	**	624	0.6
Southwest	41	2,491	1.7	46	2,443	1.9	21	2,302	0.9	22	2,261	1.0	24	2,248	1.1	21	2,133	1.0	20	2,362	0.8
Toronto – North & East	25	1,029	2.5	23	1,211	1.9	33	1,218	2.7	21	1,165	1.8	**	1,122	0.5	8	1,130	0.7	15	1,118	1.3
Toronto – Southeast	12	865	1.4	11	829	1.3	11	751	1.5	18	828	2.2	9	818	1.1	10	868	1.2	14	849	1.7
Toronto – West	36	1,288	2.8	38	1,301	2.9	30	1,311	2.3	36	1,201	3.0	24	1,294	1.9	30	1,299	2.4	17	1,235	1.4
West GTA	32	1,577	2.0	25	1,591	1.6	28	1,564	1.8	23	1,540	1.5	29	1,570	1.9	28	1,729	1.7	23	1,708	1.4
Ontario Stroke System Classification																					
Regional stroke centre	120	4,238	2.8	122	4,509	2.7	102	4,843	2.1	98	4,660	2.1	89	4,743	1.9	94	4,962	2.0	108	5,244	2.1
District stroke centre	29	2,539	1.2	19	2,660	0.7	23	2,720	0.8	33	2,715	1.2	17	2,678	0.6	22	2,720	0.8	27	2,854	0.9
Non-designated	113	8,954	1.3	102	8,688	1.2	93	8,105	1.1	98	7,806	1.3	81	7,761	1.0	62	7,425	0.8	70	7,249	1.0
Local Health Integration Network																					
1. Erie St. Clair	15	1,092	1.4	25	1,110	2.3	**	1,008	0.3	**	945	0.5	**	958	0.6	9	923	1.0	**	992	0.6
2. South West	26	1,399	1.9	21	1,333	1.6	18	1,294	1.4	17	1,316	1.3	18	1,290	1.4	12	1,210	1.0	14	1,370	1.0
3. Waterloo Wellington	9	721	1.3	**	765	0.5	**	720	0.6	**	695	0.7	**	683	0.6	**	714	0.7	**	709	0.8
4. Hamilton Niagara Haldimand Brant	28	2,103	1.3	33	2,038	1.6	29	2,002	1.5	26	1,975	1.3	31	1,968	1.6	21	1,847	1.1	32	1,978	1.6
5. Central West	11	559	1.9	**	540	0.7	8	486	1.6	7	492	1.4	8	571	1.4	8	558	1.5	9	573	1.6
6. Mississauga Halton	21	1,018	2.0	21	1,051	2.0	20	1,078	1.9	16	1,048	1.5	21	999	2.1	20	1,171	1.7	14	1,135	1.2
7. Toronto Central	54	1,674	3.2	51	1,756	2.9	53	1,867	2.9	56	1,736	3.3	29	1,819	1.7	36	1,903	2.0	32	1,911	1.7
8. Central	30	1,345	2.3	13	1,391	0.9	18	1,364	1.3	32	1,419	2.3	12	1,380	0.9	17	1,335	1.2	20	1,271	1.6
9. Central East	25	1,643	1.5	24	1,616	1.5	22	1,502	1.5	14	1,541	0.9	12	1,420	0.8	1	1,482	0.7	18	1,467	1.2
10. South East	13	756	1.7	10	765	1.3	7	682	1.0	7	620	1.1	7	706	1.0	**	632	1.0	**	624	0.6
11. Champlain	18	1,265	1.4	20	1,302	1.5	19	1,398	1.4	25	1,262	2.0	21	1,309	1.6	19	1,167	1.6	28	1,221	2.3
12. North Simcoe Muskoka	**	702	0.3	8	729	1.1	7	676	1.0	**	607	0.8	**	638	0.6	**	647	0.2	10	621	1.6
13. North East	8	1,054	0.8	**	1,025	0.6	**	1,106	0.5	13	1,045	1.2	**	982	0.6	8	1,066	0.8	**	1,033	0.5
14. North West	**	400	0.5	**	436	0.7	**	485	0.8	**	480	0.2	8	459	1.8	**	452	1.1	7	442	1.6

Data source: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), 2003/04 to 2009/10

Inclusion criteria: All stroke and TIA patients aged ≥18 years admitted to an acute care facility in Ontario for stroke management.

Exclusion criteria: Patients with elective admissions.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

[2] Age- and sex-adjusted rates used each year's population of Ontario as the standard.

** Cell value suppressed for reasons of privacy and confidentiality.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

Exhibit 2.8

Discharge destination of adult patients[1] with stroke or transient ischemic attack (TIA) alive at discharge following an acute hospitalization, in Ontario and by stroke type, OSS classification, OSS region and Local Health Integration Network, 2003/04 to 2009/10

Group/Sub-Group	Year	Sample Size	Acute Care	Complex Continuing Care	Home with Service	Home without Service	Long-term Care[2]	Rehabilitation	Other[3]
		n (%)							
Ontario	**2003/04**	13,237	603 (4.6)	1,167 (8.8)	1,468 (11.1)	5,924 (44.8)	1,127 (8.5)	2,709 (20.5)	239 (1.8)
	2004/05	13,536	643 (4.8)	1,058 (7.8)	1,471 (10.9)	6,105 (45.1)	1,157 (8.5)	2,901 (21.4)	201 (1.5)
	2005/06	13,419	746 (5.6)	1,069 (8.0)	1,716 (12.8)	5,565 (41.5)	1,128 (8.4)	2,988 (22.3)	207 (1.6)
	2006/07	12,891	809 (6.3)	932 (7.2)	1,737 (13.5)	5,219 (40.5)	1,059 (8.2)	2,949 (22.9)	186 (1.5)
	2007/08	12,921	780 (6.0)	900 (7.0)	1,828 (14.1)	5,321 (41.2)	955 (7.4)	2,951 (22.8)	186 (1.4)
	2008/09	12,968	755 (5.8)	925 (7.1)	1,851 (14.3)	5,413 (41.7)	965 (7.4)	2,895 (22.3)	164 (1.3)
	2009/10	13,309	838 (6.3)	970 (7.3)	1,905 (14.3)	5,460 (41.0)	935 (7.0)	3,020 (22.7)	181 (1.4)
Stroke Type									
Intracerebral hemorrhage	2003/04	1,030 (7.8)	136 (13.2)	108 (10.5)	99 (9.6)	298 (28.9)	108 (10.5)	254 (24.7)	27 (2.6)
	2004/05	947 (7.0)	140 (14.8)	104 (11.0)	86 (9.1)	244 (25.8)	100 (10.6)	254 (26.8)	19 (2.0)
	2005/06	976 (7.3)	155 (15.9)	111 (11.4)	100 (10.2)	238 (24.4)	88 (9.0)	261 (26.7)	23 (2.3)
	2006/07	1,012 (7.9)	155 (15.3)	102 (10.1)	96 (9.5)	240 (23.7)	117 (11.6)	285 (28.2)	17 (1.7)
	2007/08	1,007 (7.8)	142 (14.1)	102 (10.1)	98 (9.7)	269 (26.7)	90 (8.9)	294 (29.2)	12 (1.2)
	2008/09	1,005 (7.7)	146 (14.5)	116 (11.5)	103 (10.2)	269 (26.8)	96 (9.6)	264 (26.3)	11 (1.1)
	2009/10	1,094 (8.2)	173 (15.8)	136 (12.4)	104 (9.5)	274 (25.0)	71 (6.5)	322 (29.4)	14 (1.3)
Ischemic stroke	2003/04	9,111 (68.8)	330 (3.6)	999 (11.0)	1,038 (11.4)	3,352 (36.8)	892 (9.8)	2,337 (25.7)	163 (1.8)
	2004/05	9,238 (68.2)	368 (4.0)	894 (9.7)	1,025 (11.1)	3,424 (37.1)	883 (9.6)	2,513 (27.2)	131 (1.4)
	2005/06	9,206 (68.6)	424 (4.6)	899 (9.8)	1,217 (13.2)	3,067 (33.3)	878 (9.5)	2,596 (28.2)	125 (1.4)
	2006/07	8,869 (68.8)	489 (5.5)	780 (8.8)	1,215 (13.7)	2,904 (32.7)	822 (9.3)	2,527 (28.5)	132 (1.5)
	2007/08	8,770 (67.9)	496 (5.7)	744 (8.5)	1,244 (14.2)	2,905 (33.1)	731 (8.3)	2,516 (28.7)	134 (1.6)
	2008/09	8,792 (67.8)	477 (5.4)	736 (8.4)	1,278 (14.5)	2,916 (33.2)	746 (8.5)	2,523 (28.7)	116 (1.3)
	2009/10	8,978 (67.5)	495 (5.5)	784 (8.7)	1,306 (14.5)	2,959 (33.0)	735 (8.2)	2,561 (28.5)	138 (1.5)
Subarachnoid hemorrhage	2003/04	438 (3.3)	95 (21.7)	11 (2.5)	24 (5.5)	219 (50.0)	**	72 (16.4)	14 (3.2)
	2004/05	472 (3.5)	98 (20.8)	21 (4.4)	37 (7.8)	221 (46.8)	12 (2.5)	74 (15.7)	9 (1.9)
	2005/06	499 (3.7)	114 (22.8)	15 (3.0)	35 (7.0)	235 (47.1)	9 (1.8)	75 (15.0)	16 (3.2)
	2006/07	505 (3.9)	122 (24.2)	15 (3.0)	29 (5.7)	245 (48.5)	11 (2.2)	76 (15.0)	7 (1.4)
	2007/08	490 (3.8)	93 (19.0)	18 (3.7)	36 (7.3)	254 (51.8)	9 (1.8)	74 (15.1)	6 (1.2)
	2008/09	513 (4.0)	102 (19.9)	35 (6.8)	43 (8.4)	246 (48.0)	10 (1.9)	64 (12.5)	13 (2.6)
	2009/10	527 (4.0)	126 (23.9)	18 (3.4)	39 (7.4)	257 (48.8)	8 (1.5)	75 (14.2)	**
Transient ischemic attack	2003/04	2,658 (20.1)	42 (1.6)	49 (1.8)	307 (11.6)	2,055 (77.3)	124 (4.7)	46 (1.7)	35 (1.3)
	2004/05	2,879 (21.3)	37 (1.3)	39 (1.4)	323 (11.2)	2,216 (77.0)	162 (5.6)	60 (2.1)	42 (1.4)
	2005/06	2,738 (20.4)	53 (1.9)	44 (1.6)	364 (13.3)	2,025 (74.0)	153 (5.6)	56 (2.0)	43 (1.6)
	2006/07	2,505 (19.4)	43 (1.7)	35 (1.4)	397 (15.8)	1,830 (73.1)	109 (4.4)	61 (2.4)	30 (1.2)
	2007/08	2,654 (20.5)	49 (1.8)	36 (1.4)	450 (17.0)	1,893 (71.3)	125 (4.7)	67 (2.5)	34 (1.3)
	2008/09	2,658 (20.5)	30 (1.1)	38 (1.4)	427 (16.1)	1,982 (74.6)	113 (4.3)	44 (1.7)	24 (0.9)
	2009/10	2,710 (20.4)	44 (1.6)	32 (1.2)	456 (16.8)	1,970 (72.7)	121 (4.5)	62 (2.3)	25 (0.9)
Ontario Stroke System Classification									
Regional stroke centre	2003/04	3,712 (28.0)	239 (6.7)	159 (4.5)	363 (10.2)	1,526 (43.1)	258 (7.3)	934 (26.4)	59 (1.6)
	2004/05	3,913 (28.9)	269 (7.0)	186 (4.9)	369 (9.7)	1,597 (41.8)	277 (7.3)	1,065 (27.9)	50 (1.3)
	2005/06	4,126 (30.7)	341 (8.3)	194 (4.7)	443 (10.8)	1,640 (39.9)	292 (7.1)	1,142 (27.8)	66 (1.6)
	2006/07	4,014 (31.1)	344 (8.7)	187 (4.7)	439 (11.0)	1,596 (40.2)	299 (7.5)	1,054 (26.5)	47 (1.1)
	2007/08	4,102 (31.7)	346 (8.6)	158 (3.9)	525 (13.0)	1,641 (40.8)	238 (5.9)	1,057 (26.3)	63 (1.5)
	2008/09	4,241 (32.7)	340 (8.0)	224 (5.3)	503 (11.9)	1,799 (42.4)	263 (6.2)	1,066 (25.1)	46 (1.1)
	2009/10	4,472 (33.6)	399 (8.9)	236 (5.3)	526 (11.8)	1,896 (42.4)	260 (5.8)	1,108 (24.8)	47 (1.0)
District stroke centre	2003/04	2,136 (16.1)	86 (4.0)	202 (9.5)	232 (10.9)	923 (43.2)	143 (6.7)	516 (24.2)	34 (1.6)
	2004/05	2,303 (17.0)	91 (4.0)	196 (8.5)	256 (11.1)	1,059 (46.0)	145 (6.3)	540 (23.4)	16 (0.7)
	2005/06	2,350 (17.5)	120 (5.1)	247 (10.5)	283 (12.0)	962 (40.9)	131 (5.6)	573 (24.4)	34 (1.4)
	2006/07	2,332 (18.1)	146 (6.3)	203 (8.7)	308 (13.2)	849 (36.4)	151 (6.5)	643 (27.6)	32 (1.4)
	2007/08	2,299 (17.8)	123 (5.4)	171 (7.4)	299 (13.0)	884 (38.5)	108 (4.7)	678 (29.5)	36 (1.6)
	2008/09	2,367 (18.3)	145 (6.1)	203 (8.6)	321 (13.6)	916 (38.7)	117 (4.9)	637 (26.9)	28 (1.2)
	2009/10	2,517 (18.9)	186 (7.4)	230 (9.1)	347 (13.8)	911 (36.2)	114 (4.5)	685 (27.2)	44 (1.8)
Non-designated	2003/04	7,389 (55.8)	278 (3.7)	806 (10.7)	873 (11.6)	3,475 (46.0)	726 (9.6)	1,259 (16.7)	146 (2.0)
	2004/05	7,320 (54.1)	283 (3.8)	676 (9.1)	846 (11.4)	3,449 (46.5)	735 (9.9)	1,296 (17.5)	135 (1.8)
	2005/06	6,943 (51.7)	285 (4.1)	628 (9.0)	990 (14.2)	2,963 (42.6)	705 (10.1)	1,273 (18.3)	107 (1.5)
	2006/07	6,545 (50.8)	319 (4.8)	542 (8.2)	990 (15.0)	2,774 (42.1)	609 (9.2)	1,252 (19.0)	107 (1.6)
	2007/08	6,520 (50.5)	311 (4.7)	571 (8.7)	1,004 (15.2)	2,796 (42.4)	609 (9.2)	1,216 (18.4)	87 (1.4)
	2008/09	6,360 (49.0)	270 (4.2)	498 (7.8)	1,027 (16.1)	2,698 (42.4)	585 (9.2)	1,192 (18.7)	90 (1.4)
	2009/10	6,320 (47.5)	253 (4.0)	504 (8.0)	1,032 (16.3)	2,653 (42.0)	561 (8.9)	1,227 (19.4)	90 (1.4)

Group/Sub-Group	Year	Sample Size	Acute Care	Complex Continuing Care	Home with Service	Home without Service	Long-term Care[2]	Rehabilitation	Other[3]
		n (%)							
Ontario Stroke System Region									
Central East	2003/04	1,839 (13.9)	53 (2.9)	183 (10.0)	229 (12.5)	824 (44.8)	138 (7.5)	368 (20.0)	44 (2.4)
	2004/05	1,831 (13.5)	55 (3.0)	136 (7.4)	228 (12.5)	809 (44.2)	150 (8.2)	424 (23.2)	29 (1.6)
	2005/06	1,826 (13.6)	62 (3.4)	185 (10.1)	235 (12.9)	755 (41.3)	121 (6.6)	441 (24.2)	27 (1.5)
	2006/07	1,793 (13.9)	103 (5.7)	152 (8.5)	276 (15.4)	653 (36.4)	135 (7.5)	456 (25.4)	18 (1.0)
	2007/08	1,723 (13.3)	100 (5.8)	140 (8.1)	268 (15.6)	641 (37.2)	97 (5.6)	461 (26.8)	16 (1.0)
	2008/09	1,793 (13.8)	89 (5.0)	122 (6.8)	272 (15.2)	700 (39.0)	114 (6.4)	475 (26.5)	21 (1.1)
	2009/10	1,811 (13.6)	104 (5.7)	132 (7.3)	279 (15.4)	654 (36.1)	109 (6.0)	503 (27.8)	30 (1.6)
Central South	2003/04	2,345 (17.7)	95 (4.1)	249 (10.6)	248 (10.6)	1020 (43.5)	225 (9.6)	476 (20.3)	32 (1.4)
	2004/05	2,404 (17.8)	133 (5.5)	244 (10.1)	270 (11.2)	1033 (43.0)	206 (8.6)	481 (20.0)	37 (1.6)
	2005/06	2,317 (17.3)	152 (6.6)	270 (11.7)	320 (13.8)	841 (36.3)	226 (9.8)	479 (20.7)	29 (1.2)
	2006/07	2,249 (17.4)	165 (7.3)	217 (9.6)	358 (15.9)	830 (36.9)	183 (8.1)	475 (21.1)	21 (0.9)
	2007/08	2,247 (17.4)	131 (5.8)	220 (9.8)	385 (17.1)	887 (39.5)	154 (6.9)	445 (19.8)	25 (1.1)
	2008/09	2,193 (16.9)	146 (6.7)	193 (8.8)	352 (16.1)	837 (38.2)	164 (7.5)	470 (21.4)	31 (1.4)
	2009/10	2,310 (17.4)	152 (6.6)	239 (10.3)	369 (16.0)	915 (39.6)	132 (5.7)	472 (20.4)	31 (1.4)
East – Champlain	2003/04	1,051 (7.9)	57 (5.4)	38 (3.6)	112 (10.7)	501 (47.7)	101 (9.6)	219 (20.8)	23 (2.2)
	2004/05	1,068 (7.9)	82 (7.7)	46 (4.3)	86 (8.1)	481 (45.0)	97 (9.1)	234 (21.9)	42 (4.0)
	2005/06	1,213 (9.0)	117 (9.6)	51 (4.2)	166 (13.7)	446 (36.8)	112 (9.2)	302 (24.9)	19 (1.6)
	2006/07	1,069 (8.3)	116 (10.9)	45 (4.2)	117 (10.9)	396 (37.0)	71 (6.6)	292 (27.3)	32 (3.0)
	2007/08	1,101 (8.5)	116 (10.5)	62 (5.6)	148 (13.4)	380 (34.5)	90 (8.2)	287 (26.1)	18 (1.6)
	2008/09	988 (7.6)	87 (8.8)	48 (4.9)	179 (18.1)	362 (36.6)	71 (7.2)	230 (23.3)	11 (1.1)
	2009/10	1,022 (7.7)	68 (6.7)	59 (5.8)	196 (19.2)	357 (34.9)	86 (8.4)	243 (23.8)	13 (1.3)
Northeast	2003/04	908 (6.9)	67 (7.4)	50 (5.5)	96 (10.6)	517 (56.9)	69 (7.6)	90 (9.9)	19 (2.1)
	2004/05	902 (6.7)	50 (5.5)	64 (7.1)	73 (8.1)	514 (57.0)	65 (7.2)	123 (13.6)	13 (1.4)
	2005/06	951 (7.1)	45 (4.7)	53 (5.6)	123 (12.9)	522 (54.9)	48 (5.0)	144 (15.1)	16 (1.7)
	2006/07	908 (7.0)	69 (7.6)	42 (4.6)	126 (13.9)	450 (49.6)	65 (7.2)	146 (16.1)	10 (1.1)
	2007/08	854 (6.6)	52 (6.1)	15 (1.8)	129 (15.1)	469 (54.9)	46 (5.4)	133 (15.6)	10 (1.2)
	2008/09	891 (6.9)	60 (6.7)	25 (2.8)	134 (15.0)	478 (53.6)	54 (6.1)	130 (14.6)	10 (1.1)
	2009/10	895 (6.7)	63 (7.0)	24 (2.7)	140 (15.6)	441 (49.3)	48 (5.4)	166 (18.5)	13 (1.4)
Northwest	2003/04	332 (2.5)	24 (7.2)	67 (20.2)	38 (11.4)	172 (51.8)	9 (2.7)	18 (5.4)	**
	2004/05	394 (2.9)	25 (6.3)	77 (19.5)	52 (13.2)	184 (46.7)	13 (3.3)	31 (7.9)	12 (3.1)
	2005/06	437 (3.3)	42 (9.6)	59 (13.5)	54 (12.4)	201 (46.0)	20 (4.6)	59 (13.5)	**
	2006/07	438 (3.4)	45 (10.3)	58 (13.2)	47 (10.7)	191 (43.6)	32 (7.3)	58 (13.2)	7 (1.6)
	2007/08	408 (3.2)	35 (8.6)	33 (8.1)	50 (12.3)	193 (47.3)	22 (5.4)	71 (17.4)	**
	2008/09	411 (3.2)	36 (8.8)	28 (6.8)	42 (10.2)	189 (46.0)	28 (6.8)	82 (20.0)	6 (1.5)
	2009/10	403 (3.0)	41 (10.2)	17 (4.2)	33 (8.2)	168 (41.7)	27 (6.7)	109 (27.0)	8 (1.9)
South East	2003/04	612 (4.6)	37 (6.0)	37 (6.0)	80 (13.1)	308 (50.3)	32 (5.2)	106 (17.3)	12 (2.0)
	2004/05	643 (4.8)	47 (7.3)	47 (7.3)	74 (11.5)	316 (49.1)	49 (7.6)	98 (15.2)	12 (1.9)
	2005/06	548 (4.1)	38 (6.9)	47 (8.6)	100 (18.2)	243 (44.3)	38 (6.9)	63 (11.5)	19 (3.5)
	2006/07	497 (3.9)	31 (6.2)	37 (7.4)	76 (15.3)	247 (49.7)	35 (7.0)	65 (13.1)	6 (1.2)
	2007/08	578 (4.5)	49 (8.5)	43 (7.4)	96 (16.6)	254 (43.9)	41 (7.1)	85 (14.7)	10 (1.7)
	2008/09	531 (4.1)	43 (8.1)	43 (8.1)	83 (15.6)	216 (40.7)	26 (4.9)	112 (21.1)	8 (1.5)
	2009/10	525 (3.9)	46 (8.8)	42 (8.0)	85 (16.2)	225 (42.9)	32 (6.1)	91 (17.3)	**
Southwest	2003/04	2,143 (16.2)	139 (6.5)	207 (9.7)	248 (11.6)	860 (40.1)	166 (7.7)	492 (23.0)	31 (1.5)
	2004/05	2,119 (15.7)	115 (5.4)	176 (8.3)	220 (10.4)	945 (44.6)	151 (7.1)	493 (23.3)	19 (0.9)
	2005/06	1,973 (14.7)	119 (6.0)	146 (7.4)	240 (12.2)	823 (41.7)	142 (7.2)	458 (23.2)	45 (2.3)
	2006/07	1,936 (15.0)	120 (6.2)	131 (6.8)	300 (15.5)	754 (38.9)	120 (6.2)	480 (24.8)	31 (1.6)
	2007/08	1,912 (14.8)	108 (5.6)	104 (5.4)	299 (15.6)	707 (37.0)	126 (6.6)	523 (27.4)	45 (2.3)
	2008/09	1,834 (14.1)	92 (5.0)	116 (6.3)	311 (17.0)	713 (38.9)	99 (5.4)	475 (25.9)	28 (1.6)
	2009/10	2,031 (15.3)	117 (5.8)	130 (6.4)	337 (16.6)	785 (38.7)	143 (7.0)	481 (23.7)	38 (1.9)
Toronto – North & East	2003/04	832 (6.3)	18 (2.2)	35 (4.2)	105 (12.6)	373 (44.8)	83 (10.0)	200 (24.0)	18 (2.2)
	2004/05	1,013 (7.5)	38 (3.8)	41 (4.0)	138 (13.6)	431 (42.5)	106 (10.5)	254 (25.1)	**
	2005/06	1,008 (7.5)	70 (6.9)	37 (3.7)	98 (9.7)	415 (41.2)	111 (11.0)	267 (26.5)	10 (1.0)
	2006/07	995 (7.7)	49 (4.9)	17 (1.7)	107 (10.8)	462 (46.4)	112 (11.3)	238 (23.9)	10 (1.0)
	2007/08	957 (7.4)	49 (5.1)	20 (2.1)	85 (8.9)	449 (46.9)	97 (10.1)	238 (24.9)	19 (2.0)
	2008/09	978 (7.5)	56 (5.7)	32 (3.3)	90 (9.2)	469 (48.0)	115 (11.8)	207 (21.2)	9 (0.9)
	2009/10	983 (7.4)	59 (6.0)	28 (2.8)	82 (8.3)	471 (47.9)	103 (10.5)	229 (23.3)	11 (1.1)

Group/Sub-Group	Year	Sample Size	Acute Care	Complex Continuing Care	Home with Service	Home without Service	Long-term Care[2]	Rehabilitation	Other[3]
		n (%)							
Toronto – Southeast	2003/04	742 (5.6)	36 (4.9)	106 (14.3)	73 (9.8)	270 (36.4)	81 (10.9)	150 (20.2)	26 (3.6)
	2004/05	717 (5.3)	22 (3.1)	71 (9.9)	72 (10.0)	312 (43.5)	70 (9.8)	164 (22.9)	6 (0.9)
	2005/06	654 (4.9)	31 (4.7)	93 (14.2)	68 (10.4)	260 (39.8)	66 (10.1)	127 (19.4)	9 (1.4)
	2006/07	695 (5.4)	35 (5.0)	91 (13.1)	52 (7.5)	289 (41.6)	75 (10.8)	141 (20.3)	12 (1.8)
	2007/08	689 (5.3)	39 (5.7)	93 (13.5)	62 (9.0)	305 (44.3)	48 (7.0)	136 (19.7)	6 (0.9)
	2008/09	744 (5.7)	34 (4.6)	125 (16.8)	55 (7.4)	319 (42.9)	60 (8.1)	141 (19.0)	10 (1.3)
	2009/10	754 (5.7)	53 (7.0)	92 (12.2)	58 (7.7)	315 (41.8)	53 (7.0)	178 (23.6)	**
Toronto – West	2003/04	1,060 (8.0)	18 (1.7)	51 (4.8)	124 (11.7)	476 (44.9)	129 (12.2)	247 (23.3)	15 (1.4)
	2004/05	1,094 (8.1)	26 (2.4)	45 (4.1)	136 (12.4)	503 (46.0)	124 (11.3)	248 (22.7)	12 (1.1)
	2005/06	1,120 (8.3)	22 (2.0)	38 (3.4)	164 (14.6)	479 (42.8)	140 (12.5)	265 (23.7)	12 (1.1)
	2006/07	979 (7.6)	36 (3.7)	37 (3.8)	141 (14.4)	372 (38.0)	121 (12.4)	257 (26.3)	15 (1.5)
	2007/08	1,083 (8.4)	46 (4.2)	56 (5.2)	160 (14.8)	467 (43.1)	119 (11.0)	223 (20.6)	12 (1.1)
	2008/09	1,114 (8.6)	40 (3.6)	73 (6.6)	183 (16.4)	466 (41.8)	119 (10.7)	215 (19.3)	18 (1.6)
	2009/10	1,074 (8.1)	46 (4.3)	71 (6.6)	165 (15.4)	458 (42.6)	118 (11.0)	194 (18.1)	22 (2.1)
West GTA	2003/04	1,373 (10.4)	59 (4.3)	144 (10.5)	115 (8.4)	603 (43.9)	94 (6.8)	343 (25.0)	15 (1.1)
	2004/05	1,351 (10.0)	50 (3.7)	111 (8.2)	122 (9.0)	577 (42.7)	126 (9.3)	351 (26.0)	14 (1.0)
	2005/06	1,372 (10.2)	48 (3.5)	90 (6.6)	148 (10.8)	580 (42.3)	104 (7.6)	383 (27.9)	19 (1.4)
	2006/07	1,332 (10.3)	40 (3.0)	105 (7.9)	137 (10.3)	575 (43.2)	110 (8.3)	341 (25.6)	24 (1.8)
	2007/08	1,369 (10.6)	55 (4.0)	114 (8.3)	146 (10.7)	569 (41.6)	115 (8.4)	349 (25.5)	21 (1.5)
	2008/09	1,491 (11.5)	72 (4.8)	120 (8.0)	150 (10.1)	664 (44.5)	115 (7.7)	358 (24.0)	12 (0.8)
	2009/10	15,01 (11.3)	89 (5.9)	136 (9.1)	161 (10.7)	671 (44.7)	84 (5.6)	354 (23.6)	6 (0.4)
Local Health Integration Network									
1. Erie St. Clair	2003/04	961 (7.3)	28 (2.9)	43 (4.5)	125 (13.0)	372 (38.7)	84 (8.7)	288 (30.0)	21 (2.2)
	2004/05	974 (7.2)	17 (1.7)	74 (7.6)	112 (11.5)	410 (42.1)	73 (7.5)	282 (29.0)	6 (0.6)
	2005/06	866 (6.5)	22 (2.5)	59 (6.8)	102 (11.8)	341 (39.4)	60 (6.9)	256 (29.6)	26 (3.0)
	2006/07	834 (6.5)	22 (2.6)	46 (5.5)	130 (15.6)	314 (37.6)	50 (6.0)	260 (31.2)	12 (1.4)
	2007/08	819 (6.3)	22 (2.7)	40 (4.9)	133 (16.2)	286 (34.9)	48 (5.9)	264 (32.2)	26 (3.2)
	2008/09	814 (6.3)	21 (2.6)	48 (5.9)	128 (15.7)	305 (37.5)	34 (4.2)	266 (32.7)	12 (1.5)
	2009/10	861 (6.5)	21 (2.4)	72 (8.4)	136 (15.8)	336 (39.0)	44 (5.1)	244 (28.3)	8 (0.9)
2. South West	2003/04	1,182 (8.9)	111 (9.4)	164 (13.9)	123 (10.4)	488 (41.3)	82 (6.9)	204 (17.3)	10 (0.8)
	2004/05	1,145 (8.5)	98 (8.6)	102 (8.9)	108 (9.4)	535 (46.7)	78 (6.8)	211 (18.4)	13 (1.1)
	2005/06	1,107 (8.2)	97 (8.8)	87 (7.9)	138 (12.5)	482 (43.5)	82 (7.4)	202 (18.2)	19 (1.7)
	2006/07	1,102 (8.5)	98 (8.9)	85 (7.7)	170 (15.4)	440 (39.9)	70 (6.4)	220 (20.0)	19 (1.8)
	2007/08	1,093 (8.5)	86 (7.9)	64 (5.9)	166 (15.2)	421 (38.5)	78 (7.1)	259 (23.7)	19 (1.7)
	2008/09	1,020 (7.9)	71 (7.0)	68 (6.7)	183 (17.9)	408 (40.0)	65 (6.4)	209 (20.5)	16 (1.6)
	2009/10	1,170 (8.8)	96 (8.2)	58 (5.0)	201 (17.2)	449 (38.4)	99 (8.5)	237 (20.3)	30 (2.6)
3. Waterloo Wellington	2003/04	588 (4.4)	20 (3.4)	76 (12.9)	70 (11.9)	250 (42.5)	54 (9.2)	113 (19.2)	**
	2004/05	636 (4.7)	33 (5.2)	59 (9.3)	81 (12.7)	290 (45.6)	68 (10.7)	97 (15.3)	8 (1.3)
	2005/06	621 (4.6)	35 (5.6)	69 (11.1)	120 (19.3)	230 (37.0)	57 (9.2)	104 (16.7)	6 (0.9)
	2006/07	573 (4.4)	40 (7.0)	47 (8.2)	112 (19.5)	218 (38.0)	49 (8.6)	104 (18.2)	**
	2007/08	566 (4.4)	23 (4.1)	50 (8.8)	103 (18.2)	224 (39.6)	48 (8.5)	114 (20.1)	**
	2008/09	600 (4.6)	43 (7.2)	51 (8.5)	122 (20.3)	202 (33.7)	50 (8.3)	126 (21.0)	6 (1.0)
	2009/10	633 (4.8)	40 (6.3)	75 (11.8)	115 (18.2)	225 (35.5)	41 (6.5)	134 (21.2)	**
4. Hamilton Niagara Haldimand Brant	2003/04	1,757 (13.3)	75 (4.3)	173 (9.8)	178 (10.1)	770 (43.8)	171 (9.7)	363 (20.7)	27 (1.6)
	2004/05	1,768 (13.1)	100 (5.7)	185 (10.5)	189 (10.7)	743 (42.0)	138 (7.8)	384 (21.7)	29 (1.6)
	2005/06	1,696 (12.6)	117 (6.9)	201 (11.9)	200 (11.8)	611 (36.0)	169 (10.0)	375 (22.1)	23 (1.4)
	2006/07	1,676 (13.0)	125 (7.5)	170 (10.1)	246 (14.7)	612 (36.5)	134 (8.0)	371 (22.1)	18 (1.1)
	2007/08	1,681 (13.0)	108 (6.4)	170 (10.1)	282 (16.8)	663 (39.4)	106 (6.3)	331 (19.7)	21 (1.2)
	2008/09	1,593 (12.3)	103 (6.5)	142 (8.9)	230 (14.4)	635 (39.9)	114 (7.2)	344 (21.6)	25 (1.6)
	2009/10	1,677 (12.6)	112 (6.7)	164 (9.8)	254 (15.1)	690 (41.1)	91 (5.4)	338 (20.2)	28 (1.7)
5. Central West	2003/04	491 (3.7)	15 (3.1)	92 (18.7)	58 (11.8)	213 (43.4)	44 (9.0)	60 (12.2)	9 (1.8)
	2004/05	477 (3.5)	15 (3.1)	59 (12.4)	63 (13.2)	204 (42.8)	62 (13.0)	67 (14.0)	7 (1.5)
	2005/06	446 (3.3)	10 (2.2)	44 (9.9)	72 (16.1)	188 (42.2)	53 (11.9)	71 (15.9)	8 (1.7)
	2006/07	444 (3.4)	10 (2.3)	53 (11.9)	60 (13.5)	185 (41.7)	61 (13.7)	59 (13.3)	16 (3.6)
	2007/08	513 (4.0)	24 (4.7)	60 (11.7)	68 (13.3)	206 (40.2)	70 (13.6)	73 (14.2)	12 (2.3)
	2008/09	496 (3.8)	18 (3.6)	69 (13.9)	60 (12.1)	224 (45.2)	60 (12.1)	60 (12.1)	**
	2009/10	513 (3.9)	17 (3.3)	52 (10.1)	78 (15.2)	228 (44.4)	44 (8.6)	94 (18.3)	**

Group/Sub-Group	Year	Sample Size	Acute Care	Complex Continuing Care	Home with Service	Home without Service	Long-term Care[2]	Rehabilitation	Other[3]
		n (%)							
6. Mississauga Halton	2003/04	882 (6.7)	44 (5.0)	52 (5.9)	57 (6.5)	390 (44.2)	50 (5.7)	283 (32.1)	6 (0.7)
	2004/05	874 (6.5)	35 (4.0)	52 (5.9)	59 (6.8)	373 (42.7)	64 (7.3)	284 (32.5)	7 (0.8)
	2005/06	926 (6.9)	38 (4.1)	46 (5.0)	76 (8.2)	392 (42.3)	51 (5.5)	312 (33.7)	11 (1.2)
	2006/07	888 (6.9)	30 (3.4)	52 (5.9)	77 (8.7)	390 (43.9)	49 (5.5)	282 (31.8)	8 (0.9)
	2007/08	856 (6.6)	31 (3.6)	54 (6.3)	78 (9.1)	363 (42.4)	45 (5.3)	276 (32.2)	9 (1.0)
	2008/09	995 (7.7)	54 (5.4)	51 (5.1)	90 (9.0)	440 (44.2)	55 (5.5)	298 (29.9)	7 (0.7)
	2009/10	988 (7.4)	72 (7.3)	84 (8.5)	83 (8.4)	443 (44.8)	40 (4.0)	260 (26.3)	6 (0.6)
7. Toronto Central	2003/04	1,421 (10.7)	47 (3.3)	81 (5.7)	194 (13.7)	599 (42.2)	149 (10.5)	313 (22.0)	38 (2.6)
	2004/05	1,497 (11.1)	62 (4.1)	84 (5.6)	196 (13.1)	651 (43.5)	141 (9.4)	345 (23.0)	18 (1.2)
	2005/06	1,600 (11.9)	110 (6.9)	100 (6.3)	207 (12.9)	622 (38.9)	152 (9.5)	391 (24.4)	18 (1.1)
	2006/07	1,461 (11.3)	97 (6.6)	91 (6.2)	170 (11.6)	584 (40.0)	146 (10.0)	348 (23.8)	25 (1.7)
	2007/08	1,537 (11.9)	107 (7.0)	102 (6.6)	185 (12.0)	664 (43.2)	125 (8.1)	336 (21.9)	18 (1.2)
	2008/09	1,656 (12.8)	111 (6.7)	165 (10.0)	185 (11.2)	716 (43.2)	136 (8.2)	323 (19.5)	20 (1.2)
	2009/10	1,678 (12.6)	136 (8.1)	144 (8.6)	173 (10.3)	742 (44.2)	125 (7.4)	343 (20.4)	15 (0.9)
8. Central	2003/04	1,072 (8.1)	19 (1.8)	82 (7.6)	99 (9.2)	455 (42.4)	132 (12.3)	270 (25.2)	15 (1.4)
	2004/05	1,151 (8.5)	22 (1.9)	65 (5.6)	130 (11.3)	513 (44.6)	132 (11.5)	278 (24.2)	11 (1.0)
	2005/06	1,144 (8.5)	20 (1.7)	90 (7.9)	97 (8.5)	540 (47.2)	125 (10.9)	253 (22.1)	19 (1.6)
	2006/07	1,181 (9.2)	37 (3.1)	79 (6.7)	117 (9.9)	506 (42.8)	126 (10.7)	300 (25.4)	16 (1.3)
	2007/08	1,172 (9.1)	33 (2.8)	73 (6.2)	133 (11.3)	506 (43.2)	104 (8.9)	303 (25.9)	20 (1.7)
	2008/09	1,149 (8.9)	34 (3.0)	70 (6.1)	149 (13.0)	504 (43.9)	123 (10.7)	257 (22.4)	12 (1.1)
	2009/10	1,127 (8.5)	48 (4.3)	66 (5.9)	156 (13.8)	432 (38.3)	120 (10.6)	278 (24.7)	27 (2.4)
9. Central East	2003/04	1,365 (10.3)	41 (3.0)	176 (12.9)	187 (13.7)	548 (40.1)	110 (8.1)	275 (20.1)	28 (2.0)
	2004/05	1,367 (10.1)	34 (2.5)	90 (6.6)	181 (13.2)	552 (40.4)	141 (10.3)	363 (26.6)	6 (0.4)
	2005/06	1,260 (9.4)	26 (2.1)	105 (8.3)	183 (14.5)	453 (36.0)	125 (9.9)	357 (28.3)	11 (0.8)
	2006/07	1,305 (10.1)	50 (3.8)	99 (7.6)	201 (15.4)	465 (35.6)	142 (10.9)	340 (26.1)	8 (0.6)
	2007/08	1,182 (9.1)	47 (4.0)	89 (7.5)	159 (13.5)	460 (38.9)	108 (9.1)	309 (26.1)	10 (0.9)
	2008/09	1,264 (9.7)	40 (3.2)	90 (7.1)	178 (14.1)	483 (38.2)	117 (9.3)	341 (27.0)	15 (1.2)
	2009/10	1,285 (9.7)	48 (3.7)	80 (6.2)	191 (14.9)	479 (37.3)	112 (8.7)	360 (28.0)	15 (1.2)
10. South East	2003/04	612 (4.6)	37 (6.0)	37 (6.0)	80 (13.1)	308 (50.3)	32 (5.2)	106 (17.3)	12 (2.0)
	2004/05	643 (4.8)	47 (7.3)	47 (7.3)	74 (11.5)	316 (49.1)	49 (7.6)	98 (15.2)	12 (1.9)
	2005/06	548 (4.1)	38 (6.9)	47 (8.6)	100 (18.2)	243 (44.3)	38 (6.9)	63 (11.5)	19 (3.5)
	2006/07	497 (3.9)	31 (6.2)	37 (7.4)	76 (15.3)	247 (49.7)	35 (7.0)	65 (13.1)	6 (1.2)
	2007/08	578 (4.5)	49 (8.5)	43 (7.4)	96 (16.6)	254 (43.9)	41 (7.1)	85 (14.7)	10 (1.7)
	2008/09	531 (4.1)	43 (8.1)	43 (8.1)	83 (15.6)	216 (40.7)	26 (4.9)	112 (21.1)	8 (1.5)
	2009/10	525 (3.9)	46 (8.8)	42 (8.0)	85 (16.2)	225 (42.9)	32 (6.1)	91 (17.3)	**
11. Champlain	2003/04	1,051 (7.9)	57 (5.4)	38 (3.6)	112 (10.7)	501 (47.7)	101 (9.6)	219 (20.8)	23 (2.2)
	2004/05	1,068 (7.9)	82 (7.7)	46 (4.3)	86 (8.1)	481 (45.0)	97 (9.1)	234 (21.9)	42 (4.0)
	2005/06	1,213 (9.0)	117 (9.6)	51 (4.2)	166 (13.7)	446 (36.8)	112 (9.2)	302 (24.9)	19 (1.6)
	2006/07	1,069 (8.3)	116 (10.9)	45 (4.2)	117 (10.9)	396 (37.0)	71 (6.6)	292 (27.3)	32 (3.0)
	2007/08	1,101 (8.5)	116 (10.5)	62 (5.6)	148 (13.4)	380 (34.5)	90 (8.2)	287 (26.1)	18 (1.6)
	2008/09	988 (7.6)	87 (8.8)	48 (4.9)	179 (18.1)	362 (36.6)	71 (7.2)	230 (23.3)	11 (1.1)
	2009/10	1,022 (7.7)	68 (6.7)	59 (5.8)	196 (19.2)	357 (34.9)	86 (8.4)	243 (23.8)	13 (1.3)
12. North Simcoe Muskoka	2003/04	615 (4.6)	18 (2.9)	36 (5.9)	51 (8.3)	341 (55.4)	40 (6.5)	107 (17.4)	22 (3.6)
	2004/05	640 (4.7)	23 (3.6)	54 (8.4)	67 (10.5)	339 (53.0)	36 (5.6)	104 (16.3)	17 (2.7)
	2005/06	604 (4.5)	29 (4.8)	58 (9.6)	78 (12.9)	294 (48.7)	36 (6.0)	99 (16.4)	10 (1.7)
	2006/07	515 (4.0)	39 (7.6)	28 (5.4)	88 (17.1)	221 (42.9)	29 (5.6)	104 (20.2)	6 (1.2)
	2007/08	561 (4.3)	47 (8.4)	45 (8.0)	98 (17.5)	232 (41.4)	24 (4.3)	110 (19.6)	**
	2008/09	560 (4.3)	34 (6.1)	27 (4.8)	88 (15.7)	251 (44.8)	32 (5.7)	117 (20.9)	11 (2.0)
	2009/10	532 (4.0)	30 (5.6)	33 (6.2)	64 (12.0)	245 (46.1)	26 (4.9)	123 (23.1)	11 (2.1)
13. North East	2003/04	908 (6.9)	67 (7.4)	50 (5.5)	96 (10.6)	517 (56.9)	69 (7.6)	90 (9.9)	19 (2.1)
	2004/05	902 (6.7)	50 (5.5)	64 (7.1)	73 (8.1)	514 (57.0)	65 (7.2)	123 (13.6)	13 (1.4)
	2005/06	951 (7.1)	45 (4.7)	53 (5.6)	123 (12.9)	522 (54.9)	48 (5.0)	144 (15.1)	16 (1.7)
	2006/07	908 (7.0)	69 (7.6)	42 (4.6)	126 (13.9)	450 (49.6)	65 (7.2)	146 (16.1)	10 (1.1)
	2007/08	854 (6.6)	52 (6.1)	15 (1.8)	129 (15.1)	469 (54.9)	46 (5.4)	133 (15.6)	10 (1.2)
	2008/09	891 (6.9)	60 (6.7)	25 (2.8)	134 (15.0)	478 (53.6)	54 (6.1)	130 (14.6)	10 (1.1)
	2009/10	895 (6.7)	63 (7.0)	24 (2.7)	140 (15.6)	441 (49.3)	48 (5.4)	166 (18.5)	13 (1.4)
14. North West	2003/04	332 (2.5)	24 (7.2)	67 (20.2)	38 (11.4)	172 (51.8)	9 (2.7)	18 (5.4)	**
	2004/05	394 (2.9)	25 (6.3)	77 (19.5)	52 (13.2)	184 (46.7)	13 (3.3)	31 (7.9)	12 (3.1)
	2005/06	437 (3.3)	42 (9.6)	59 (13.5)	54 (12.4)	201 (46.0)	20 (4.6)	59 (13.5)	**
	2006/07	438 (3.4)	45 (10.3)	58 (13.2)	47 (10.7)	191 (43.6)	32 (7.3)	58 (13.2)	7 (1.6)
	2007/08	408 (3.2)	35 (8.6)	33 (8.1)	50 (12.3)	193 (47.3)	22 (5.4)	71 (17.4)	**
	2008/09	411 (3.2)	36 (8.8)	28 (6.8)	42 (10.2)	189 (46.0)	28 (6.8)	82 (20.0)	6 (1.5)
	2009/10	403 (3.0)	41 (10.2)	17 (4.2)	33 (8.2)	168 (41.7)	27 (6.7)	109 (27.0)	8 (1.9)

Data source: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years discharged alive from an acute care hospital in Ontario with a diagnosis of stroke (ischemic or hemorrhagic) or TIA.

Exclusion criteria: Patients with elective admissions.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

[2] Long-term-care nursing home and long-term-care home for the aged are combined.

[3] Palliative care and other are combined.

** Cell value suppressed for reasons of privacy and confidentiality.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

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, in Ontario and by OSS region, OSS classification and Local Health Integration Network 2002/03, 2004/05 and 2008/09

	2002/03		2004/05		2008/09	
	Carotid Imaging, n (%)					
Group/Sub-Group	Received[1]	Booked[2]	Received[1]	Booked[2]	Received[1]	Booked[2]
Ontario	**3,879 (50.3)**	**463 (12.1)**	**4,188 (58.4)**	**400 (13.4)**	**5,209 (74.7)**	**302 (17.2)**
Ontario Stroke System Region						
Central East	425 (47.3)	52 (11.0)	477 (47.5)	71 (13.5)	541 (63.5)	84 (27.1)
Central South	509 (53.4)	70 (15.8)	700 (58.1)	71 (14.1)	735 (70.8)	37 (12.3)
East – Champlain	353 (45.7)	72 (17.1)	282 (54.1)	6 (2.5)	428 (71.5)	31 (17.9)
Northeast	294 (56.4)	59 (26.0)	279 (61.9)	26 (15.1)	235 (64.8)	33 (25.5)
Northwest	113 (65.7)	**	78 (57.8)	9 (15.8)	156 (73.1)	**
South East	185 (48.6)	9 (4.6)	186 (52.8)	36 (21.7)	238 (90.5)	-
Southwest	582 (40.9)	116 (13.8)	606 (55.7)	112 (23.2)	779 (74.5)	76 (28.7)
Toronto – North & East	387 (54.4)	45 (13.9)	378 (68.5)	12 (6.9)	459 (85.0)	6 (7.8)
Toronto – Southeast	230 (51.9)	10 (4.7)	224 (62.6)	6 (4.5)	267 (70.1)	-
Toronto – West	400 (62.4)	10 (4.1)	391 (60.4)	15 (5.9)	496 (79.9)	13 (10.4)
West GTA	401 (50.1)	18 (4.5)	587 (68.6)	36 (13.4)	873 (83.0)	20 (10.9)
Ontario Stroke System Classification						
Regional stroke centre	979 (67.5)	18 (3.8)	954 (68.3)	45 (10.2)	1,589 (83.0)	33 (10.0)
District stroke centre	834 (54.7)	147 (21.3)	1,010 (62.7)	103 (17.1)	1,251 (78.4)	56 (16.3)
Non-designated	2,066 (43.6)	298 (11.1)	2,224 (53.5)	252 (13.0)	2,368 (68.5)	214 (19.6)
Local Health Integration Network						
1. Erie St. Clair	378 (56.9)	44 (15.4)	335 (61.6)	39 (18.7)	400 (82.0)	29 (33.3)
2. South West	204 (26.9)	72 (13.0)	271 (49.8)	73 (26.7)	379 (68.0)	47 (26.4)
3. Waterloo Wellington	157 (51.0)	23 (15.2)	221 (70.6)	23 (25.0)	280 (74.9)	13 (14.2)
4. Hamilton Niagara Haldimand Brant	352 (54.6)	47 (16.0)	479 (53.7)	48 (11.6)	455 (68.5)	24 (11.4)
5. Central West	180 (50.0)	-	198 (62.3)	12 (10.0)	292 (84.7)	14 (26.0)
6. Mississauga Halton	221 (50.1)	18 (8.2)	389 (72.3)	24 (16.1)	581 (82.1)	6 (4.6)
7. Toronto Central	498 (66.9)	10 (4.1)	570 (72.5)	21 (9.7)	643 (76.1)	19 (9.6)
8. Central	432 (61.8)	26 (9.7)	350 (55.7)	29 (10.4)	540 (83.8)	7 (6.4)
9. Central East	359 (35.3)	81 (12.3)	357 (43.1)	34 (7.2)	440 (69.7)	43 (22.4)
10. South East	195 (49.2)	9 (4.5)	204 (55.1)	36 (21.7)	238 (90.5)	-
11. Champlain	343 (45.3)	72 (17.3)	264 (52.5)	6 (2.5)	428 (71.5)	31 (17.9)
12. North Simcoe Muskoka	153 (65.7)	-	193 (60.5)	20 (15.9)	140 (51.1)	35 (26.0)
13. North East	294 (56.4)	59 (26.0)	279 (61.9)	26 (15.1)	235 (64.8)	33 (25.5)
14. North West	113 (65.7)	**	78 (57.8)	9 (15.8)	156 (73.1)	**

Data source: Registry of the Canadian Stroke Network, Ontario Stroke Audit (OSA), 2002/03, 2004/05 and 2008/09.

Inclusion criteria: All ischemic stroke patients aged ≥18 years without atrial fibrillation admitted as an inpatient in any acute care facility in Ontario (N=7,718 in 2002/03; 7,169 in 2004/05; and 6,969 in 2008/09).

[1] All patients who received carotid imaging during their hospital stay, i.e., prior to discharge.

[2] All patients who did not undergo carotid imaging during their hospital stay but had an appointment booked for carotid imaging after discharge (N = 3,839 in 2002/03, N = 2,981 in 2004/05, N = 1,760 in 2008/09).

** Cell value suppressed for reasons of privacy and confidentiality.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) Cells in which there was no reported/available data are marked with a hypen (-).

(3) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

Exhibit 2.10

Time to carotid intervention within six months of hospitalization for adults with stroke or transient ischemic attack (TIA), in Ontario and by OSS region, OSS classification and Local Health Integration Network, 2003/04 to 2008/09

Group/Sub-Group	2003/04			2004/05			2005/06			2006/07			2007/08			2008/09		
	No. of Patients[1]	Mean Time (Days)	Median Time (Days)	No. of Patients[1]	Mean Time (Days)	Median Time (Days)	No. of Patients[1]	Mean Time (Days)	Median Time (Days)	No. of Patients[1]	Mean Time (Days)	Median Time (Days)	No. of Patients[1]	Mean Time (Days)	Median Time (Days)	No. of Patients[1]	Mean Time (Days)	Median Time (Days)
Ontario	**224**	**59.1**	**46.5**	**260**	**56.7**	**41.0**	**264**	**51.2**	**29.5**	**289**	**49.3**	**33.0**	**302**	**38.6**	**18.5**	**262**	**38.0**	**20.0**
Ontario Stroke System Region																		
Central East	30	72.7	54.0	36	71.7	61.0	28	58.0	51.0	52	53.2	37.5	51	31.2	15.0	53	41.5	19.0
Central South	34	82.2	75.5	37	61.7	54.0	35	75.1	75.0	42	65.1	58.5	38	54.9	47.5	36	43.1	23.0
East – Champlain	21	43.6	17.0	20	82.4	92.5	19	49.8	22.0	28	46.9	19.5	15	41.0	13.0	18	52.7	34.5
Northeast	16	88.9	103.0	20	65.3	60.5	29	46.8	44.0	24	60.5	30.5	35	55.4	45.0	20	51.2	37.5
Northwest	8	50.5	17.5	13	64.8	54.0	16	44.0	22.5	11	35.9	20.0	13	32.5	18.0	9	21.9	16.0
South East	16	51.5	42.5	13	28.8	11.0	13	37.7	21.0	13	32.8	17.0	18	30.2	11.5	6	24.3	21.0
Southwest	35	51.2	33.0	38	52.0	23.0	36	72.3	68.5	36	52.5	45.5	41	51.0	42.0	37	43.1	36.0
Toronto – North & East	9	39.8	32.0	21	48.6	39.0	18	24.4	16.5	15	44.5	48.0	19	27.1	12.0	15	39.1	14.0
Toronto – Southeast	9	56.7	32.0	6	51.7	29.5	7	60.4	62.0	8	45.3	40.0	12	21.1	9.0	8	32.8	10.0
Toronto – West	15	72.7	82.0	22	46.0	37.0	13	55.9	24.0	21	51.9	32.0	25	28.9	17.0	16	24.7	16.5
West GTA	31	30.5	17.0	34	40.5	10.0	50	31.6	9.5	39	29.5	21.0	35	24.7	16.0	44	23.7	14.0
Ontario Stroke System Classification																		
Regional stroke centre	90	37.4	15.5	102	39.7	13.0	109	33.8	13.0	117	32.4	17.0	129	22.5	13.0	112	17.5	8.5
District stroke centre	28	79.9	66.0	29	67.6	58.0	37	75.7	65.0	40	58.3	52.5	72	53.1	39.5	60	49.6	42.5
Non-designated	106	72.0	68.0	129	67.6	57.0	118	59.6	41.0	132	61.6	44.5	101	48.7	43.0	90	55.6	34.5
Local Health Integration Network																		
1. Erie St. Clair	15	35.4	15.0	20	51.2	23.5	17	80.0	90.0	19	33.4	21.0	19	55.1	35.0	21	42.6	30.0
2. South West	20	63.1	49.0	18	52.9	19.0	19	65.3	61.0	17	73.8	75.0	22	47.5	44.5	16	43.8	47.0
3. Waterloo Wellington	13	84.6	107.0	8	61.4	39.0	11	81.3	81.0	13	73.6	69.0	16	55.2	47.5	15	47.0	24.0
4. Hamilton Niagara Haldimand Brant	21	80.8	71.0	29	61.8	58.0	24	72.3	66.5	29	61.2	55.0	22	54.7	47.0	21	40.2	23.0
5. Central West	10	60.6	53.0	**	115.0	143.0	8	77.6	65.0	7	29.1	26.0	**	58.8	43.0	**	86.8	80.0
6. Mississauga Halton	21	16.2	11.0	30	30.6	8.0	42	22.8	9.0	32	29.6	20.5	30	19.0	13.0	40	17.4	11.5
7. Toronto Central	23	65.8	60.0	20	27.3	9.5	20	32.1	14.5	23	36.8	27.0	34	21.9	9.0	25	16.8	10.0
8. Central	14	59.1	51.5	28	57.9	47.0	18	59.8	35.5	29	55.2	42.0	33	31.6	16.0	21	24.4	23.0
9. Central East	14	62.5	46.0	23	71.5	61.0	11	26.9	30.0	16	62.3	54.5	12	48.2	40.0	19	66.2	51.0
10. South East	16	51.5	42.5	13	28.8	11.0	13	37.7	21.0	13	32.8	17.0	18	30.2	11.5	6	24.3	21.0
11. Champlain	21	43.6	17.0	20	82.4	92.5	19	49.8	22.0	28	46.9	19.5	15	41.0	13.0	18	52.7	34.5
12. North Simcoe Muskoka	12	77.0	78.0	14	79.6	94.5	17	70.5	70.0	28	51.5	27.0	28	25.6	9.0	27	46.4	13.0
13. North East	16	88.9	103.0	20	65.3	60.5	29	46.8	44.0	24	60.5	30.5	35	55.4	45.0	20	51.2	37.5
14. North West	8	50.5	17.5	13	64.8	54.0	16	44.0	22.5	11	35.9	20.0	13	32.5	18.0	9	21.9	16.0

Data source: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years admitted to any acute care hospital for stroke or TIA who underwent carotid revascularization through carotid endartarectomy or carotid stenting within 6 months of the index acute stroke/TIA hospitalization admission date starting in 2003.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

** Cell value suppressed for reasons of privacy and confidentiality.

Notes:

(1) Degree of stenosis in patients requiring carotid revascularization is unavailable in administrative databases.

(2) Sub-LHIN planning area data not included as most carotid endarterectomies and carotid stenting are done at the 11 regional and enhanced district stroke centres.

(3) Facility-based analysis (i.e., the location of the facility where the index stroke event occurred is used to report regional performance).

(4) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

Exhibit 2.11

Number and percentage of adult patients with ischemic stroke or transient ischemic attack (TIA) prescribed three recommended secondary prevention medications[1] upon discharge from acute care, in Ontario and by OSS region, OSS classification and Local Health Integration Network, 2002/03, 2004/05 and 2008/09

Group/Sub-Group	2002/03	2004/05	2008/09
	n (%)		
Ontario	**3,845 (19.9)**	**6,635 (37.3)**	**8,620 (52.1)**
Ontario Stroke System Region			
Central East	407 (14.4)	1,002 (39.6)	1,227 (51.8)
Central South	861 (27.3)	1,166 (36.1)	1,436 (48.1)
East – Champlain	383 (17.3)	597 (36.2)	921 (55.7)
Northeast	219 (17.4)	354 (32.7)	505 (50.0)
Northwest	121 (24.7)	122 (26.3)	235 (57.2)
South East	186 (22.2)	337 (39.9)	328 (68.4)
Southwest	716 (24.5)	897 (36.3)	1,323 (54.9)
Toronto – North & East	234 (15.9)	414 (30.9)	573 (51.0)
Toronto – Southeast	101 (11.4)	391 (40.0)	469 (50.5)
Toronto – West	352 (27.4)	521 (41.1)	579 (54.6)
West GTA	265 (13.3)	834 (43.6)	1,024 (48.4)
Ontario Stroke System Classification			
Regional stroke centre	873 (25.6)	1,353 (42.7)	2,178 (56.8)
District stroke centre	740 (20.4)	1,256 (35.8)	2,212 (56.4)
Non-designated	2,232 (18.2)	4,026 (36.3)	4,231 (48.1)
Local Health Integration Network			
1. Erie St. Clair	439 (33.4)	428 (41.3)	631 (59.2)
2. South West	277 (17.2)	469 (32.7)	692 (51.4)
3. Waterloo Wellington	157 (17.3)	257 (26.0)	422 (46.7)
4. Hamilton Niagara Haldimand Brant	704 (31.3)	909 (40.6)	1,013 (48.7)
5. Central West	117 (15.7)	282 (39.5)	366 (47.4)
6. Mississauga Halton	148 (11.9)	552 (46.1)	657 (49.0)
7. Toronto Central	366 (21.9)	740 (43.1)	935 (55.2)
8. Central	352 (21.0)	527 (34.0)	804 (53.4)
9. Central East	280 (12.2)	756 (36.7)	721 (48.2)
10. South East	196 (22.4)	355 (40.0)	328 (68.4)
11. Champlain	373 (17.1)	579 (36.0)	921 (55.7)
12. North Simcoe Muskoka	96 (11.4)	305 (39.0)	388 (49.3)
13. North East	219 (17.4)	354 (32.7)	505 (50.0)
14. North West	121 (24.7)	122 (26.3)	235 (57.2)

Data source: Registry of the Canadian Stroke Network, Ontario Stroke Audit (OSA), 2002/03, 2004/05 and 2008/09.

Inclusion criteria: All patients aged ≥18 years discharged alive from acute care with a final diagnosis of ischemic stroke or TIA.

[1] Must be prescribed one antiplatelet, lipid-lowering and anti-hypertensive therapy.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) Patients with contraindications to any secondary prevention medications were not excluded from this analysis.

(3) Anticoagulant therapy was included as an appropriate secondary prevention medication in lieu of an antiplatelet therapy for patients with atrial fibrillation.

(4) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

Exhibit 2.12

Number and percentage of adult patients with ischemic stroke or transient ischemic attack (TIA) and atrial fibrillation[1] who were prescribed warfarin therapy on discharge from acute care, in Ontario and by OSS region, OSS classification and Local Health Integration Network, 2002/03, 2004/05 and 2008/09

Group/Sub-Group	2002/03	2004/05	2008/09
	n (%)		
Ontario	**1,727 (68.9)**	**1,790 (74.6)**	**1,831 (69.6)**
Ontario Stroke System Region			
Central East	189 (53.5)	213 (62.6)	254 (71.3)
Central South	276 (63.4)	358 (77.0)	332 (68.0)
East – Champlain	222 (86.4)	186 (91.2)	166 (80.7)
Northeast	87 (77.7)	94 (63.1)	94 (59.6)
Northwest	55 (59.1)	81 (88.0)	85 (85.2)
South East	65 (78.3)	117 (88.0)	57 (74.9)
Southwest	221 (55.2)	219 (79.6)	236 (59.6)
Toronto – North & East	153 (85.0)	168 (66.7)	132 (61.8)
Toronto – Southeast	102 (91.1)	101 (69.2)	109 (63.5)
Toronto – West	191 (83.4)	150 (86.7)	157 (68.2)
West GTA	166 (65.4)	103 (60.9)	210 (89.0)
Ontario Stroke System Classification			
Regional stroke centre	407 (84.8)	352 (84.4)	556 (72.8)
District stroke centre	308 (62.3)	390 (73.7)	444 (68.7)
Non-designated	1,012 (66.0)	1,048 (72.2)	831 (68.1)
Local Health Integration Network			
1. Erie St. Clair	113 (52.1)	104 (86.0)	86 (58.1)
2. South West	108 (59.0)	115 (74.7)	150 (60.6)
3. Waterloo Wellington	80 (64.0)	76 (65.5)	101 (80.3)
4. Hamilton Niagara Haldimand Brant	196 (63.2)	282 (80.8)	231 (63.7)
5. Central West	27 (37.5)	18 (30.0)	75 (93.1)
6. Mississauga Halton	139 (76.4)	85 (78.0)	136 (86.9)
7. Toronto Central	198 (83.9)	213 (78.3)	240 (71.2)
8. Central	131 (74.0)	199 (69.1)	199 (72.0)
9. Central East	190 (65.5)	169 (64.5)	142 (59.2)
10. South East	70 (79.5)	123 (88.5)	57 (74.9)
11. Champlain	217 (86.1)	180 (90.9)	166 (80.7)
12. North Simcoe Muskoka	116 (67.8)	51 (57.3)	71 (60.1)
13. North East	87 (77.7)	94 (63.1)	94 (59.6)
14. North West	55 (59.1)	81 (88.0)	85 (85.2)

Data source: Registry of the Canadian Stroke Network, Ontario Stroke Audit (OSA), 2002/03, 2004/05 and 2008/09.

Inclusion criteria: All patients aged ≥18 years discharged alive from acute care with a final diagnosis of ischemic stroke or TIA.

[1] Includes patients with a past history or new onset of atrial fibrillation any time during their hospital stay.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) Patients with contraindications to warfarin were not excluded from this analysis.

(3) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

3. Inpatient Rehabilitation

Inpatient Admissions

Findings

- **Exhibit 3.1:** The average age of stroke patients admitted to inpatient rehabilitation remained stable from 2003/04 to 2009/10 (71 years). The proportion of patients aged 65 and under increased from 27.8% in 2003/04 to 31.2% in 2009/10.

  The median length of stay (LOS) decreased by two days, and the total discharge FIM® score remained relatively stable (median LOS of 107 days) over the seven years. Functional improvements in patients were made in less time (median LOS of 31 days in 2003/04 vs. 29 days in 2009/10).

  There was a 2.8% relative increase in the number of stroke patients discharged to the community following inpatient rehabilitation (77.7% in 2003/04 vs. 79.9% in 2009/10) and an associated 28.9% relative decrease in the number of stroke patients discharged to long-term care (13.5% in 2003/04 vs. 9.6% in 2009/10). There was also a 40.4% relative increase in the proportion of stroke rehabilitation patients discharged to acute care facilities following inpatient rehabilitation (5.7% in 2003/04 vs. 8.0% in 2009/10).

Conclusions

It is positive that there has been a reduction in the median length of stay in inpatient rehabilitation while the FIM efficiency has remained stable. However, it is important to note that the pressure to decrease length of stay may have negative implications for patients with severe stroke.

It is also positive that the number of stroke patients discharged to the community has increased, but this may be due to the fact that patients with less severe stroke are getting access to rehabilitation.

With the aging of the population and increasing numbers of patients with comorbid conditions, it is not surprising that some people will develop more complications during rehabilitation and require readmission to acute care.

Recommendations

The OSN should advocate for a provincial standard assessment tool to determine eligibility for stroke rehabilitation.

Stroke Inpatient Rehabilitation Profile by Facility Type

Findings

- **Exhibit 3.2:** The proportion of females admitted to rehabilitation was consistently lower compared to males, with women making up 46.5% of inpatient rehabilitation patients in 2009/10.

  Provincially, the median number of days from stroke onset to inpatient rehabilitation admission decreased by two from 2003/04. In 2003/04, the median number of days from stroke onset to admission into inpatient rehabilitation was 14 days and in 2009/10 it was 12 days. The specialized rehabilitation facilities demonstrated the most prominent decline over this time frame (from 20 to 16 median days). The median number of days from stroke onset to admission was five days less for general rehabilitation than for specialized rehabilitation in 2009/10.

  The specialized facilities decreased the median length of stay by 10 days over the seven years, from 46 days to 36 days, and the general facilities experienced a minimal decrease in length of stay. At the same time, an eight-point increase in the admission total FIM® score was observed in specialized facilities (from 73 in 2003/04 to 81 in 2009/10). Among the general facilities, only a two-point increase in admission total FIM® score was observed between 2003/04 (74) and 2009/10 (76).

  Provincially, inpatient rehabilitation facilities most notably decreased admissions for severely disabled stroke patients. In 2003/04, patients with severe stroke represented 37.6% of the inpatient rehabilitation population but by 2009/10, they represented only 31.9%, a relative decrease of 15%. In specialty facilities, the proportion of severely disabled stroke patients decreased from 35.2% in 2003/04 to 25.5% in 2009/10.

  Provincially, the proportion of mildly disabled stroke patients admitted to inpatient rehabilitation facilities decreased from 21.9% in 2003/04 to 20.3% in 2009/10; however, the specialty facilities increased the proportion of mildly disabled stroke patients admitted from 14.4% in 2003/04 to 17.0% in 2009/10. Among the general rehabilitation programs, the proportion of both mildly and severely disabled stroke patients decreased. General

rehabilitation facilities dramatically increased the proportion of moderately severe stroke patients (from 35.7% in 2003/04 to 43.1% in 2009/10).

Provincially, the proportion of patients discharged from specialized inpatient rehabilitation facilities to the community rose from 79.2% in 2003/04 to 85.9% in 2009/10. A similar pattern was observed among general inpatient facilities but to a lesser degree (from 74.2% in 2003/04 to 77.0% in 2009/10). Specialized inpatient rehabilitation facilities dramatically reduced the proportion of patients discharged to long-term care/complex continuing care facilities over the seven years (from 16.2% in 2003/04 to 5.4% in 2009/10). A similar but less dramatic pattern was observed among the generalized facilities (from 14.2% in 2003/04 to 12.7% in 2009/10).

Conclusions

It is a positive trend that patients are being admitted to rehabilitation more quickly. Specialty rehabilitation facilities take longer to admit patients from stroke onset; however, they admit a greater proportion of patients with a moderate to severe degree of disability compared to generalized facilities (82.9% compared to 78.1% in 2009/10).

It is important to note that proportionately more women than men experience stroke (see exhibit 1.1), but fewer women are admitted to rehabilitation. Also, women tend to have more severe strokes than men as their average age is higher at onset. This could have implications for admission to long-term care and for readmission rates.

Also of concern, the proportion of patients considered to have a severe disability has gradually decreased (from 37.6% in 2003/04 to 31.9% in 2009/10), and the proportion with moderate disability has increased (from 40% in 2003/04 to 47.8% in 2009/10). This may explain the decrease in length of stay.

Recommendations

It is recommended that rehabilitation programs work collaboratively with providers of acute stroke care to move appropriate individuals to rehabilitation as soon as they are medically stable.

It is recommended that the OSN investigate the gender difference in partnership with the ECHO: Improving Women's Health in Ontario agency.

It is recommended that the data be used to support the work of the Emergency Department ALC–Stroke Reference Group.

Rehabilitation programs should strive to maintain the rate of discharge to the community while increasing the number of patients with complex and severe stroke-related disability admitted to inpatient rehabilitation.

Stroke Inpatient Rehabilitation Admissions and Outcomes

Findings

- **Exhibit 3.3:** There was a decrease in the proportion of severely disabled stroke patients admitted to inpatient rehabilitation facilities over the seven years, and very little change in the proportion of patients with mild stroke admitted to inpatient rehabilitation. In 2003/04, 37.6% of stroke inpatients were severely disabled and 21.9% were mildly disabled; in 2009/10, 31.9% of stroke inpatients were severely disabled and 20.3% were mildly disabled. Moderately severe stroke represented 40.5% of the inpatient stroke rehabilitation group in 2003/04 compared to 47.8% in 2009/10.
- **Exhibit 3.4:** There was wide variation within and across Local Health Integration Networks. In 2009/10, the North West LHIN had the highest rate of admissions into inpatient rehabilitation (37.6%) and the Central West LHIN had the lowest (25.2%). There was also wide variation in time from stroke onset to inpatient rehabilitation admission (from 8.5 to 15 days in 2009/10) and in FIM® efficiency scores (from 0.5 to 1.0 in 2009/10). Rehabilitation length of stay decreased across most LHINs. Provincially, approximately 73.9% of patients went home (with or without services) after discharge from inpatient rehabilitation. No consistency was observed in the functioning of inpatient rehabilitation across the province and regionally.
- **Exhibit 3.5:** FIM® efficiency (i.e., the gain in functional abilities per day) improved over time for all patient groups and was consistently higher in general rehabilitation facilities than in specialized facilities. For moderately disabled stroke patients admitted to general rehabilitation facilities, the median FIM efficiency score was 0.8 compared to 0.6 for patients in specialized facilities.
- **Exhibit 3.6:** Significant reductions in length of stay were achieved for all patient groups, in particular the severely and moderately disabled patient group. In general, length of stay was less than two months (a median of six weeks).

Conclusions

Even patients with severe stroke had a reasonable length of stay of less than two months, which supports the notion that these patients should be admitted for at least a trial of inpatient rehabilitation. By comparison, patients with severe stroke admitted to complex continuing care facilities in Toronto had lengths of stay of close to 95 days[7], suggesting that inpatient rehabilitation facilities are likely the preferred site for efficient severe stroke rehabilitation.

Recommendations

Inpatient rehabilitation contributes substantially to improved patient function and independence as measured by improved FIM® scores during the rehabilitation stay. Patients with severe stroke who have reasonable rehabilitation potential should be admitted to inpatient rehabilitation programs.

Provincial Stroke Inpatient Rehabilitation Profile

Findings

- **Exhibit 3.7:** There was wide variation within and across OSS regions. No consistency was observed in the functioning of inpatient rehabilitation provincially or regionally.

Conclusions and Recommendations

There is a need for provincial standards for eligibility criteria, therapeutic intensity and discharge criteria for inpatient stroke rehabilitation programs.

[7] E-Stroke, Toronto Electronic Stroke Rehabilitation Referral System, 2009/10.

Exhibit 3.1

Characteristics of adult stroke patients in inpatient rehabilitation, in Ontario, 2003/04 to 2009/10

Characteristic	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Stroke Rehabilitation Inpatients[1]							
Patients admitted to inpatient rehabilitation,[2] n	2,980	3,072	3,169	3,175	3,114	3,256	3,311
Age, mean (median)	71.3 (74)	71.7 (74)	71.4 (74)	71.1 (74)	70.9 (73)	71.2 (73)	71.4 (74)
Age of male patients, mean (median)	69.6 (72)	69.8 (72)	69.1 (71)	69.2 (71)	69.1 (71)	69.2 (71)	69.4 (71)
Age of female patients, mean (median)	73.2 (76)	73.7 (77)	74.0 (76)	73.2 (77)	73.0 (76)	73.5 (76)	73.6 (77)
Proportion by Age Group (in Years), %							
18–55	12.5	11.9	12.7	13.6	13.6	13.0	13.3
	(M=14, F=11)	(M=14, F=9)	(M=16, F=10)	(M=16, F=11)	(M=15, F=11)	(M=15, F=11)	(M=15, F=11)
56–65	15.3	15.4	16.3	16.5	17.4	17.7	17.9
	(M=19, F=12)	(M=18, F=12)	(M=20, F=12)	(M=19, F=13)	(M=22, F=12)	(M=22, F=12)	(M=21, F=14)
66–75	28.0	26.8	26.2	24.8	25.7	26.1	25.1
	(M=30, F=25)	(M=30, F=23)	(M=28, F=24)	(M=29, F=20)	(M=27, F=24)	(M=28, F=24)	(M=27, F=23)
76–85	34.3	36.4	34.3	33.9	32.6	31.9	30.3
	(M=30, F=39)	(M=30, F=43)	(M=30, F=39)	(M=29, F=40)	(M=28, F=37)	(M=28, F=37)	(M=27, F=34)
>85	9.9	9.6	10.6	11.2	10.9	11.3	13.4
	(M=7, F=13)	(M=7, F=12)	(M=7, F=15)	(M=7, F=15)	(M=8, F=15)	(M=7, F=16)	(M=9, F=19)
Days from Onset to Admission							
Mean ± SD	20.6 ± 46.9	18.9 ± 85.7	18.6 ± 46.4	18.4 ± 34.3	18.4 ± 43.0	18.6 ± 57.9	18.6 ± 64.5
Median (IQR)	13 (7–22)	11 (7–19)	11 (7–18)	12 (7–20)	11 (7–19)	11 (7–18)	11 (7–18)
Admission FIM® Score, mean (median)							
Total motor FIM® score	49.3 (50)	50.8 (51)	51.2 (52)	49.9 (51)	49.9 (51)	50.1 (51)	50.2 (51)
Total cognitive FIM® score	25.4 (27)	25.9 (27)	25.8 (27)	25.6 (27)	25.7 (27)	25.5 (27)	25.4 (27)
Total FIM® score	74.7 (76)	76.7 (78)	77.0 (79)	75.5 (78)	75.5 (77)	75.5 (78)	75.6 (77)
Discharge FIM® Score, mean (median)							
Total motor FIM® score	69.6 (77)	70.5 (77)	71.6 (78)	70.6 (77)	70.3 (77)	71.0 (78)	71.4 (78)
Total cognitive FIM® score	28.3 (30)	28.4 (30)	28.5 (30)	28.2 (30)	28.5 (30)	28.3 (30)	28.4 (30)
Total FIM® score	97.8 (106)	98.9 (107)	100.1 (108)	98.8 (107)	98.9 (107)	99.3 (107)	99.8 (107)
Change in FIM® Score from Admission to Discharge, mean (median)							
Total motor FIM® score	19.4 (10)	19.1 (18)	19.8 (19)	19.7 (19)	19.5 (18)	19.9 (19)	19.7 (19)
Total cognitive FIM® score	2.5 (1)	2.3 (1)	2.5 (2)	2.4 (1)	2.7 (2)	2.6 (2)	2.6 (2)
Total FIM® score	21.9 (21)	21.4 (20)	22.3 (21)	22.2 (21)	22.2 (21)	22.5 (22)	22.3 (21)
Improvement in functional status based on total FIM® score from admission to discharge, %	26.9	25.0	25.6	26.3	26.6	27.3	26.8
Total length of stay in days in inpatient rehabilitation, mean (median)	37.5 (31)	37.3 (30)	34.1 (29)	36.2 (30)	36.4 (29)	36.0 (30)	33.9 (29)
Active length of stay[4] in days in inpatient rehabilitation, mean (median)	37.8 (32)	37.4 (31)	34.1 (29)	35.3 (30)	35.4 (29)	35.4 (30)	32.9 (29)
FIM® efficiency[5] in inpatient rehabilitation, mean (median)	0.8 (0.6)	0.8 (0.6)	0.9 (0.7)	0.9 (0.7)	0.9 (0.7)	0.9 (0.7)	0.9 (0.7)
Reason for Discharge from Inpatient Rehabilitation, %							
Goals met – discharged to the community	71.8	73.2	74.4	74.5	74.8	74.2	76.0
Goals met – discharged to another institution	13.6	14.7	13.4	13.2	12.9	12.9	12.3
Discharged – goals not met	12.7	10.7	11.0	11.2	10.9	11.8	10.8
Deceased	0.8	0.5	0.5	0.4	0.5	0.4	0.2
Discharge Destination Following Inpatient Rehabilitation, %							
Home without services	29.2	30.2	28.2	26.2	28.5	27.1	30.0
Home with services	43.2	40.4	44.5	44.3	43.7	45.2	43.9
Other community services	5.3	5.9	6.1	6.4	6.0	6.0	6.0
Long-term care facility	13.5	13.5	11.9	11.1	9.6	10.4	9.6
Acute care facility	5.7	5.8	5.4	6.7	7.0	7.6	8.0
Died	0.8	0.4	0.6	0.4	0.5	0.5	0.3
Unavailable/unknown	2.4	3.9	3.4	4.8	4.8	3.3	2.4

Data sources: Canadian Institute for Health Information, National Rehabilitation Reporting System (CIHI-NRS) and Discharge Abstract Database (CIHI-DAD), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years with a diagnosis of stroke (using ICD-10 codes) discharged from an acute care hospital who were admitted to inpatient rehabilitation and classified as Rehabilitation Client Groups 1 (Stroke) in the CIHI-NRS database in the same fiscal year.

1 Based on unique patients (i.e., does not include multiple patient-visits).
2 Based on stroke/TIA patients discharged from acute care hospitals in the CIHI-DAD in 2003/04 to 2009/10.
3 Length of stay refers to the total time spent in inpatient rehabiliation and is calculated using the admission and discharge dates in the NRS database (LOS = discharge date minus admission date).
4 Active length of stay excludes days waiting for discharge from inpatient rehabilitation and service disruptions (e.g., short readmissions into acute care).
5 FIM efficiency is the change in total FIM score divided by total length of stay; it provides information on the average amount of functional recovery per day of inpatient rehabilitation.

Notes:
(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).
(2) SD = standard deviation; IQR = interquartile range (25th–75th percentile).
(3) FIM® = Functional Independence Measurement

Exhibit 3.2

Characteristics of adult stroke patients in inpatient rehabilitation, in Ontario and by facility type[1], 2003/04 to 2009/10

	2003/04			2004/05			2005/06			2006/07			2007/08			2008/09			2009/10		
Characteristics	**Ontario**	**Specialty[1]**	**General[1]**	**Ontario**	**Specialty[1]**	**General[1]**	**Ontario**	**Specialty[1]**	**General[1]**	**Ontario**	**Specialty[1]**	**General[1]**	**Ontario**	**Specialty[1]**	**General[1]**	**Ontario**	**Specialty[1]**	**General[1]**	**Ontario**	**Specialty[1]**	**General[1]**
Facilities, n	62	12	50	65	12	53	67	12	55	67	13	54	64	13	51	66	13	53	64	14	50
Patients[2], n	3,013	980	2,033	3,218	1,085	2,133	3,448	1,102	2,346	3,551	1,169	2,382	3,536	1,119	2,417	3,738	1,256	2,482	3,447	1,132	2,315
Female, n (%)	1,448 (48.1)	442 (45.1)	1,006 (49.5)	1,623 (50.4)	553 (51.0)	1,070 (50.2)	1,671 (48.5)	513 (46.6)	1,158 (49.4)	1,715 (48.3)	528 (45.2)	1,187 (49.8)	1,634 (46.2)	484 (43.3)	1,150 (47.6)	1,763 (47.2)	573 (45.6)	1,190 (47.9)	1,602 (46.5)	541 (47.8)	1,061 (45.8)
Age Group (Years), n (%)																					
18–55	378 (12.5)	154 (15.7)	224 (11.0)	388 (12.1)	175 (16.1)	213 (10.0)	417 (12.1)	152 (13.8)	265 (11.3)	460 (13)	201 (17.2)	259 (10.9)	501 (14.2)	216 (19.3)	285 (11.8)	486 (13)	215 (17.1)	271 (10.9)	470 (13.6)	178 (15.7)	292 (12.6)
56–65	438 (14.5)	160 (16.3)	278 (13.7)	486 (15.1)	190 (17.5)	296 (13.9)	554 (16.1)	204 (18.5)	350 (14.9)	588 (16.6)	193 (16.5)	395 (16.6)	594 (16.8)	196 (17.5)	398 (16.5)	655 (17.5)	235 (18.7)	420 (16.9)	593 (17.2)	207 (18.3)	386 (16.7)
66–75	837 (27.8)	262 (26.7)	575 (28.3)	850 (26.4)	300 (27.6)	550 (25.8)	875 (25.4)	255 (23.1)	620 (26.4)	880 (24.8)	308 (26.3)	572 (24.0)	894 (25.3)	294 (26.3)	600 (24.8)	965 (25.8)	320 (25.5)	645 (26.0)	863 (25.0)	297 (26.2)	566 (24.4)
76–85	1,048 (34.8)	322 (32.9)	726 (35.7)	1,180 (36.7)	325 (30.0)	855 (40.1)	1,233 (35.8)	390 (35.4)	843 (35.9)	1,212 (34.1)	358 (30.6)	854 (35.9)	1,152 (32.6)	317 (28.3)	835 (34.5)	1,203 (32.2)	371 (29.5)	832 (33.5)	1,075 (31.2)	334 (29.5)	741 (32.0)
>85	312 (10.4)	82 (8.4)	230 (11.3)	314 (9.8)	95 (8.8)	219 (10.3)	369 (10.7)	101 (9.2)	268 (11.4)	411 (11.6)	109 (9.3)	302 (12.7)	395 (11.2)	96 (8.6)	299 (12.4)	429 (11.5)	115 (9.2)	314 (12.7)	446 (12.9)	116 (10.2)	330 (14.3)
Days from Onset to Admission																					
Mean ± SD	30.5 ± 242.1	50.4 ± 419.2	20.9 ± 43.9	29.0 ± 138.1	45.7 ± 213.5	20.5 ± 73.5	26.0 ± 100.4	35.6 ± 146.9	21.5 ± 68.0	25.7 ± 80.8	32.1 ± 66.0	22.5 ± 87.0	28.2 ± 137.1	39.3 ± 183.2	23.1 ± 109.0	23.9 ± 89.1	31.9 ± 121.5	19.8 ± 66.7	22.9 ± 55.5	30.5 ± 71.5	19.2 ± 45.2
Median (IQR)	14 (8–26)	20 (13–35.5)	11 (7–22)	13 (8–24)	18 (12–31)	11 (7–20)	12 (7–22)	16 (11–28)	10 (6–19)	13 (8–23)	17 (11–31)	11 (6–19)	13 (8–23)	16 (11–29)	11 (7–20)	12 (8–22)	16 (11–27)	11 (7–19)	12 (8–21)	16 (10–26)	11 (6–19)
Days from Ready for Admission to Admission																					
Mean ± SD	4.0 ± 7.9	6.5 ± 10.9	2.8 ± 5.5	2.87 ± 5.18	4.4 ± 6.4	2.1 ± 4.2	2.5 ± 5.3	3.5 ± 5.0	2.0 ± 5.4	2.6 ± 4.8	3.4 ± 5.5	2.1 ± 4.3	2.9 ± 5.8	3.8 ± 6.8	2.5 ± 5.2	2.6 ± 6.1	3.3 ± 7.3	2.2 ± 5.3	2.7 ± 5.4	3.3 ± 6.2	2.3 ± 4.8
Median (IQR)	1 (0–5)	3 (1–7)	1 (0–3)	1 (0–4)	2.5 (1–5)	0 (0–3)	1 (0–3)	2 (1–4)	0 (0–2)	1 (0–3)	1 (1–4)	0 (0–2)	1 (0–3)	2 (1–4)	0 (0–3)	1 (0–3)	1 (0–3)	0 (0–2)	1 (0–3)	1 (0–4)	0 (0–3)
Disability, n (%)																					
Mild[3]	661 (21.9)	141 (14.4)	520 (25.6)	732 (22.7)	182 (16.8)	550 (25.8)	790 (22.9)	179 (16.2)	611 (26.0)	754 (21.2)	211 (18.0)	543 (22.8)	751 (21.2)	223 (19.9)	528 (21.8)	752 (20.1)	202 (16.1)	550 (22.2)	700 (20.3)	193 (17.0)	507 (21.9)
Moderate[4]	1,220 (40.5)	494 (50.4)	726 (35.7)	1,359 (42.2)	532 (49.0)	827 (38.8)	1,567 (45.4)	560 (50.8)	1,007 (42.9)	1,586 (44.7)	571 (48.8)	1,015 (42.6)	1,571 (44.4)	593 (53.0)	978 (40.5)	1,744 (46.7)	690 (54.9)	1,054 (42.5)	1,647 (47.8)	650 (57.4)	997 (43.1)
Severe[5]	1,132 (37.6)	345 (35.2)	787 (38.7)	1,127 (35)	371 (34.2)	756 (35.4)	1,091 (31.6)	363 (32.9)	728 (31.0)	1,211 (34.1)	387 (33.1)	824 (34.6)	1,214 (34.3)	303 (27.1)	911 (37.7)	1,242 (33.2)	364 (29.0)	878 (35.4)	1,100 (31.9)	289 (25.5)	811 (35.0)
Length of Stay (Days)																					
Mean ± SD	41.3 ± 30.4	52.4 ± 32.0	36 ± 28.1	40.8 ± 29.3	49.2 ± 29.1	36.6 ± 28.6	36.7 ± 25.9	44.3 ± 24.7	33.1 ± 25.6	38.6 ± 28.0	46.0 ± 29.2	34.9 ± 26.6	38.75 ± 31.69	46.6 ± 32.1	35.1 ± 30.9	37.7 ± 26.2	45.8 ± 27.0	33.6 ± 24.8	35.3 ± 24.0	40.7 ± 23.9	32.7 ± 23.5
Median (IQR)	35 (19–56)	46 (32–65)	29 (15–49)	35 (19–56)	43 (30–63)	29 (15–49)	31 (17–49)	42 (28–56)	27 (15–44)	33 (19–50)	41 (28–57)	28 (15–47)	32 (18–51)	41 (28–56)	28 (15–47)	32 (19–50)	42 (28–57)	28 (15–46)	30 (18–46)	36 (24–51)	28 (16–42)
Total Patient Days Past Trim Point																					
Mean ± SD	28.0 ± 38.6	34.7 ± 49.9	21.0 ± 19.6	24.4 ± 30.1	29.0 ± 38.2	21.0 ± 21.8	19.7 ± 25.5	16.2 ± 22.4	22.0 ± 27.4	27.5 ± 37.4	35.6 ± 43.9	21.4 ± 30.7	37.7 ± 71.7	31.8 ± 51.9	44.3 ± 89.4	20.9 ± 29.8	21.5 ± 35.6	20.0 ± 18.6	21.9 ± 28.2	29.7 ± 35.1	15.9 ± 20.5
Median (IQR)	16 (6–31)	14 (6–44)	17 (7–27)	15 (7–30)	15 (7–31)	14 (7–30)	11 (4–23)	7 (3–21)	15.5 (5–24)	14 (4–35)	16 (5–53)	10 (3–30)	16.5 (7–40)	16 (7–40)	17 (6–39)	12 (5–25)	10 (4–23)	15 (7–32)	13 (4–30)	20 (8–36)	9.5 (3–22)
Admission Total FIM® score																					
Mean ± SD	73.6 ± 24.7	74.4 ± 23.1	73.2 ± 25.5	75.5 ± 23.9	75.6 ± 23.9	75.4 ± 24.0	76.3 ± 23.5	74.8 ± 23.7	77.0 ± 23.4	75.1 ± 23.9	75.8 ± 24.2	74.8 ± 23.7	75.2 ± 24.1	78.6 ± 24.2	73.7 ± 23.9	75.4 ± 23.2	77.6 ± 22.9	74.3 ± 23.3	75.9 ± 23.1	79.3 ± 23.2	74.3 ± 22.9
Median (IQR)	75 (56–93)	75 (58–92)	74 (55–93)	77 (58–94)	76 (58–94)	77 (58–94)	78 (60–94)	76 (57–93)	79 (61–95)	77 (58–93)	78 (58–95)	77 (58–93)	76 (57–94)	81 (61–97)	75 (56–92)	77 (59–93)	80 (61–95)	76 (57–92)	78 (60–93)	81 (64–97)	76 (58–91)
Discharge Total FIM® score																					
Mean ± SD	96.1 ± 25.2	97.0 ± 23.2	95.6 ± 26.1	97.7 ± 23.7	97.8 ± 23.4	97.6 ± 23.9	99.1 ± 22.5	98.5 ± 22.5	99.4 ± 22.5	98.4 ± 23.1	99.0 ± 22.8	98.1 ± 23.3	98.6 ± 23.3	100.9 ± 22.2	97.4 ± 23.7	99.2 ± 23.0	102.2 ± 20.4	97.7 ± 24.1	99.4 ± 22.4	102.2 ± 21.0	98.1 ± 22.9
Median (IQR)	105 (83–115)	105 (85–115)	105 (81–116)	106 (87–115)	106 (86–115)	106 (87–116)	107 (90–115)	106 (87–115)	107 (91–115)	106 (88–115)	107 (88–115)	106 (88–115)	107 (88–116)	108 (91–117)	106 (86–115)	107 (89–116)	109 (94–116)	106 (87–115)	107 (91–115)	109 (95–117)	106 (88–115)
FIM® Efficiency[7]																					
Mean ± SD	0.7 ± 0.9	0.5 ± 0.4	0.8 ± 1.1	0.7 ± 0.8	0.5 ± 0.5	0.8 ± 0.9	0.8 ± 0.9	0.6 ± 0.4	0.9 ± 1.1	0.8 ± 0.9	0.6 ± 0.5	0.9 ± 1.0	0.8 ± 0.9	0.6 ± 0.4	0.9 ± 1.1	0.9 ± 1.1	0.6 ± 0.5	1.0 ± 1.2	0.8 ± 0.8	0.6 ± 0.5	1.0 ± 1.0
Rehabilitation Discharge Destination, n (%)																					
Home without services	682 (23.5)	349 (36.8)	333 (17.0)	770 (24.6)	389 (36.8)	381 (18.4)	816 (24.5)	411 (39.1)	405 (17.8)	796 (23.2)	450 (40.0)	346 (15.0)	935 (27.5)	521 (48.3)	414 (17.8)	952 (26.6)	564 (46.4)	388 (16.4)	964 (29)	574 (52.3)	390 (17.5)
Home with services	1,347 (46.4)	347 (36.6)	1,000 (51.2)	1,423 (45.5)	381 (36.1)	1,042 (50.3)	1,604 (48.2)	372 (35.4)	1,232 (54.1)	1,617 (47.2)	394 (35.0)	1,223 (53.2)	1,538 (45.2)	325 (30.1)	1,213 (52.1)	1,654 (46.2)	400 (32.9)	1,254 (53.1)	1,495 (45.0)	318 (29.0)	1,177 (52.9)
Other community services	172 (5.9)	55 (5.8)	117 (6.0)	194 (6.2)	51 (4.8)	143 (6.9)	195 (5.9)	55 (5.2)	140 (6.1)	219 (6.4)	63 (5.6)	156 (6.8)	209 (6.1)	58 (5.4)	151 (6.5)	215 (6.0)	68 (5.6)	147 (6.2)	197 (5.9)	50 (4.6)	147 (6.6)
Long-term care facility[8]	432 (14.9)	154 (16.2)	278 (14.2)	459 (14.7)	168 (15.9)	291 (14.0)	433 (13.0)	153 (14.5)	280 (12.3)	419 (12.2)	146 (13.0)	273 (11.9)	341 (10.0)	110 (10.2)	231 (9.9)	383 (10.7)	92 (7.6)	291 (12.3)	341 (10.3)	59 (5.4)	282 (12.7)
Acute care facility	212 (7.3)	41 (4.3)	171 (8.7)	218 (7.0)	63 (6.0)	155 (7.5)	217 (6.5)	53 (5.0)	164 (7.2)	249 (7.3)	68 (6.0)	181 (7.9)	265 (7.8)	61 (5.7)	204 (8.8)	303 (8.5)	85 (7.0)	218 (9.2)	304 (9.1)	96 (8.7)	208 (9.3)
Died	12 (0.4)	**	10 (0.5)	9 (0.3)	**	7 (0.3)	13 (0.4)	**	9 (0.4)	9 (0.3)	**	7 (0.3)	9 (0.3)	**	6 (0.3)	-	-	-	-	-	-
Missing/unavailable/unknown	47 (1.6)	**	46 (2.4)	56 (1.8)	**	54 (2.6)	53 (1.6)	**	49 (2.2)	118 (3.4)	**	115 (5.0)	107 (3.1)	-	107 (4.6)	71 (2.0)	7 (0.6)	64 (2.7)	23 (0.7)	**	22 (1.0)
Readmission to Inpatient Rehabilitation at 30 Days, n (%)	39 (1.3)	**	34 (1.7)	41 (1.3)	7 (0.6)	34 (1.6)	40 (1.2)	**	36 (1.5)	31 (0.9)	8 (0.7)	23 (1.0)	29 (0.8)	**	26 (1.1)	34 (0.9)	**	32 (1.3)	27 (0.8)	**	21 (0.9)

Data source: Canadian Institute for Health Information, National Rehabilitation Reporting System (CIHI-NRS), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years admitted to inpatient rehabilitation and classified as Rehabilitation Client Group (RCG) 1 (Stroke) in the CIHI-NRS database.

Exclusion criteria: Patients discharged from one facility and admitted to another within 24 hours (N=123 in 2003/04; 121 in 2004/05; 133 in 2005/06; 124 in 2006/07; 113 in 2007/08; 124 in 2008/09; and 102 in 2009/10).

[1] Facility type as defined in the CIHI-NRS database; includes Complex Continuing Care beds.
[2] Based on unique patients (i.e., does not include multiple patient-visits).
[3] Mild disability includes RPGs 1150 and 1160.
[4] Moderate disabilty includes RPGs 1120, 1130 and 1140.
[5] Severe disability includes RPGs 1100 and 1110.
[6] Length of stay refers to the total time spent in inpatient rehabilitation and is calculated using the admission and discharge dates in the NRS database (LOS = discharge date minus admission date).
[7] FIM efficiency is the change in total FIM score divided by total length of stay; it provides information on the average amount of functional recovery per day of inpatient rehabilitation.
** Cell value suppressed for reasons of privacy and confidentiality.

Notes:
(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).
(2) Cells in which there was no reported/available data are marked with a hyphen (-).
(3) SD = standard deviation; IQR = interquartile range (25th–75th percentile).
(4) FIM® = Functional Independence Measurement

Exhibit 3.3

Adult admissions to inpatient rehabilitation by stroke severity, in Ontario and by OSS region and Local Health Integration Network, 2003/04 to 2009/10

Group/Subgroup	2003/04 (N=3,013)			2004/05 (N=3,218)			2005/06 (N=3,448)			2006/07 (N=3,551)			2007/08 (N=3,536)			2008/09 (N=3,738)			2009/10 (N=3,447)		
	n (%)																				
	Mild[1]	Moderate[2]	Severe[3]	Mild[1]	Moderate[2]	Severe[3]	Mild[1]	Moderate[2]	Severe[3]	Mild[1]	Moderate[2]	Severe[3]	Mild[1]	Moderate[2]	Severe[3]	Mild[1]	Moderate[2]	Severe[3]	Mild[1]	Moderate[2]	Severe[3]
Ontario[4]	**661 (21.9)**	**1,220 (40.5)**	**1,132 (37.6)**	**732 (22.7)**	**1,359 (42.2)**	**1,127 (35)**	**790 (22.9)**	**1,567 (45.4)**	**1,091 (31.6)**	**754 (21.2)**	**1,586 (44.7)**	**1,211 (34.1)**	**751 (21.2)**	**1,571 (44.4)**	**1,214 (34.3)**	**752 (20.1)**	**1,744 (46.7)**	**1,242 (33.2)**	**700 (20.3)**	**1,647 (47.8)**	**1,100 (31.9)**
Ontario Stroke System Region																					
Central East	84 (22.6)	131 (35.3)	156 (42.0)	105 (23.2)	164 (36.3)	183 (40.5)	109 (22.8)	179 (37.4)	191 (39.9)	97 (20.4)	179 (37.6)	200 (42.0)	81 (16.1)	194 (38.6)	227 (45.2)	116 (21.6)	201 (37.4)	220 (41.0)	96 (19.3)	195 (39.2)	207 (41.6)
Central South	116 (21.3)	230 (42.3)	198 (36.4)	118 (22.2)	238 (44.8)	175 (33.0)	119 (18.6)	342 (53.4)	179 (28.0)	110 (18.1)	301 (49.5)	197 (32.4)	115 (18.9)	300 (49.4)	192 (31.6)	112 (17.9)	311 (49.8)	202 (32.3)	92 (16.7)	269 (48.9)	189 (34.4)
East – Champlain	63 (20.5)	126 (40.9)	119 (38.6)	81 (22.8)	132 (37.2)	142 (40.0)	112 (29.9)	147 (39.3)	115 (30.7)	96 (27.4)	149 (42.6)	105 (30.0)	101 (30.2)	138 (41.3)	95 (28.4)	83 (24.7)	166 (49.4)	87 (25.9)	77 (24.8)	154 (49.7)	79 (25.5)
Northeast	19 (18.4)	47 (45.6)	37 (35.9)	28 (18.8)	64 (43.0)	57 (38.3)	36 (20.1)	86 (48.0)	57 (31.8)	35 (17.3)	90 (44.6)	77 (38.1)	24 (15.8)	78 (51.3)	50 (32.9)	24 (15.7)	64 (41.8)	65 (42.5)	40 (22.3)	70 (39.1)	69 (38.5)
Northwest	8 (22.2)	12 (33.3)	16 (44.4)	21 (36.2)	22 (37.9)	15 (25.9)	19 (24.7)	27 (35.1)	31 (40.3)	14 (17.7)	29 (36.7)	36 (45.6)	30 (31.6)	26 (27.4)	39 (41.1)	20 (19.0)	40 (38.1)	45 (42.9)	20 (18.5)	54 (50.0)	34 (31.5)
South East	15 (11.2)	66 (49.3)	53 (39.6)	31 (19.6)	86 (54.4)	41 (25.9)	16 (14.2)	64 (56.6)	33 (29.2)	33 (26.0)	64 (50.4)	30 (23.6)	33 (22.8)	67 (46.2)	45 (31.0)	35 (22.6)	73 (47.1)	47 (30.3)	14 (10.9)	76 (58.9)	39 (30.2)
Southwest	126 (21.2)	212 (35.8)	255 (43.0)	128 (22.5)	239 (41.9)	203 (35.6)	158 (26.6)	220 (37.1)	215 (36.3)	120 (19.7)	236 (38.8)	252 (41.4)	124 (19.2)	260 (40.2)	262 (40.6)	119 (18.6)	263 (41.1)	258 (40.3)	115 (18.6)	268 (43.4)	234 (37.9)
Toronto – North & East	44 (25.4)	72 (41.6)	57 (32.9)	65 (31.3)	80 (38.5)	63 (30.3)	87 (36.6)	103 (43.3)	48 (20.2)	68 (31.6)	103 (47.9)	44 (20.5)	70 (36.5)	86 (44.8)	36 (18.8)	50 (32.1)	77 (49.4)	29 (18.6)	46 (36.2)	66 (52.0)	15 (11.8)
Toronto – Southeast	68 (29.3)	99 (42.7)	65 (28.0)	58 (28.2)	98 (47.6)	50 (24.3)	57 (22.1)	144 (55.8)	57 (22.1)	64 (22.9)	148 (53.0)	67 (24.0)	66 (26.5)	122 (49.0)	61 (24.5)	69 (20.8)	191 (57.7)	71 (21.5)	92 (28.0)	179 (54.4)	58 (17.6)
Toronto – West	41 (21.6)	113 (59.5)	36 (18.9)	31 (14.4)	127 (58.8)	58 (26.9)	25 (14.5)	104 (60.5)	43 (25.0)	38 (18.2)	120 (57.4)	51 (24.4)	31 (18.0)	101 (58.7)	40 (23.3)	42 (21.5)	111 (56.9)	42 (21.5)	25 (18.7)	83 (61.9)	26 (19.4)
West GTA	77 (23.4)	112 (34.0)	140 (42.6)	66 (21.0)	109 (34.6)	140 (44.4)	52 (16.0)	151 (46.5)	122 (37.5)	79 (19.8)	167 (42.0)	152 (38.2)	76 (17.2)	199 (45.0)	167 (37.8)	82 (16.2)	247 (48.9)	176 (34.9)	83 (17.8)	233 (50.0)	150 (32.2)
Local Health Integration Network																					
1. Erie St. Clair	63 (23.4)	85 (31.6)	121 (45.0)	78 (28.1)	113 (40.6)	87 (31.3)	91 (34.9)	93 (35.6)	77 (29.5)	53 (20.6)	101 (39.3)	103 (40.1)	47 (17.9)	106 (40.5)	109 (41.6)	52 (17.2)	124 (40.9)	127 (41.9)	49 (16.9)	138 (47.6)	103 (35.5)
2. South West	63 (19.4)	127 (39.2)	134 (41.4)	50 (17.1)	126 (43.2)	116 (39.7)	67 (20.2)	127 (38.3)	138 (41.6)	67 (19.1)	135 (38.5)	149 (42.5)	77 (20.1)	154 (40.1)	153 (39.8)	67 (19.9)	139 (41.2)	131 (38.9)	66 (20.2)	130 (39.8)	131 (40.1)
3. Waterloo Wellington	35 (27.1)	54 (41.9)	40 (31.0)	23 (19.5)	52 (44.1)	43 (36.4)	40 (29.4)	59 (43.4)	37 (27.2)	45 (29.2)	65 (42.2)	44 (28.6)	56 (33.9)	69 (41.8)	40 (24.2)	48 (30.8)	69 (44.2)	39 (25.0)	43 (28.1)	71 (46.4)	39 (25.5)
4. Hamilton Niagara Haldimand Brant	62 (17.2)	157 (43.6)	141 (39.2)	68 (19.5)	155 (44.5)	125 (35.9)	64 (13.9)	263 (57.0)	134 (29.1)	65 (14.3)	236 (52.0)	153 (33.7)	59 (13.3)	231 (52.3)	152 (34.4)	64 (13.6)	242 (51.6)	163 (34.8)	49 (12.3)	198 (49.9)	150 (37.8)
5. Central West	5 (35.7)	4 (28.6)	5 (35.7)	-	-	-	2 (10.5)	8 (42.1)	9 (47.4)	12 (17.1)	31 (44.3)	27 (38.6)	25 (30.5)	20 (24.4)	37 (45.1)	23 (30.3)	39 (51.3)	14 (18.4)	18 (22.8)	48 (60.8)	13 (16.5)
6. Mississauga Halton	71 (24.9)	94 (33.0)	120 (42.1)	65 (23.3)	100 (35.8)	114 (40.9)	44 (16.9)	130 (50.0)	86 (33.1)	47 (19.8)	104 (43.9)	86 (36.3)	41 (15.0)	126 (46.0)	107 (39.1)	49 (15.0)	145 (44.5)	132 (40.5)	55 (19.2)	120 (41.8)	112 (39.0)
7. Toronto Central	105 (23.0)	223 (48.9)	128 (28.1)	103 (20.8)	246 (49.7)	146 (29.5)	85 (17.3)	262 (53.3)	145 (29.5)	93 (17.0)	290 (53.1)	163 (29.9)	92 (18.9)	268 (55.0)	127 (26.1)	106 (17.6)	358 (59.6)	137 (22.8)	113 (20.9)	321 (59.3)	107 (19.8)
8. Central	58 (26.9)	97 (44.9)	61 (28.2)	78 (33.6)	93 (40.1)	61 (26.3)	108 (37.1)	132 (45.4)	51 (17.5)	89 (34.6)	106 (41.2)	62 (24.1)	86 (32.5)	108 (40.8)	71 (26.8)	86 (34.7)	91 (36.7)	71 (28.6)	72 (31.4)	84 (36.7)	73 (31.9)
9. Central East	73 (27.5)	90 (34.0)	102 (38.5)	90 (26.6)	125 (37.0)	123 (36.4)	89 (25.5)	130 (37.2)	130 (37.2)	88 (24.0)	139 (38.0)	139 (38.0)	63 (19.6)	119 (37.1)	139 (43.3)	77 (22.4)	134 (39.0)	133 (38.7)	53 (18.2)	137 (47.1)	101 (34.7)
10. South East	15 (11.2)	66 (49.3)	53 (39.6)	31 (19.6)	86 (54.4)	41 (25.9)	16 (14.2)	64 (56.6)	33 (29.2)	33 (26.0)	64 (50.4)	30 (23.6)	33 (22.8)	67 (46.2)	45 (31.0)	35 (22.6)	73 (47.1)	47 (30.3)	14 (10.9)	76 (58.9)	39 (30.2)
11. Champlain	63 (20.5)	126 (40.9)	119 (38.6)	81 (22.8)	132 (37.2)	142 (40.0)	112 (29.9)	147 (39.3)	115 (30.7)	96 (27.4)	149 (42.6)	105 (30)	101 (30.2)	138 (41.3)	95 (28.4)	83 (24.7)	166 (49.4)	87 (25.9)	77 (24.8)	154 (49.7)	79 (25.5)
12. North Simcoe Muskoka	21 (18.4)	38 (33.3)	55 (48.2)	16 (13.6)	45 (38.1)	57 (48.3)	17 (16.3)	39 (37.5)	48 (46.2)	17 (16.8)	47 (46.5)	37 (36.6)	17 (13.3)	61 (47.7)	50 (39.1)	18 (14.0)	60 (46.5)	51 (39.5)	31 (24.4)	46 (36.2)	50 (39.4)
13. North East	19 (18.4)	47 (45.6)	37 (35.9)	28 (18.8)	64 (43.0)	57 (38.3)	36 (20.1)	86 (48.0)	57 (31.8)	35 (17.3)	90 (44.6)	77 (38.1)	24 (15.8)	78 (51.3)	50 (32.9)	24 (15.7)	64 (41.8)	65 (42.5)	40 (22.3)	70 (39.1)	69 (38.5)
14. North West	8 (22.2)	12 (33.3)	16 (44.4)	21 (36.2)	22 (37.9)	15 (25.9)	19 (24.7)	27 (35.1)	31 (40.3)	14 (17.7)	29 (36.7)	36 (45.6)	30 (31.6)	26 (27.4)	39 (41.1)	20 (19.0)	40 (38.1)	45 (42.9)	20 (18.5)	54 (50.0)	34 (31.5)

Data source: Canadian Institute for Health Information, National Rehabilitation Reporting System (CIHI-NRS), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years admitted to inpatient rehabilitation and classified as Rehabilitation Client Group (RCG) 1 (Stroke) in the CIHI-NRS database.

Exclusion criteria: Patients discharged from one facility and admitted to another within 24 hours (N=123 in 2003/04; 121 in 2004/05; 133 in 2005/06; 24 in 2006/07; 113 in 2007/08; 124 in 2008/09; and 102 in 2009/10).

[1] Mild disability includes RPGs 1150 and 1160.

[2] Moderate disabilty includes RPGs 1120, 1130 and 1140.

[3] Severe disability includes RPGs 1100 and 1110.

[4] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) Cells in which there was no reported/available data are marked with a hyphen (-).

Exhibit 3.4

Characteristics and outcomes of adult stroke patients[1] in inpatient rehabilitation, in Ontario and by Local Health Integration Network, 2003/04 to 2009/10

Characteristics and Outcomes for 2003/04		Ontario	Erie St.Clair	South West	Waterloo Wellington	Hamilton Niagara Haldimand Brant	Central West	Mississauga Halton	Toronto Central	Central	Central East	South East	Champlain	North Simcoe Muskoka	North East	North West
Patients Discharged Alive from Acute Care in 2003/04		**10,567**	**815**	**907**	**501**	**1,332**	**505**	**681**	**987**	**1,018**	**1,265**	**448**	**829**	**419**	**645**	**215**
Admission to Inpatient Rehabilitation[1], n (%)		2,933 (27.8)	306 (37.5)	257 (28.3)	112 (22.4)	399 (30.0)	118 (23.4)	247 (36.3)	276 (28.0)	302 (29.7)	275 (21.7)	127 (28.3)	258 (31.1)	120 (28.6)	105 (16.3)	31 (14.4)
Days from Stroke Onset to Inpatient Rehabilitation Admission, mean (median)		20.7 (13)	13.9 (8.0)	27.4 (13.0)	26.0 (13.0)	22.8 (13.0)	16.4 (13.0)	11.9 (8.0)	20.3 (15.0)	21.4 (15.0)	15.7 (10.0)	31.5 (15.0)	27.3 (19.0)	14.3 (8.5)	20.8 (15.0)	36.2 (28.0)
Disability, n (%)	Mild	664 (23.2)	69 (26.3)	54 (21.3)	37 (33.6)	80 (20.2)	33 (28.0)	57 (23.4)	73 (26.7)	76 (25.5)	71 (26.0)	15 (12.0)	50 (19.4)	24 (20.2)	19 (18.1)	6 (20.0)
	Moderate	1,166 (40.7)	81 (30.9)	95 (37.4)	46 (41.8)	178 (44.8)	50 (42.4)	83 (34.0)	131 (48.0)	127 (42.6)	107 (39.2)	63 (50.4)	105 (40.7)	40 (33.6)	50 (47.6)	10 (33.3)
	Severe	1,036 (36.1)	112 (42.7)	105 (41.3)	27 (24.5)	139 (35.0)	35 (29.7)	104 (42.6)	69 (25.3)	95 (31.9)	95 (34.8)	47 (37.6)	103 (39.9)	55 (46.2)	36 (34.3)	14 (46.7)
Functional Independence Measure® Score, mean (median)	Admission FIM® score	74.7 (76.0)	70.2 (72.5)	74.5 (76.5)	82.9 (84.5)	74.3 (74.0)	79.7 (80.0)	69.9 (70.5)	79.2 (80.0)	77.4 (79.0)	75.0 (78.0)	74.1 (73.0)	73.3 (73.0)	68.7 (68.0)	75.1 (78.0)	73.5 (78.0)
	Discharge FIM® score	97.9 (106.0)	88.9 (99.0)	95.3 (106.0)	104.2 (108.0)	97.2 (102.0)	105.4 (112.0)	94.9(102.5)	103.0 (110.0)	101.1 (107.5)	101.5 (111.0)	97.8 (106.0)	98.1 (107.5)	92.8 (110.0)	96.6 (106.0)	99.7 (112.0)
	Change in FIM® score	22.0 (21.0)	17.9 (16.0)	20.0 (17.0)	21.1 (22.0)	22.2 (21.0)	23.3 (20.0)	23.9 (23.0)	22.3 (21.0)	22.4 (22.0)	24.7 (22.0)	23.5 (22.0)	23.0 (21.5)	23.1 (24.0)	19.0 (16.0)	19.2 (19.0)
	FIM® efficiency[2]	0.8 (0.6)	1.0 (0.7)	0.6 (0.5)	1.0 (0.48)	0.8 (0.7)	0.8 (0.65)	1.2 (0.9)	0.7 (0.6)	0.8 (0.7)	0.9 (0.7)	0.6 (0.5)	0.5 (0.4)	1.0 (0.9)	0.5 (0.43)	0.4 (0.4)
	Relative change (%)	31.1	26.6	27.9	25.7	30.8	32.2	35.8	30.1	30.6	35.3	32.0	33.8	35.1	28.6	35.6
Discharge Destination Following Inpatient Rehabilitation, n (%)	Home without services	758 (29.2)	38 (17.1)	74 (31.0)	18 (17.1)	112 (32.8)	40 (36.7)	75 (33.2)	94 (39.3)	89 (31.7)	58 (23.0)	26 (22.6)	75 (32.6)	21 (18.9)	31 (29.8)	7 (35.0)
	Home with services	1,121 (43.2)	106 (47.7)	92 (38.5)	54 (51.4)	136 (39.9)	47 (43.1)	109 (48.2)	81 (33.9)	125 (44.5)	128 (50.8)	59 (51.3)	88 (38.3)	46 (41.4)	38 (36.5)	12 (60.0)
	Other community services	135 (5.2)	11 (5.0)	7 (2.9)	11 (10.5)	22 (6.5)	3 (2.8)	7 (3.1)	16 (6.7)	16 (5.7)	10 (4.0)	4 (3.5)	18 (7.8)	7 (6.3)	3 (2.9)	-
	Long-term care facility	349 (13.5)	37 (16.7)	48 (20.1)	11 (10.5)	50 (14.7)	12 (11.0)	28 (12.4)	31 (13.0)	37 (13.2)	27 (10.7)	17 (14.8)	31 (13.5)	5 (4.5)	15 (14.4)	-
	Acute care hospital	149 (5.7)	13 (5.9)	10 (4.2)	6 (5.7)	15 (4.4)	7 (6.4)	6 (2.7)	11 (4.6)	12 (4.3)	17 (6.7)	7 (6.1)	16 (7.0)	13 (11.7)	15 (14.4)	1 (5.0)
Average Length of Stay[3] in Days, mean (median)		37.7 (31)	24.5 (15.0)	41.9 (32)	44.8 (30.0)	34.3 (29.0)	36.9 (33.0)	29.8 (24.0)	39.0 (35.0)	34.8 (31.0)	40.0 (33.0)	51.0 (41.0)	54.1 (56.0)	25.9 (22.0)	41.9 (35.0)	68.8 (67.0)

Characteristics and Outcomes for 2004/05		Ontario	Erie St.Clair	South West	Waterloo Wellington	Hamilton Niagara Haldimand Brant	Central West	Mississauga Halton	Toronto Central	Central	Central East	South East	Champlain	North Simcoe Muskoka	North East	North West
Patients Discharged Alive from Acute Care in 2004/05		**10,642**	**804**	**815**	**529**	**1,370**	**508**	**679**	**985**	**1,086**	**1,195**	**509**	**837**	**447**	**620**	**258**
Admission to Inpatient Rehabilitation[1], n (%)		2,999 (28.2)	304 (37.8)	226 (27.7)	105 (19.8)	399 (29.1)	102 (20.1)	240 (35.3)	271 (27.5)	292 (26.9)	347 (29.0)	130 (25.5)	282 (33.7)	110 (24.6)	146 (23.5)	45 (17.4)
Days from Stroke Onset to Inpatient Rehabilitation Admission, mean (median)		19.1 (11.0)	13.6 (8.0)	20.1 (12.0)	23.4 (11.0)	28.6 (12.0)	18.8 (13.0)	12.0 (8.0)	18.5 (14.0)	18.7 (13.0)	13.8 (9.0)	24.7 (12.5)	20.9 (15.0)	15.4 (9.5)	17.1 (12.0)	28.2 (22.0)
Disability, n (%)	Mild	707 (24.1)	86 (31.9)	40 (17.9)	29 (27.9)	73 (18.4)	30 (30.0)	48 (20.3)	52 (19.3)	99 (34.3)	87 (25.2)	23 (17.8)	71 (25.4)	20 (18.7)	32 (22.4)	17 (37.8)
	Moderate	1,244 (42.3)	100 (37.0)	102 (45.5)	41 (39.4)	202 (50.9)	45 (45.0)	81 (34.2)	130 (48.3)	121 (41.9)	132 (38.3)	71 (55.0)	104 (37.3)	38 (35.5)	62 (43.4)	15 (33.3)
	Severe	987 (33.6)	84 (31.1)	82 (36.6)	34 (32.7)	122 (30.7)	25 (25.0)	108 (45.6)	87 (32.3)	69 (23.9)	126 (36.5)	35 (27.1)	104 (37.3)	49 (45.8)	49 (34.3)	13 (28.9)
Functional Independence Measure® Score, mean (median)	Admission FIM® score	76.4 (78.0)	77.3 (79.5)	76.8 (75.0)	79.3 (82.0)	76.2 (78.0)	79.6 (81.5)	71.1 (72.0)	75.3 (77.0)	81.4 (84.0)	74.1 (78.0)	77.1 (78.0)	76.4 (77.0)	68.5 (70.0)	79.4 (81.0)	84.2 (91.0)
	Discharge FIM® score	98.7 (106.0)	95.5 (104.0)	100.5 (109.0)	100.6 (108.0)	97.4 (103.0)	101.7 (108.0)	98.5 (104.0)	98.5 (104.0)	103.3 (110.5)	97.7 (106.0)	101.5 (107.0)	98.1 (107.0)	92.2 (106.0)	98.5 (105.5)	103.3 (112.0)
	Change in FIM® score	21.6 (20.0)	18.0 (16.0)	22.5 (21.0)	21.8 (23.0)	21.2 (20.0)	21.9 (22.0)	24.5 (23.0)	22.2 (22.0)	21.0 (19)	22.9 (20.0)	23.6 (23.0)	21.0 (20.0)	24.6 (24.0)	18.4 (14.5)	18.8 (13.0)
	FIM® efficiency[2]	0.8 (0.6)	1.0 (0.7)	0.6 (0.5)	1.0 (0.5)	0.8 (0.6)	0.9 (0.6)	1.2 (0.9)	0.7 (0.6)	0.9 (0.71)	0.8 (0.7)	0.6 (0.6)	0.6 (0.5)	0.9 (0.8)	0.6 (0.4)	0.5 (0.4)
	Relative change (%)	29.2	23.5	30.9	26.9	27.8	27.8	38.5	30.8	26.9	31.8	31.6	28.4	34.6	24.1	22.7
Discharge Destination Following Inpatient Rehabilitation, n (%)	Home without services	831 (30.2)	39 (15.3)	69 (32.7)	16 (16.3)	146 (39.6)	24 (25.8)	70 (31.7)	80 (33.3)	91 (34.6)	84 (25.7)	43 (36.1)	85 (31.6)	23 (21.9)	34 (23.9)	27 (64.3)
	Home with services	1,113 (40.4)	127 (49.8)	84 (39.8)	42 (42.9)	112 (30.4)	42 (45.2)	105 (47.5)	81 (33.8)	129 (49.0)	132 (40.4)	45 (37.8)	95 (35.3)	48 (45.7)	62 (43.7)	9 (21.4)
	Other community services	163 (5.9)	12 (4.7)	9 (4.3)	15 (15.3)	28 (7.6)	3 (3.2)	9 (4.1)	12 (5.0)	6 (2.3)	17 (5.2)	6 (5.0)	23 (8.6)	7 (6.7)	14 (9.9)	2 (4.8)
	Long-term care facility	373 (13.5)	31 (12.2)	34 (16.1)	16 (16.3)	62 (16.8)	17 (18.3)	23 (10.4)	50 (20.8)	23 (8.7)	42 (12.8)	19 (16.0)	30 (11.2)	11 (10.5)	12 (8.5)	3 (7.1)
	Acute care hospital	154 (5.6)	7 (2.7)	13 (6.2)	7 (7.1)	11 (3.0)	7 (7.5)	11 (5.0)	13 (5.4)	9 (3.4)	16 (4.9)	6 (5.0)	29 (10.8)	6 (5.7)	18 (12.7)	1 (2.4)
Average Length of Stay[3] in Days, mean (median)		37.5 (31.0)	28.4 (17.5)	44.0 (38.0)	41.5 (36.0)	36.1 (31.0)	35.7 (35.0)	31.4 (22.5)	41.2 (38)	32.5 (28)	38.0 (28.0)	46.9 (38.0)	46.0 (42.0)	32.9 (28.5)	36.3 (25.5)	46.4 (38.0)

Characteristics and Outcomes for 2005/06		Ontario	Erie St.Clair	South West	Waterloo Wellington	Hamilton Niagara Haldimand Brant	Central West	Mississauga Halton	Toronto Central	Central	Central East	South East	Champlain	North Simcoe Muskoka	North East	North West
Patients Discharged Alive from Acute Care in 2005/06		**10,670**	**732**	**842**	**547**	**1,322**	**503**	**671**	**986**	**1,110**	**1,207**	**428**	**955**	**410**	**645**	**312**
Admission to Inpatient Rehabilitation[1], n (%)		3,096 (29.0)	278 (38.0)	248 (29.5)	113 (20.7)	415 (31.4)	122 (24.3)	233 (34.7)	290 (29.4)	304 (27.4)	348 (28.8)	107 (25.0)	303 (31.7)	107 (26.1)	157 (24.3)	71 (22.8)
Days from Stroke Onset to Inpatient Rehabilitation Admission, mean (median)		18.7 (11.0)	10.7 (8.0)	25.7 (12.0)	24.0 (10.0)	17.8 (11.0)	18.6 (13.0)	18.9 (7.0)	19.3 (12.5)	16.5 (12.0)	15.8 (9.0)	26.2 (13.0)	19.8 (13.0)	18.6 (9.0)	17.1 (11.5)	31.9 (13.0)
Disability, n (%)	Mild	741 (24.5)	78 (31.5)	55 (22.4)	32 (29.9)	65 (15.7)	32 (26.4)	47 (20.2)	60 (20.8)	97 (32.2)	88 (25.6)	15 (14.2)	104 (34.6)	15 (16.3)	33 (21.4)	20 (29.4)
	Moderate	1,342 (44.4)	82 (33.1)	98 (40.0)	47 (43.9)	232 (56.0)	51 (42.1)	113 (48.5)	149 (51.6)	129 (42.9)	143 (41.6)	62 (58.5)	111 (36.9)	31 (33.7)	71 (46.1)	23 (33.8)
	Severe	940 (31.1)	88 (35.5)	92 (37.6)	28 (26.2)	117 (28.3)	38 (31.4)	73 (31.3)	80 (27.7)	75 (24.9)	113 (32.8)	29 (27.4)	86 (28.6)	46 (50.0)	50 (32.5)	25 (36.8)
Functional Independence Measure® Score, mean (median)	Admission FIM® score	76.8 (79.0)	76.9 (78.0)	76.0 (76.0)	79.5 (83.0)	75.7 (79.0)	78.0 (80.0)	75.3 (76.0)	76.6 (78.0)	79.3 (82.0)	74.4 (76.0)	75.3 (77.0)	82.7 (87.0)	66.4 (68.5)	77.6 (79.5)	77.1 (78.5)
	Discharge FIM® score	100.1 (108.0)	96.1 (104.5)	101.3 (108.0)	102.9 (109.5)	100.8 (107.0)	101.4 (105.5)	101.2 (108.0)	98.7 (105.0)	102.3 (110.0)	97.4 (105.0)	98.5 (108.0)	103.4 (111.5)	95.0 (106.0)	100.1 (109.0)	102.0 (112.5)
	Change in FIM® score	22.4 (21.0)	18.3 (17.0)	24.9 (22.0)	21.6 (20.5)	24.7 (23.0)	22.3 (21.0)	23.8 (22.0)	21.2 (21.0)	21.9 (23.0)	22.7 (21.0)	23.2 (23.0)	20.3 (18.0)	25.7 (25.5)	20.6 (19.0)	22.7 (18.0)
	FIM® efficiency[2]	0.9 (0.7)	1.0 (0.7)	0.8 (0.7)	1.1 (0.7)	0.9 (0.8)	1.1 (0.7)	1.3 (1.08)	0.7 (0.6)	0.9 (0.8)	0.9 (0.7)	0.6 (0.5)	0.7 (0.6)	1.0 (0.9)	0.8 (0.6)	0.7 (0.7)
	Relative change (%)	30.3	25.0	33.3	29.4	33.2	30.0	34.4	28.9	29.0	30.9	30.8	25.0	43.1	29.0	32.3
Discharge Destination Following Inpatient Rehabilitation, n (%)	Home without services	797 (28.5)	32 (13.4)	95 (40.4)	8 (8.0)	108 (27.7)	23 (20.9)	52 (26.0)	106 (41.1)	86 (31.5)	65 (20.2)	35 (34.3)	113 (40.9)	13 (14.8)	30 (20.1)	31 (53.4)
	Home with services	1,235 (44.1)	102 (42.7)	80 (34.0)	61 (61.0)	191 (49.0)	62 (56.4)	98 (49.0)	89 (34.5)	124 (45.4)	159 (49.4)	45 (44.1)	99 (35.9)	42 (47.7)	68 (45.6)	15 (25.9)
	Other community services	167 (6)	17 (7.1)	16 (6.8)	9 (9.0)	22 (5.6)	3 (2.7)	11 (5.5)	12 (4.7)	10 (3.7)	19 (5.9)	4 (3.9)	23 (8.3)	5 (5.7)	13 (8.7)	3 (5.2)
	Long-term care facility	338 (12.1)	27 (11.3)	28 (11.9)	11 (11.0)	57 (14.6)	15 (13.6)	25 (12.5)	32 (12.4)	32 (11.7)	51 (15.8)	13 (12.7)	19 (6.9)	7 (8.0)	18 (12.1)	3 (5.2)
	Acute care hospital	151 (5.4)	14 (5.9)	13 (5.5)	9 (9.0)	7 (1.8)	5 (4.5)	13 (6.5)	12 (4.7)	14 (5.1)	4 (1.2)	5 (4.9)	21 (7.6)	14 (15.9)	15 (10.1)	5 (8.6)
Average Length of Stay[3] in Days, mean (median)		34.3 (29.0)	27.1 (16.0)	39.3 (36.5)	32.7 (25.0)	33.9 (28.0)	32.8 (29.5)	27.1 (21.0)	37.6 (35.0)	32.0 (29.0)	35.2 (28.0)	45.6 (38.0)	38.1 (33.0)	27.0 (20.0)	37.3 (31.0)	38.0 (27.0)

Characteristics and Outcomes for 2006/07		Ontario	Erie St.Clair	South West	Waterloo Wellington	Hamilton Niagara Haldimand Brant	Central West	Mississauga Halton	Toronto Central	Central	Central East	South East	Champlain	North Simcoe Muskoka	North East	North West
Patients Discharged Alive from Acute Care in 2006/07		**10,373**	**724**	**813**	**505**	**1,302**	**529**	**646**	**894**	**1,128**	**1,211**	**408**	**875**	**351**	**653**	**334**
Admission to Inpatient Rehabilitation[1], n (%)		3,107 (30.0)	265 (36.6)	268 (33.0)	130 (25.7)	402 (30.9)	116 (21.9)	192 (29.7)	285 (31.9)	313 (27.7)	362 (29.9)	111 (27.2)	314 (35.9)	94 (26.8)	185 (28.3)	70 (21.0)
Days from Stroke Onset to Inpatient Rehabilitation Admission, mean (median)		18.54 (12.0)	16.3 (9.5)	24.5 (12.0)	18.6 (10.0)	19.0 (13.0)	20.3 (13.0)	17.4 (7.0)	19.1 (13.0)	18.2 (13.0)	14.3 (9.0)	20.0 (14.5)	18.6 (14.0)	14.7 (9.0)	20.2 (13.0)	20.6 (13.5)
Disability, n (%)	Mild	660 (21.6)	53 (21.4)	54 (20.4)	35 (27.6)	71 (17.9)	24 (20.7)	36 (18.9)	51 (18.0)	85 (27.3)	76 (21.1)	25 (22.9)	92 (29.6)	15 (17.2)	30 (16.6)	13 (18.8)
	Moderate	1,364 (44.6)	96 (38.7)	98 (37.0)	58 (45.7)	196 (49.4)	52 (44.8)	85 (44.7)	150 (52.8)	136 (43.7)	155 (43.1)	55 (50.5)	127 (40.8)	43 (49.4)	87 (48.1)	26 (37.7)
	Severe	1,031 (33.7)	99 (39.9)	113 (42.6)	34 (26.8)	130 (32.7)	40 (34.5)	69 (36.3)	83 (29.2)	90 (28.9)	129 (35.8)	29 (26.6)	92 (29.6)	29 (33.3)	64 (35.4)	30 (43.5)
Functional Independence Measure® Score, mean (median)	Admission FIM® score	75.3 (78.0)	72.4 (75.5)	72.4 (74.0)	80.4 (83.0)	74.6 (76.0)	76.8 (77.0)	71.5 (73.0)	75.3 (77.5)	77.8 (81.0)	73.7 (76.0)	79.9 (80.0)	80.2 (84.0)	72.5 (75.0)	74.9 (81.0)	72.2 (74.0)
	Discharge FIM® score	98.8 (107.0)	92.1 (99.0)	98.6 (108.0)	99.9 (108.0)	101.1 (108.0)	104.8 (111.0)	95.5 (103.0)	98.5 (105.0)	99.0 (106.0)	97.5 (105.0)	101.1 (110.5)	101.8 (113.0)	98.5 (107.0)	98.8 (108.0)	97.5 (107.0)
	Change in FIM® score	22.3 (21.0)	18.4 (18.0)	24.7 (21.5)	18.9 (19.0)	24.6 (22.0)	26.8 (27.5)	21.9 (22.0)	22.5 (21.5)	20.9 (20.0)	23.3 (23.0)	21.2 (20.0)	20.0 (18.0)	23.3 (21.0)	21.9 (20.0)	25.0 (24.0)
	FIM® efficiency[2]	0.9 (0.7)	1.1 (0.7)	0.7 (0.7)	0.7 (0.6)	0.9 (0.8)	0.8 (0.7)	1.2 (0.9)	0.7 (0.6)	0.8 (0.7)	1.0 (0.7)	0.5 (0.5)	0.7 (0.6)	1.0 (0.7)	0.8 (0.7)	0.6 (0.6)
	Relative change (%)	31.2	27.2	36.2	24.3	35.5	36.5	33.6	30.8	27.2	32.3	26.5	26.9	35.9	31.9	35.0
Discharge Destination Following Inpatient Rehabilitation, n (%)	Home without services	760 (26.5)	44 (18.8)	101 (40.1)	21 (17.1)	81 (21.4)	19 (17.6)	23 (13.1)	79 (30.5)	101 (34.4)	63 (18.2)	40 (39.2)	103 (37.3)	29 (33.7)	36 (20.5)	20 (34.5)
	Home with services	1,265 (44.1)	85 (36.3)	77 (30.6)	65 (52.8)	198 (52.2)	71 (65.7)	96 (54.5)	99 (38.2)	126 (42.9)	173 (49.9)	45 (44.1)	94 (34.1)	31 (36.0)	80 (45.5)	25 (43.1)
	Other community services	177 (6.2)	16 (6.8)	18 (7.1)	15 (12.2)	24 (6.3)	1 (0.9)	8 (4.5)	15 (5.8)	6 (2.0)	23 (6.6)	3 (2.9)	26 (9.4)	6 (7.0)	11 (6.3)	5 (8.6)
	Long-term care facility	321 (11.2)	23 (9.8)	32 (12.7)	8 (6.5)	48 (12.7)	9 (8.3)	33 (18.8)	33 (12.7)	32 (10.9)	47 (13.5)	7 (6.9)	18 (6.5)	7 (8.1)	23 (13.1)	1 (1.7)
	Acute care hospital	194 (6.8)	15 (6.4)	19 (7.5)	8 (6.5)	19 (5.0)	5 (4.6)	11 (6.3)	16 (6.2)	13 (4.4)	10 (2.9)	7 (6.9)	29 (10.5)	10 (11.6)	25 (14.2)	7 (12.1)
Average Length of Stay[3] in Days, mean (median)		36.3 (30.0)	29.4 (19.0)	40.6 (33.5)	35.9 (31.0)	33.6 (29.0)	39.2 (40.5)	31.7 (25.0)	39.5 (38.0)	33.8 (30.0)	38.0 (31.0)	48.4 (41.0)	38.6 (28.5)	29.6 (23.0)	33.8 (28.0)	46.7 (39.5)

Characteristics and Outcomes for 2007/08		Ontario	Erie St.Clair	South West	Waterloo Wellington	Hamilton Niagara Haldimand Brant	Central West	Mississauga Halton	Toronto Central	Central	Central East	South East	Champlain	North Simcoe Muskoka	North East	North West
Patients Discharged Alive from Acute Care in 2007/08		**10,258**	**712**	**835**	**500**	**1,284**	**559**	**643**	**900**	**1,100**	**1,101**	**465**	**869**	**400**	**594**	**296**
Admission to Inpatient Rehabilitation[1], n (%)		3,060 (29.8)	286 (40.2)	288 (34.5)	134 (26.8)	373 (29.0)	134 (24.0)	218 (33.9)	251 (27.9)	293 (26.6)	360 (32.7)	121 (26.0)	266 (30.6)	118 (29.5)	139 (23.4)	79 (26.7)
Days from Stroke Onset to Inpatient Rehabilitation Admission, mean (median)		18.5 (11.0)	11.7 (8.5)	22.7 (11.0)	24.6 (12.0)	16.9 (12.0)	19.1 (14.0)	18.0 (8.0)	21.4 (12.0)	16.5 (13.0)	16.1 (10.0)	21.1 (16.0)	21.8 (13.0)	17.5 (11.0)	19.5 (13.0)	17.6 (13.0)
Disability, n (%)	Mild	659 (21.9)	56 (21.3)	53 (18.7)	45 (33.8)	52 (14.0)	30 (22.4)	33 (15.4)	62 (24.8)	76 (26.1)	77 (21.4)	27 (22.3)	88 (33.3)	14 (12.5)	21 (15.4)	25 (32.1)
	Moderate	1,306 (43.4)	97 (36.9)	101 (35.6)	56 (42.1)	194 (52.2)	52 (38.8)	98 (45.8)	128 (51.2)	129 (44.3)	146 (40.7)	60 (49.6)	100 (37.9)	54 (48.2)	71 (52.2)	20 (25.6)
	Severe	1,046 (34.7)	110 (41.8)	130 (45.8)	32 (24.1)	126 (33.9)	52 (38.8)	83 (38.8)	60 (24.0)	86 (29.6)	136 (37.9)	34 (28.1)	76 (28.8)	44 (39.3)	44 (32.4)	33 (42.3)
Functional Independence Measure® Score, mean (median)	Admission FIM® score	75.4 (77.0)	71.1 (71.0)	73.9 (74.0)	80.5 (80.0)	73.1 (74.0)	73.9 (75.0)	71.3 (75.0)	80.2 (82.5)	78.4 (81.0)	72.9 (74.0)	80.6 (82.0)	81.9 (86.0)	68.4 (72.0)	77.2 (77.5)	72.7 (76.0)
	Discharge FIM® score	98.9 (107.0)	91.3 (99.0)	96.8 (108.0)	102.4 (108.0)	100.9 (107.0)	101.1 (106.0)	98.2 (105.0)	101.4 (108.0)	98.9 (107.5)	95.2 (101.0)	103.6 (110.5)	102.7 (112.0)	99.1 (108.0)	100.1 (111.0)	96.1 (108.0)
	Change in FIM® score	22.3 (21.0)	19.1 (17.0)	21.4 (18.0)	21.3 (20.5)	27.2 (26.0)	26.2 (26.0)	24.1 (23.0)	20.5 (19.0)	20.4 (19.0)	21.4 (20.0)	21.9 (22.0)	20.8 (18.0)	26.2 (27.0)	21.5 (21.0)	22.8 (18.0)
	FIM® efficiency[2]	0.9 (0.7)	1.1 (0.7)	0.6 (0.6)	1.0 (0.6)	1.0 (0.8)	0.9 (0.7)	1.1 (0.9)	0.6 (0.5)	0.9 (0.6)	1.0 (0.7)	0.7 (0.5)	0.8 (0.7)	1.3 (1.04)	0.8 (0.6)	0.5 (0.4)
	Relative change (%)	31.2	28.4	31.0	27.2	38.0	36.8	37.7	26.4	26.1	30.6	28.5	25.4	44.9	29.7	32.2
Discharge Destination Following Inpatient Rehabilitation, n (%)	Home without services	803 (28.6)	44 (17.8)	108 (39.7)	24 (19.4)	69 (19.7)	26 (20.8)	29 (14.9)	104 (43.9)	97 (35.5)	55 (17.1)	39 (33.9)	111 (44.9)	33 (30.0)	44 (33.1)	20 (31.7)
	Home with services	1,229 (43.7)	104 (42.1)	72 (26.5)	65 (52.4)	202 (57.7)	74 (59.2)	120 (61.9)	73 (30.8)	121 (44.3)	154 (48.0)	51 (44.3)	71 (28.7)	35 (31.8)	56 (42.1)	31 (49.2)
	Other community services	163 (5.8)	14 (5.7)	10 (3.7)	14 (11.3)	21 (6.0)	6 (4.8)	12 (6.2)	10 (4.2)	13 (4.8)	19 (5.9)	7 (6.1)	23 (9.3)	5 (4.5)	6 (4.5)	3 (4.8)
	Long-term care facility	269 (9.6)	12 (4.9)	41 (15.1)	14 (11.3)	46 (13.1)	12 (9.6)	17 (8.8)	22 (9.3)	17 (6.2)	45 (14.0)	11 (9.6)	13 (5.3)	6 (5.5)	12 (9.0)	1 (1.6)
	Acute care hospital	198 (7.0)	15 (6.1)	35 (12.9)	7 (5.6)	11 (3.1)	6 (4.8)	15 (7.7)	11 (4.6)	14 (5.1)	10 (3.1)	6 (5.2)	19 (7.7)	27 (24.5)	14 (10.5)	8 (12.7)
Average Length of Stay[3] in Days, mean (median)		36.5 (29.0)	27.6 (19.0)	40.0 (30.0)	42.8 (31.0)	37.6 (32.0)	39.8 (36.0)	32.4 (23.0)	39.3 (36.5)	33.3 (28.0)	34.0 (27.0)	44.1 (36.0)	36.2 (30.0)	26.5 (21.0)	40.6 (30.0)	55.5 (47.0)

Characteristics and Outcomes for 2008/09		Ontario	Erie St.Clair	South West	Waterloo Wellington	Hamilton Niagara Haldimand Brant	Central West	Mississauga Halton	Toronto Central	Central	Central East	South East	Champlain	North Simcoe Muskoka	North East	North West
Patients Discharged Alive from Acute Care in 2008/09		**10,299**	**671**	**740**	**555**	**1,252**	**553**	**738**	**930**	**1,122**	**1,176**	**458**	**797**	**413**	**609**	**285**
Admission to Inpatient Rehabilitation[1], n (%)		3,209 (31.2)	271 (40.4)	250 (33.8)	153 (27.6)	407 (32.5)	132 (23.9)	254 (34.4)	288 (31.0)	315 (28.1)	385 (32.7)	125 (27.3)	266 (33.4)	124 (30.0)	149 (24.5)	90 (31.6)
Days from Stroke Onset to Inpatient Rehabilitation Admission, mean (median)		18.6 (11.0)	15.3 (8.0)	16.2 (11.0)	16.1 (10.0)	16.9 (12.0)	50.6 (16.0)	15.1 (8.0)	19.9 (12.0)	17.1 (12.0)	14.1 (10.0)	20.8 (16.0)	23.0 (14.0)	18.2 (10.0)	17.6 (13.0)	17.5 (14.0)
Disability, n (%)	Mild	664 (21.0)	47 (18.6)	49 (19.6)	50 (33.3)	59 (14.6)	32 (24.6)	40 (16.0)	56 (19.8)	84 (27.1)	93 (24.5)	28 (22.4)	66 (25.0)	16 (13.4)	25 (16.9)	19 (21.1)
	Moderate	1,449 (45.9)	95 (37.5)	97 (38.8)	66 (44.0)	217 (53.7)	70 (53.8)	107 (42.8)	155 (54.8)	144 (46.5)	155 (40.9)	62 (49.6)	133 (50.4)	54 (45.4)	64 (43.2)	30 (33.3)
	Severe	1,042 (33.0)	111 (43.9)	104 (41.6)	34 (22.7)	128 (31.7)	28 (21.5)	103 (41.2)	72 (25.4)	82 (26.5)	131 (34.6)	35 (28.0)	65 (24.6)	49 (41.2)	59 (39.9)	41 (45.6)
Functional Independence Measure® Score, mean (median)	Admission FIM® score	75.5 (78.0)	71.5 (72.0)	72.3 (74.0)	82.9 (85.5)	72.6 (74.0)	79.3 (79.5)	70.1 (71)	78.8 (81.0)	79.5 (81.5)	75.1 (77.0)	79.3 (81.0)	82.2 (84)	70.7 (74.0)	73.1 (78.0)	68.4 (69.5)
	Discharge FIM® score	99.3 (108.0)	91.7 (98.0)	96.0 (108.0)	103.7 (109.0)	99.0 (107.0)	104.2 (110.0)	99.2 (104.0)	100.3 (107.0)	100.2 (108.0)	97.4 (106.0)	102.9 (111.5)	105.0 (112.0)	101.6 (111.0)	96.4 (104.0)	99.7 (110.0)
	Change in FIM® score	22.5 (22.0)	19.6 (17.0)	22.1 (21.0)	21.1 (19.0)	25.4 (26.0)	23.8 (24.0)	26.1 (25.0)	20.8 (20.0)	19.9 (20.0)	21.6 (20.0)	23.1 (25.0)	22.7 (20.0)	25.5 (26.0)	22.1 (21.0)	26.5 (25.0)
	FIM® efficiency[2]	0.9 (0.7)	1.2 (0.7)	0.6 (0.6)	1.1 (0.7)	0.9 (0.8)	0.8 (0.6)	1.4 (1.1)	0.6 (0.6)	0.8 (0.7)	0.9 (0.7)	0.6 (0.6)	0.7 (0.5)	1.1 (0.8)	0.9 (0.6)	0.9 (0.7)
	Relative change (%)	24.0	22.0	24.7	20.1	26.7	23.9	29.3	21.4	20.7	22.9	22.9	21.7	30.4	24.2	31.4
Discharge Destination Following Inpatient Rehabilitation, n (%)	Home without services	801 (27.3)	35 (14.6)	93 (39.9)	36 (29.0)	100 (25.8)	23 (18.5)	27 (11.1)	102 (37.6)	86 (29.2)	72 (21.3)	46 (38.3)	95 (38.5)	37 (37.0)	23 (17.2)	26 (34.2)
	Home with services	1,323 (45.1)	108 (45.2)	58 (24.9)	62 (50.0)	192 (49.5)	81 (65.3)	161 (66.3)	104 (38.4)	138 (46.8)	177 (52.4)	52 (43.3)	69 (27.9)	30 (30.0)	64 (47.8)	27 (35.5)
	Other community services	173 (5.9)	18 (7.5)	16 (6.9)	15 (12.1)	29 (7.5)	2 (1.6)	6 (2.5)	13 (4.8)	15 (5.1)	12 (3.6)	3 (2.5)	30 (12.1)	5 (5.0)	5 (3.7)	4 (5.3)
	Long-term care facility	303 (10.3)	21 (8.8)	31 (13.3)	5 (4.0)	40 (10.3)	10 (8.1)	30 (12.3)	40 (14.8)	32 (10.8)	41 (12.1)	10 (8.3)	19 (7.7)	8 (8.0)	11 (8.2)	5 (6.6)
	Acute care hospital	222 (7.6)	10 (4.2)	32 (13.7)	6 (4.8)	23 (5.9)	7 (5.6)	19 (7.8)	6 (2.2)	18 (6.1)	13 (3.8)	7 (5.8)	19 (7.7)	20 (20.0)	29 (21.6)	13 (17.1)
Average Length of Stay[3] in Days, mean (median)		36.1 (30.0)	30.8 (20.0)	37.5 (33.0)	32.6 (25.5)	36.5 (29.5)	39.1 (38.0)	30.3 (23.0)	38.0 (34.0)	32.4 (29.0)	32.5 (28.0)	47.7 (39.0)	42.7 (42.0)	32.0 (25.0)	39.9 (31.0)	50.1 (44.0)

Characteristics and Outcomes for 2009/10		Ontario	Erie St.Clair	South West	Waterloo Wellington	Hamilton Niagara Haldimand Brant	Central West	Mississauga Halton	Toronto Central	Central	Central East	South East	Champlain	North Simcoe Muskoka	North East	North West
Patients Discharged Alive from Acute Care in 2009/10		**10,590**	**725**	**904**	**529**	**1,289**	**548**	**712**	**918**	**1,125**	**1,196**	**444**	**844**	**415**	**646**	**295**
Admission to Inpatient Rehabilitation[1], n (%)		3,246 (30.7)	253 (34.9)	275 (30.4)	156 (29.5)	378 (29.3)	138 (25.2)	248 (34.8)	266 (29.0)	319 (28.4)	393 (32.9)	126 (28.4)	261 (30.9)	1360 (32.8)	186 (28.8)	111 (37.6)
Days from Stroke Onset to Inpatient Rehabilitation Admission, mean (median)		18.7 (11.0)	13.8 (10.0)	17.4 (10.0)	16.8 (11.0)	28.9 (11.0)	22.6 (14.0)	13.3 (8.5)	17.1 (11.5)	16.7 (12.0)	13.6 (9.0)	20.6 (12.5)	25.2 (15.0)	16.6 (13.0)	20.2 (12.0)	16.9 (13.0)
Disability, n (%)	Mild	664 (20.7)	45 (19.1)	54 (19.7)	37 (23.9)	49 (13.0)	30 (21.7)	49 (19.9)	55 (20.9)	86 (27.5)	88 (22.4)	18 (14.3)	56 (21.5)	33 (24.6)	45 (24.2)	19 (17.3)
	Moderate	1,497 (46.6)	111 (47.0)	111 (40.5)	77 (49.7)	191 (50.5)	71 (51.4)	97 (39.4)	151 (57.4)	138 (44.1)	178 (45.4)	70 (55.6)	131 (50.4)	51 (38.1)	69 (37.1)	51 (46.4)
	Severe	1,050 (32.7)	80 (33.9)	109 (39.8)	41 (26.5)	138 (36.5)	37 (26.8)	100 (40.7)	57 (21.7)	89 (28.4)	126 (32.1)	38 (30.2)	73 (28.1)	50 (37.3)	72 (38.7)	40 (36.4)
Functional Independence Measure® Score, mean (median)	Admission FIM® score	75.5 (77.0)	74.3 (73.0)	74.9 (77.0)	79.7 (80.0)	71.0 (75.0)	80.3 (80.0)	70.6 (72.0)	80.7 (83.0)	77.7 (80.0)	74.3 (75.0)	78.3 (79.0)	78.2 (79.0)	73.9 (76.5)	75.3 (75.5)	71.9 (74.0)
	Discharge FIM® score	99.8 (107.0)	94.6 (103.0)	100.1 (109.0)	99.6 (106.5)	99.0 (106.0)	100.7 (108.0)	98.0 (106.0)	104.0 (111.0)	101.4 (109.0)	98.1 (105.0)	99.7 (107.0)	101.1 (108.0)	105.2 (112.0)	98.2 (107.0)	102.7 (110.0)
	Change in FIM® score	22.3 (21.0)	20.1 (20.0)	23.8 (21.0)	19.2 (19.0)	25.4 (25.0)	19.8 (20.0)	24.2 (23.0)	21.1 (20.0)	23.0 (23.0)	22.5 (21.0)	21.8 (20.0)	20.8 (20.0)	25.4 (22.0)	19.9 (18.0)	23.2 (20.5)
	FIM® efficiency[2]	0.9 (0.7)	0.1 (0.7)	0.9 (0.8)	0.7 (0.6)	1.0 (0.8)	0.6 (0.6)	1.3 (1.0)	0.7 (0.6)	1.0 (0.8)	0.9 (0.8)	0.6 (0.5)	0.7 (0.6)	1.0 (0.8)	0.7 (0.6)	0.7 (0.6)
	Relative change (%)	24.3	21.5	25.2	20.0	28.3	20.3	28.0	22.4	23.4	24.3	21.5	22.7	29.8	23.3	30.0
Discharge Destination Following Inpatient Rehabilitation, n (%)	Home without services	825 (30.2)	40 (17.7)	110 (48.2)	19 (14.5)	86 (27.8)	26 (24.1)	33 (14.9)	117 (53.4)	96 (36.4)	76 (21.9)	23 (22.3)	92 (39.8)	48 (44.0)	24 (15.5)	35 (41.7)
	Home with services	1,196 (43.7)	102 (45.1)	57 (25.0)	75 (57.3)	150 (48.5)	68 (63.0)	137 (61.7)	59 (26.9)	113 (42.8)	164 (47.3)	57 (55.3)	74 (32.0)	25 (22.9)	86 (55.5)	29 (34.5)
	Other community services	161 (5.9)	17 (7.5)	16 (7.0)	12 (9.2)	36 (11.7)	1 (0.9)	14 (6.3)	8 (3.7)	8 (3.0)	18 (5.2)	3 (2.9)	21 (9.1)	1 (0.9)	6 (3.9)	-
	Long-term care facility	263 (9.6)	25 (11.1)	22 (9.6)	14 (10.7)	23 (7.4)	11 (10.2)	21 (9.5)	22 (10.0)	29 (11.0)	54 (15.6)	11 (10.7)	6 (2.6)	10 (9.2)	13 (8.4)	2 (2.4)
	Acute care hospital	218 (8.0)	14 (6.2)	22 (9.6)	9 (6.9)	12 (3.9)	2 (1.9)	16 (7.2)	13 (5.9)	16 (6.1)	11 (3.2)	9 (8.7)	28 (12.1)	25 (22.9)	25 (16.1)	16 (19.0)
Average Length of Stay[3] in Days, mean (median)		34.0 (29.0)	28.7 (24.0)	31.7 (30.0)	34.6 (29.0)	35.1 (28.0)	41.4 (37.5)	30.8 (25.0)	36.1 (32.0)	32.6 (29.0)	31.1 (28.0)	43.6 (43.0)	34.9 (32.0)	32.6 (25.0)	39.3 (28.5)	39.5 (35.0)

Data sources: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD) and National Rehabilitation Reporting System (CIHI-NRS), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years with a diagnosis of stroke excluding TIA (using ICD-10 codes) discharged from an acute care hospital, admitted to inpatient rehabilitation and classified as Rehabilitation Client Group (RCG) 1 (Stroke) in the CIHI-NRS database; have had rehabilitation assessments completed in the same fiscal year as the acute facility discharge.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

[2] FIM® efficiency is the change in total FIM® score divided by total length of stay; it provides information on the average amount of functional recovery per day of inpatient rehabilitation.

[3] Length of stay refers to the total time spent in inpatient rehabilitation and is calculated using the admission and discharge dates in the NRS database (LOS = discharge date minus admission date).

Notes:

(1) Population-based analysis (i.e., the location of the patient's residence is used to report regional performance).

(2) Cells in which there was no reported/available data are marked with a hyphen (-).

Exhibit 3.5

Functional Independence Measurement (FIM) efficiency[1] by Rehabilitation Patient Group (RPG), in Ontario and by type of inpatient rehabilitation facility, 2003/04 to 2009/10

Rehabilitation Patient Group	2003/04 Ontario[2] (N=3,013)			2003/04 Specialty[3]			2003/04 General[3]			2004/05 Ontario[2] (N=3,218)			2004/05 Specialty[3]			2004/05 General[3]			2005/06 Ontario[2] (N=3,448)			2005/06 Specialty[3]			2005/06 General[3]		
	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR
1150	429	1.1 (0.8)	(0.5–1.4)	90	0.6 (0.6)	(0.4–0.8)	339	1.2 (0.9)	(0.6–1.6)	473	1 (0.8)	(0.5–1.3)	95	0.7 (0.6)	(0.4–0.8)	378	1.1 (0.9)	(0.5–1.4)	524	1.1 (0.8)	(0.5–1.4)	110	0.7 (0.6)	(0.5–0.9)	414	1.2 (0.9)	(0.6–1.5)
1160	232	0.5 (0.4)	(0.2–0.7)	51	0.4 (0.3)	(0.2–0.5)	181	0.6 (0.5)	(0.2–0.8)	259	0.5 (0.4)	(0.1–0.7)	87	0.3 (0.2)	(0.1–0.4)	172	0.6 (0.5)	(0.2–0.9)	266	0.6 (0.5)	(0.2–0.8)	69	0.5 (0.4)	(0.1–0.6)	197	0.6 (0.5)	(0.2–0.9)
Total Mild Disability[4]	661	0.9 (0.7)	(0.4–1.2)	141	0.5 (0.5)	(0.3–0.7)	520	1 (0.7)	(0.4–1.4)	732	0.8 (0.7)	(0.3–1.1)	182	0.5 (0.4)	(0.2–0.7)	550	0.9 (0.8)	(0.4–1.3)	790	0.9 (0.7)	(0.4–1.2)	179	0.6 (0.5)	(0.3–0.8)	611	1.0 (0.8)	(0.4–1.4)
1120	624	0.8 (0.7)	(0.4–1.1)	226	0.6 (0.6)	(0.4–0.8)	398	0.9 (0.8)	(0.4–1.2)	680	0.8 (0.6)	(0.4–1)	239	0.6 (0.6)	(0.4–0.8)	441	0.9 (0.7)	(0.4–1.3)	726	0.9 (0.8)	(0.5–1.1)	238	0.7 (0.7)	(0.4–0.9)	488	1.0 (0.9)	(0.5–1.4)
1130	377	0.6 (0.5)	(0.3–0.9)	186	0.4 (0.4)	(0.2–0.6)	191	0.8 (0.7)	(0.3–1.2)	418	0.6 (0.5)	(0.3–0.8)	186	0.4 (0.4)	(0.2–0.6)	232	0.8 (0.6)	(0.3–1.1)	510	0.7 (0.5)	(0.3–1.0)	215	0.5 (0.5)	(0.3–0.6)	295	0.8 (0.7)	(0.3–1.2)
1140	219	0.7 (0.6)	(0.3–0.9)	82	0.5 (0.5)	(0.3–0.6)	137	0.9 (0.7)	(0.4–1.2)	261	0.8 (0.6)	(0.3–0.9)	107	0.6 (0.5)	(0.3–0.7)	154	0.9 (0.7)	(0.3–1.1)	331	0.8 (0.7)	(0.4–1.1)	107	0.6 (0.5)	(0.3–0.8)	224	0.8 (0.8)	(0.4–1.2)
Total Moderate Disability[5]	1220	0.7 (0.6)	(0.3–1.0)	494	0.5 (0.5)	(0.3–0.7)	726	0.9 (0.7)	(0.4–1.2)	1,359	0.7 (0.6)	(0.3–1.0)	532	0.5 (0.5)	(0.3–0.7)	827	0.9 (0.7)	(0.4–1.2)	1,567	0.8 (0.7)	(0.4–1.1)	560	0.6 (0.6)	(0.4–0.8)	1,007	0.9 (0.8)	(0.5–1.3)
1100	335	0.6 (0.5)	(0.2–0.7)	118	0.5 (0.4)	(0.2–0.6)	217	0.7 (0.5)	(0.2–0.9)	317	0.6 (0.5)	(0.2–0.8)	130	0.5 (0.5)	(0.2–0.8)	187	0.7 (0.5)	(0.3–0.9)	319	0.7 (0.6)	(0.3–1.0)	113	0.6 (0.5)	(0.3–0.7)	206	0.8 (0.7)	(0.4–1.1)
1110	797	0.5 (0.4)	(0.2–0.8)	227	0.4 (0.4)	(0.2–0.6)	570	0.6 (0.5)	(0.2–0.9)	810	0.6 (0.4)	(0.2–0.8)	241	0.4 (0.4)	(0.2–0.7)	569	0.7 (0.5)	(0.2–0.9)	772	0.6 (0.5)	(0.2–0.9)	250	0.5 (0.5)	(0.2–0.7)	522	0.7 (0.5)	(0.2–1.0)
Total Severe Disability[6]	1,132	0.6 (0.4)	(0.2–0.7)	345	0.4 (0.4)	(0.2–0.6)	787	0.6 (0.5)	(0.2–0.9)	1,127	0.6 (0.5)	(0.2–0.8)	371	0.4 (0.4)	(0.2–0.7)	756	0.7 (0.5)	(0.2–0.9)	1,091	0.6 (0.5)	(0.3–0.9)	363	0.5 (0.5)	(0.2–0.7)	728	0.7 (0.6)	(0.3–1.0)

Rehabilitation Patient Group	2006/07 Ontario[2] (N=3,551)			2006/07 Specialty[3]			2006/07 General[3]			2007/08 Ontario[2] (N=3,536)			2007/08 Specialty[3]			2007/08 General[3]			2008/09 Ontario[2] (N=3,738)			2008/09 Specialty[3]			2008/09 General[3]		
	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR
1150	505	1.1 (0.9)	(0.5–1.5)	125	0.7 (0.6)	(0.5–0.9)	380	1.3 (1.0)	(0.6–1.7)	481	1.1 (0.9)	(0.5–1.3)	134	0.7 (0.6)	(0.4–0.9)	347	1.3 (1.0)	(0.6–1.7)	507	1.2 (0.9)	(0.5–1.5)	110	0.8 (0.6)	(0.4–0.9)	397	1.3 (1.0)	(0.6–1.7)
1160	249	0.6 (0.5)	(0.2–0.8)	86	0.4 (0.4)	(0.2–0.6)	163	0.7 (0.5)	(0.2–0.9)	270	0.6 (0.4)	(0.2–0.9)	89	0.4 (0.3)	(0.1–0.5)	181	0.7 (0.6)	(0.2–1.0)	245	0.6 (0.4)	(0.2–0.8)	92	0.5 (0.3)	(0.2–0.6)	153	0.7 (0.5)	(0.2–1.0)
Total Mild Disability[4]	754	1.0 (0.7)	(0.4–1.2)	211	0.6 (0.5)	(0.4–0.8)	543	1.1 (0.8)	(0.4–1.5)	751	0.9 (0.7)	(0.4–1.2)	223	0.5 (0.5)	(0.3–0.7)	528	1.1 (0.9)	(0.5–1.4)	752	1.0 (0.7)	(0.4–1.3)	202	0.6 (0.5)	(0.3–0.8)	550	1.1 (0.9)	(0.5–1.5)
1120	735	1.0 (0.8)	(0.5–1.2)	220	0.7 (0.6)	(0.4–0.9)	515	1.1 (0.9)	(0.5–1.4)	704	1.0 (0.8)	(0.5–1.2)	223	0.7 (0.7)	(0.4–0.9)	481	1.1 (0.8)	(0.5–1.4)	772	1.1 (0.8)	(0.5–1.2)	246	0.8 (0.7)	(0.5–0.9)	526	1.2 (0.9)	(0.5–1.4)
1130	502	0.7 (0.6)	(0.3–0.9)	212	0.5 (0.5)	(0.3–0.7)	290	0.8 (0.7)	(0.4–1.1)	520	0.8 (0.6)	(0.3–1.1)	222	0.5 (0.5)	(0.3–0.7)	298	1.1 (0.8)	(0.5–1.4)	572	0.7 (0.6)	(0.3–1.0)	272	0.6 (0.5)	(0.3–0.8)	300	0.9 (0.7)	(0.4–1.1)
1140	349	0.8 (0.6)	(0.3–1.0)	139	0.6 (0.5)	(0.3–0.8)	210	0.9 (0.7)	(0.4–1.1)	347	0.8 (0.6)	(0.3–1.0)	148	0.5 (0.5)	(0.2–0.7)	199	1.1 (0.8)	(0.4–1.4)	400	0.9 (0.7)	(0.4–1.1)	172	0.6 (0.5)	(0.3–0.8)	228	1.1 (0.8)	(0.4–1.4)
Total Moderate Disability[5]	1,586	0.8 (0.7)	(0.4–1.1)	571	0.6 (0.6)	(0.3–0.8)	1,015	1.0 (0.8)	(0.5–1.3)	1,571	0.9 (0.7)	(0.4–1.1)	593	0.6 (0.6)	(0.3–0.8)	978	1.1 (0.8)	(0.5–1.4)	1,744	0.9 (0.7)	(0.4–1.1)	690	0.6 (0.6)	(0.4–0.9)	1,054	1.1 (0.8)	(0.5–1.3)
1100	395	0.7 (0.6)	(0.3–0.9)	150	0.5 (0.5)	(0.3–0.8)	245	0.8 (0.6)	(0.3–1.0)	390	0.6 (0.5)	(0.3–0.8)	113	0.5 (0.5)	(0.2–0.7)	277	0.6 (0.5)	(0.3–0.9)	402	0.7 (0.6)	(0.3–0.9)	135	0.5 (0.5)	(0.3–0.8)	267	0.7 (0.6)	(0.3–1.0)
1110	816	0.6 (0.5)	(0.2–0.8)	237	0.5 (0.4)	(0.2–0.7)	579	0.6 (0.5)	(0.2–0.9)	824	0.6 (0.5)	(0.2–0.8)	190	0.4 (0.4)	(0.2–0.6)	634	0.6 (0.5)	(0.2–0.9)	840	0.7 (0.5)	(0.2–0.9)	229	0.5 (0.4)	(0.2–0.7)	611	0.7 (0.5)	(0.2–0.9)
Total Severe Disability[6]	1,211	0.6 (0.5)	(0.2–0.8)	387	0.5 (0.5)	(0.2–0.7)	824	0.6 (0.5)	(0.2–0.9)	1,214	0.6 (0.5)	(0.2–0.8)	303	0.5 (0.4)	(0.2–0.7)	911	0.6 (0.5)	(0.2–0.9)	1,242	0.7 (0.5)	(0.3–0.9)	364	0.5 (0.5)	(0.3–0.8)	878	0.7 (0.6)	(0.2–1.0)

Rehabilitation Patient Group	2009/10 Ontario[2] (N=3,447)			2009/10 Specialty[3]			2009/10 General[3]		
	n	Mean (Median)	IQR	n	Mean (Median)	IQR	n	Mean (Median)	IQR
1150	468	1.2 (0.9)	(0.6–1.5)	105	0.8 (0.7)	(0.5–0.9)	363	1.3 (1.1)	(0.7–1.5)
1160	232	0.6 (0.5)	(0.2–0.8)	88	0.4 (0.4)	(0.2–0.6)	144	0.7 (0.5)	(0.2–0.9)
Total Mild Disability[4]	700	1.0 (0.8)	(0.5–1.3)	193	0.6 (0.5)	(0.4–0.8)	507	1.1 (0.9)	(0.5–1.5)
1120	740	1.0 (0.8)	(0.5–1.2)	222	0.7 (0.7)	(0.4–0.9)	518	1.1 (0.9)	(0.5–1.4)
1130	545	0.7 (0.6)	(0.3–1.0)	256	0.6 (0.5)	(0.3–0.8)	289	0.9 (0.7)	(0.4–1.2)
1140	362	0.8 (0.7)	(0.4–1.0)	172	0.5 (0.5)	(0.3–0.8)	190	1.0 (0.8)	(0.5–1.4)
Total Moderate Disability[5]	1647	0.8 (0.7)	(0.4–1.1)	650	0.6 (0.6)	(0.3–0.8)	997	1.0 (0.8)	(0.5–1.3)
1100	361	0.8 (0.6)	(0.3–1.0)	105	0.7 (0.6)	(0.4–0.8)	256	0.8 (0.6)	(0.3–1.1)
1110	739	0.6 (0.5)	(0.2–1.0)	184	0.5 (0.4)	(0.2–0.8)	555	0.7 (0.6)	(0.2–1.0)
Total Severe Disability[6]	1100	0.7 (0.6)	(0.3–1.0)	289	0.6 (0.5)	(0.2–0.8)	811	0.7 (0.6)	(0.3–1.0)

Data source: Canadian Institute for Health Information, National Rehabilitation Reporting System (CIHI-NRS), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years admitted to inpatient rehabilitation and classified as RCG-1 (Stroke) in the CIHI-NRS database.

Exclusion criteria: Patients discharged from one facility and admitted to another within 24 hours (N=123 in 2003/04; 121 in 2004/05; 133 in 2005/06; 124 in 2006/07; 113 in 2007/08; 124 in 2008/09; and 102 in 2009/10).

[1] FIM efficiency is the change in total FIM score divided by total length of stay; it provides information on the average amount of functional recovery per day of inpatient rehabilitation.

[2] Based on unique patients (i.e., does not include multiple patient-visits).

[3] Facility type as defined in the CIHI-NRS database.

[4] Mild disability includes RPGs 1150 and 1160.

[5] Moderate disabilty includes RPGs 1120, 1130 and 1140.

[6] Severe disability includes RPGs 1100 and 1110.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) IQR = interquartile range (25th–75th percentile).

Exhibit 3.6

Number of adult stroke patients in inpatient rehabilitation in Ontario and their length of stay[1], by Rehabilitation Patient Group (RPG), 2003/04 to 2009/10

Rehabilitation Patient Group	2003/04 Ontario[2] (N=3,013)			2003/04 Specialty[3] (n=980)			2003/04 General[3] (n=2,033)		
	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR
1150	429	24.9 (21)	(13–33)	90	35.0 (29.5)	(23–43)	339	22.2 (17)	(12–29)
1160	232	19.0 (15)	(9–24)	51	26.9 (22)	(17–34)	181	16.8 (13)	(8–21)
Total Mild Disability[4]	661	22.8 (18)	(11–30)	141	32.0 (28)	(20–42)	520	20.3 (15)	(9–27)
1120	624	43.6 (39)	(25–55)	226	54.1 (48)	(36–64)	398	37.6 (33)	(21–49)
1130	377	35.6 (33)	(20–45)	186	42.8 (40)	(29–52)	191	28.5 (23)	(15–38)
1140	219	30.5 (28)	(17–38)	82	37.2 (33.5)	(25–42)	137	26.5 (24)	(14–35)
Total Moderate Disability[5]	1,220	38.7 (35)	(22–49)	494	47.0 (42)	(31–57)	726	33.1 (29)	(17–43)
1100	335	67.1 (62)	(40–86)	118	80.3 (71)	(58–99)	217	60.0 (55)	(31–79)
1110	797	49.8 (46)	(28–68)	227	62.2 (58)	(43–77)	570	44.9 (41)	(22–61)
Total Severe Disability[6]	1,132	54.9 (50)	(30.5–73)	345	68.4 (63)	(48–83)	787	49.0 (43)	(24–67)

Rehabilitation Patient Group	2004/05 Ontario[2] (N=3,218)			2004/05 Specialty[3] (n=1,085)			2004/05 General[3] (n=2,133)		
	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR
1150	473	26.0 (22)	(14–34)	95	36.7 (34)	(23–47)	378	23.3 (21)	(11–31)
1160	259	19.2 (16)	(10–25)	87	24.3 (21)	(15–30)	172	16.6 (14)	(8.5–21)
Total Mild Disability[4]	732	23.6 (20.5)	(12–31)	182	30.7 (28)	(18–38)	550	21.2 (18)	(11–28)
1120	680	43.6 (40)	(26–57)	239	53.5 (48)	(38–62)	441	38.3 (34)	(20–50)
1130	418	34.2 (30)	(18–44)	186	43.1 (39.5)	(28–53)	232	27.0 (23)	(13–35)
1140	261	31.9 (27)	(16–41)	107	36.7 (34)	(22–46)	154	28.6 (21.5)	(13–35)
Total Moderate Disability[5]	1,359	38.5 (34)	(21–50)	532	46.5 (42)	(31–57)	827	33.3 (28)	(16–43)
1100	317	63.6 (58)	(39–87)	130	66.8 (61.5)	(43–91)	187	61.4 (57)	(34–86)
1110	810	51.4 (48)	(28–70)	241	59.4 (56)	(41–75)	569	48.0 (43)	(24–65)
Total Severe Disability[6]	1,127	54.8 (50)	(30–74)	371	62.0 (57)	(41–79)	756	51.3 (46)	(25–70)

Rehabilitation Patient Group	2005/06 Ontario[2] (N=3,448)			2005/06 Specialty[3] (n=1,102)			2005/06 General[3] (n=2,346)		
	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR
1150	524	24.6 (21)	(13–31)	110	33.1 (30)	(21–42)	414	22.4 (18)	(11–28)
1160	266	16.2 (14)	(9–21)	69	20.9 (18)	(13–24)	197	14.5 (12)	(8–18)
Total Mild Disability[4]	790	21.8 (17)	(10–28)	179	28.4 (24)	(16–36)	611	19.8 (16)	(10–25)
1120	726	38.5 (36)	(23–51)	238	45.5 (45)	(34–56)	488	35.0 (31.5)	(19.5–44)
1130	510	32.0 (29)	(18–42)	215	39.3 (38)	(28–46)	295	26.7 (23)	(15–34)
1140	331	26.7 (22)	(14–35)	107	31.3 (30)	(20–40)	224	24.4 (20)	(13–31)
Total Moderate Disability[5]	1,567	33.9 (31)	(19–44)	560	40.4 (39)	(28–51)	1,007	30.3 (26)	(15–40)
1100	319	56.2 (51)	(34–75)	113	61.5 (57)	(43–79)	206	53.3 (49.5)	(30–74)
1110	772	49.5 (46)	(28–65)	250	56.7 (52)	(40–71)	522	46.1 (42)	(23–61)
Total Severe Disability[6]	1,091	51.5 (48)	(30–68)	363	58.2 (53)	(41–72)	728	48.2 (44)	(26–64)

Rehabilitation Patient Group	2006/07 Ontario[2] (N=3,551)			2006/07 Specialty[3] (n=1,169)			2006/07 General[3] (n=2,382)		
	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR
1150	505	23.5 (21)	(12–31)	125	31.6 (30)	(22–41)	380	20.8 (17)	(10–28)
1160	249	17.3 (14)	(10–21)	86	21.8 (19.5)	(14–27)	163	15.0 (13)	(8–17)
Total Mild Disability[4]	754	21.5 (17)	(10–28)	211	27.6 (24)	(17–36)	543	19.1 (15)	(9–24)
1120	735	38.7 (35)	(23–49)	220	47.4 (42)	(33.5–56.5)	515	34.9 (32)	(20–45)
1130	502	32.9 (30)	(19–42)	212	41.3 (39)	(30–49)	290	26.7 (23)	(15–35)
1140	349	27.8 (25)	(15–36)	139	33.3 (29)	(21–42)	210	24.1 (20.5)	(13–31)
Total Moderate Disability[5]	1,586	34.4 (32)	(20–43)	571	41.7 (38)	(29–50)	1,015	30.4 (27)	(16–40)
1100	395	62.5 (56)	(41–79)	150	68.1 (60)	(43–81)	245	59.1 (54)	(37–78)
1110	816	50.8 (47)	(28–66)	237	59.0 (54)	(37–74)	579	47.5 (43)	(26–63)
Total Severe Disability[6]	1,211	54.6 (50)	(33–71)	387	62.5 (56)	(41–77)	824	50.9 (46)	(28–67.5)

Rehabilitation Patient Group	2007/08 Ontario[2] (N=3,536)			2007/08 Specialty[3] (n=1,119)			2007/08 General[3] (n=2,417)		
	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR
1150	481	24.5 (22)	(12–33)	134	33.8 (31.5)	(22–42)	347	20.9 (17)	(10–29)
1160	270	17.1 (14)	(9–22)	89	22.3 (20)	(13–31)	181	14.5 (13)	(8–19)
Total Mild Disability[4]	751	21.8 (19)	(10–29)	223	29.2 (27)	(18–38)	528	18.7 (15)	(9–25)
1120	704	40.2 (36)	(22–52)	223	47.9 (44)	(35–56)	481	36.6 (31)	(18–48)
1130	520	31.4 (28)	(17.5–41)	222	39.4 (37)	(28–46)	298	25.4 (22)	(13–32)
1140	347	27.2 (24)	(15–36)	148	32.9 (30)	(22–42)	199	23.0 (21)	(13–30)
Total Moderate Disability[5]	1,571	34.4 (31)	(19–44)	593	41.0 (38)	(28–50)	978	30.4 (25.5)	(15–39)
1100	390	64.3 (57)	(38–83)	113	76.0 (72)	(51–91)	277	59.5 (53)	(35–77)
1110	824	50.3 (44)	(27–65)	190	66.9 (58)	(41–81)	634	45.4 (41)	(24–59)
Total Severe Disability[6]	1,214	54.8 (49)	(29–72)	303	70.3 (62)	(44–87)	911	49.7 (44)	(27–64)

Rehabilitation Patient Group	2008/09 Ontario[2] (N=3,738)			2008/09 Specialty[3] (n=1,256)			2008/09 General[3] (n=2,482)		
	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR
1150	507	25.5 (22)	(14–34)	110	34.0 (30)	(22–43)	397	23.1 (20)	(11–30)
1160	245	18.1 (15)	(9–23)	92	24.9 (21)	(14.5–30.5)	153	13.9 (12)	(7–19)
Total Mild Disability[4]	752	23.0 (20)	(12–30)	202	29.9 (25)	(18–38)	550	20.5 (17)	(9–28)
1120	772	38.6 (35.5)	(23–50)	246	46.7 (43)	(32–56)	526	34.8 (31)	(20–45)
1130	572	34.5 (30)	(21–42)	272	41.7 (38)	(29–49.5)	300	28.0 (25)	(17–34)
1140	400	26.8 (24)	(15–36)	172	33.1 (32)	(21–42)	228	22.1 (20)	(12–28.5)
Total Moderate Disability[5]	1,744	34.5 (31)	(20–44)	690	41.3 (38.5)	(28–50)	1,054	30.1 (26)	(16–39)
1100	402	59.1 (56)	(38–77)	135	70.9 (70)	(51–87)	267	53.1 (50)	(30–71)
1110	840	47 (43.5)	(25–63)	229	58.7 (55)	(42–70)	611	42.6 (37)	(21–58)
Total Severe Disability[6]	1,242	50.9 (49)	(28–68)	364	63.3 (58)	(44–77)	878	45.8 (42)	(23–63)

Rehabilitation Patient Group	2009/10 Ontario[2] (N=3,447)			2009/10 Specialty[3] (n=1,132)			2009/10 General[3] (n=2,315)		
	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR	n	No. of Days, Mean (Median)	IQR
1150	468	22.6 (20.5)	(13–30)	105	29.3 (28)	(20–39)	363	20.7 (18)	(12–26)
1160	232	16.6 (14)	(9–21)	88	21.2 (17)	(13.5–28.5)	144	13.8 (12)	(7–18)
Total Mild Disability[4]	700	20.6 (17)	(11–28)	193	25.6 (22)	(15–34)	507	18.7 (15)	(10–24)
1120	740	36.6 (33.5)	(22–46)	222	45.8 (42)	(33–55)	518	32.7 (30)	(21–42)
1130	545	31.3 (28)	(20–41)	256	35.8 (33)	(24–44)	289	27.4 (24)	(15–35)
1140	362	27.1 (25)	(16–36)	172	31.9 (32)	(21–40.5)	190	22.6 (20.5)	(14–29)
Total Moderate Disability[5]	1,647	32.8 (30)	(20–42)	650	38.2 (36)	(26–47)	997	29.2 (27)	(17–37)
1100	361	56.6 (51)	(35–73)	105	60.8 (57)	(42–76)	256	54.9 (49)	(33.5–71)
1110	739	44.6 (41)	(26–58)	184	54.1 (54)	(34–69)	555	41.4 (37)	(24–55)
Total Severe Disability[6]	1,100	48.5 (44)	(29–63)	289	56.5 (55)	(36–72)	811	45.7 (41)	(27–58)

Data source: Canadian Institute for Health Information, National Rehabilitation Reporting System (CIHI-NRS), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years admitted to inpatient rehabilitation and classified as Rehabilitation Client Group (RCG) 1 (Stroke) in the CIHI-NRS database.

Exclusion criteria: Patients discharged from one facility and admitted to another within 24 hours (N=123 in 2003/04; 121 in 2004/05; 133 in 2005/06; 124 in 2006/07; 113 in 2007/08; 124 in 2008/09; and 102 in 2009/10).

[1] Length of stay refers to the total time spent in inpatient rehabilitation and is calculated using the admission and discharge dates in the NRS database (LOS = discharge date minus admission date).

[2] Based on unique patients (i.e., does not include multiple patient-visits).

[3] Facility type as defined in the CIHI-NRS database.

[4] Mild disability includes RPGs 1150 and 1160.

[5] Moderate disabilty includes RPGs 1120, 1130 and 1140.

[6] Severe disability includes RPGs 1100 and 1110.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) IQR = interquartile range (25th–75th percentile).

Exhibit 3.7

Characteristics of adult stroke patients in inpatient rehabilitation, in Ontario and by OSS region, 2003/04 to 2009/10

Ontario Stroke System Region	Admission to Rehabilitation[1] (N)	Days from Stroke Onset to Admission, Mean (Median)	Admission FIM® Score, Mean (Median)	Discharge FIM® Score, Mean (Median)	Change in FIM® Score, Mean (Median)	FIM® Efficiency[2], Mean (Median)	Length of Stay[3], Mean (Median)	Home without Services[4], n (%)	Home with Services[4], n (%)	Other Community Services[4], n (%)	Long-Term Care Facility[4], n (%)	Acute Care Facility[4], n (%)	Died[4], n (%)	Unavailable/ Unknown[4], n (%)
2003/04														
Ontario[5]	**3,082**	**21.2 (13)**	**74.9 (76)**	**97.9 (107)**	**21.9 (21)**	**0.8 (0.6)**	**38 (31)**	**801 (29.5)**	**1,166 (43)**	**142 (5.2)**	**364 (13.4)**	**157 (5.8)**	**20 (0.7)**	**63 (2.3)**
Central East	367	14.6 (10)	72.6 (75)	97.7 (109)	23.5 (22)	0.9 (0.7)	33.3 (27)	63 (18.8)	166 (49.6)	20 (6.0)	34 (10.1)	30 (9.0)	**	19 (5.7)
Central South	584	24.0 (13)	76.6 (76.5)	99.6 (105)	22.2 (22)	0.8 (0.6)	37.5 (30)	149 (29.0)	222 (43.3)	37 (7.2)	70 (13.6)	24 (4.7)	**	7 (1.4)
East – Champlain	270	27.0 (19)	73.7 (74)	98.2 (107.5)	23.0 (22)	0.5 (0.4)	53.4 (56)	77 (32.1)	93 (38.8)	19 (7.9)	32 (13.3)	17 (7.1)	**	**
Northeast	108	21.5 (15)	75.8 (78)	96.4 (106)	18.1 (16)	0.5 (0.4)	40.9 (33.5)	30 (28.3)	39 (36.8)	**	15 (14.2)	17 (16.0)	**	-
Northwest	32	36.0 (28)	72.9 (73)	97.3 (110)	19.0 (18)	0.4 (0.4)	71.6 (68)	8 (38.1)	12 (57.1)	-	-	**	-	-
South East	138	34.4 (16)	74.5 (73)	97.4 (106)	22.9 (22)	0.5 (0.4)	55.4 (41.5)	27 (22.1)	63 (51.6)	**	19 (15.6)	6 (4.9)	**	-
Southwest	603	20.6 (11)	71.7 (74)	91.7 (103)	19.1 (17)	0.8 (0.5)	32.6 (24)	114 (23.3)	212 (43.3)	19 (3.9)	90 (18.4)	30 (6.1)	6 (1.2)	19 (3.9)
Toronto – North & East	178	19.4 (13)	77.3 (78)	99.7 (106)	21.0 (20)	0.7 (0.6)	35.6 (32)	46 (27.5)	61 (36.5)	10 (6.0)	21 (12.6)	13 (7.8)	-	16 (9.6)
Toronto – Southeast	207	24.9 (17)	79.8 (83)	103.6 (114)	22.9 (22)	0.7 (0.5)	44.2 (35)	60 (31.4)	90 (47.1)	7 (3.7)	24 (12.6)	8 (4.2)	**	**
Toronto – West	213	20.1 (14)	80.6 (82)	105.9 (109)	24.5 (22)	0.8 (0.7)	37.4 (38)	104 (56.2)	53 (28.6)	8 (4.3)	17 (9.2)	3 (1.6)	-	-
West GTA	382	13.9 (9)	72.8 (73)	97.3 (104)	22.6 (22)	1.1 (0.8)	29.9 (25)	123 (35.9)	155 (45.2)	14 (4.1)	42 (12.2)	8 (2.3)	**	-
2004/05														
Ontario[5]	**3,200**	**20.8 (12)**	**76.7 (79)**	**98.8 (107)**	**21.3 (20)**	**0.8 (0.6)**	**38.1 (31)**	**891 (30.3)**	**1,184 (40.2)**	**173 (5.9)**	**400 (13.6)**	**172 (5.8)**	**12 (0.4)**	**111 (3.8)**
Central East	427	15.0 (9)	72.6 (76)	96.9 (108)	23.6 (21)	0.8 (0.7)	36.9 (28)	89 (22.2)	199 (49.6)	23 (5.7)	46 (11.5)	27 (6.7)	**	14 (3.5)
Central South	586	28.1 (12)	77.6 (80)	98.7 (106)	21.0 (20)	0.8 (0.6)	38.3 (33.5)	166 (30.5)	199 (36.6)	47 (8.6)	94 (17.3)	26 (4.8)	**	11 (2.0)
East – Champlain	297	21.5 (15)	76.5 (75.5)	98.3 (107)	21.2 (20)	0.6 (0.5)	46.5 (43)	86 (30.3)	102 (35.9)	25 (8.8)	33 (11.6)	30 (10.6)	**	7 (2.5)
Northeast	150	17.1 (12)	80.0 (82)	98.8 (106)	18.1 (13.5)	0.6 (0.4)	36.6 (27.5)	35 (24.0)	66 (45.2)	14 (9.6)	10 (6.8)	20 (13.7)	**	-
Northwest	45	28.7 (22)	83.4 (91)	103.3 (112)	19.5 (13)	0.5 (0.4)	48.2 (38)	27 (64.3)	9 (21.4)	**	**	**	-	-
South East	143	26.1 (13)	79.9 (81.5)	102.0 (107)	21.5 (20)	0.6 (0.5)	49.5 (38.5)	49 (36.8)	48 (36.1)	9 (6.8)	20 (15.0)	7 (5.3)	-	-
Southwest	569	19.5 (9.5)	76.4 (77)	96.7 (106)	19.8 (18.5)	0.8 (0.6)	35.5 (27)	116 (23.2)	226 (45.1)	22 (4.4)	70 (14.0)	25 (5.0)	**	40 (8.0)
Toronto – North & East	226	13.6 (11)	80.7 (83)	101.9 (107)	19.2 (18)	0.8 (0.7)	30.7 (27)	61 (29.6)	74 (35.9)	9 (4.4)	17 (8.3)	7 (3.4)	**	37 (18.0)
Toronto – Southeast	166	25.0 (17)	80.8 (84)	101.8 (108)	20.7 (20)	0.7 (0.5)	45.3 (37)	49 (29.9)	77 (47.0)	6 (3.7)	25 (15.2)	**	-	**
Toronto – West	213	24.3 (14)	75.0 (77)	99.9 (106.5)	24.4 (24)	0.7 (0.7)	41.1 (41)	92 (46.7)	51 (25.9)	**	42 (21.3)	8 (4.1)	-	-
West GTA	378	16.9 (9)	74.0 (74)	98.8 (105)	22.9 (22)	1.1 (0.8)	30.1 (25)	121 (37.2)	133 (40.9)	12 (3.7)	40 (12.3)	16 (4.9)	**	-
2005/06														
Ontario[5]	**3,275**	**19.2 (11)**	**77 (79)**	**100.1 (108)**	**22.3 (21)**	**0.9 (0.7)**	**34.5 (29)**	**835 (28.2)**	**1,311 (44.3)**	**179 (6)**	**350 (11.8)**	**165 (5.6)**	**17 (0.6)**	**104 (3.5)**
Central East	451	15.2 (9)	72.5 (75)	97.6 (107)	24.2 (24)	0.9 (0.8)	32.9 (26)	68 (16.6)	220 (53.7)	28 (6.8)	54 (13.2)	29 (7.1)	**	8 (2.0)
Central South	597	19.3 (11)	77.2 (81)	101.7 (108)	23.9 (22)	0.9 (0.8)	34.2 (28)	124 (22.3)	293 (52.7)	33 (5.9)	83 (14.9)	14 (2.5)	**	7 (1.3)
East – Champlain	322	21.5 (13)	82.6 (87)	103.1 (111)	20.2 (18)	0.7 (0.6)	38.3 (34)	117 (39.5)	105 (35.5)	28 (9.5)	20 (6.8)	25 (8.4)	-	**
Northeast	164	15.7 (11)	78.5 (80)	100.5 (110)	20.2 (18.5)	0.8 (0.6)	36.0 (30)	31 (19.9)	76 (48.7)	14 (9.0)	18 (11.5)	12 (7.7)	**	**
Northwest	71	31.7 (12)	77.4 (78.5)	102.2 (113)	22.3 (18)	0.8 (0.7)	37.0 (23.5)	32 (55.2)	14 (24.1)	**	**	**	**	-
South East	109	26.5 (13)	75.4 (77)	98.1 (108)	22.8 (22)	0.6 (0.5)	52.7 (39)	37 (35.9)	43 (41.7)	**	14 (13.6)	6 (5.8)	-	-
Southwest	562	17.6 (10)	76.5 (77)	98.9 (106)	21.7 (19)	0.9 (0.6)	33.1 (27)	131 (25.8)	204 (40.2)	34 (6.7)	55 (10.8)	31 (6.1)	**	49 (9.6)
Toronto – North & East	224	13.9 (11)	82.4 (84)	102.2 (109)	18.5 (16)	0.9 (0.7)	27.6 (24)	67 (33.0)	75 (36.9)	8 (3.9)	21 (10.3)	6 (3.0)	**	25 (12.3)
Toronto – Southeast	194	27.2 (14)	79.8 (81)	100.7 (106)	20.8 (21)	0.7 (0.5)	41.5 (39)	69 (37.7)	73 (39.9)	**	20 (10.9)	6 (3.3)	-	12 (6.6)
Toronto – West	177	22.4 (13)	74.9 (75.5)	96.7 (101)	21.7 (21)	0.8 (0.6)	38.1 (38)	61 (41.2)	49 (33.1)	9 (6.1)	21 (14.2)	7 (4.7)	**	-
West GTA	404	18.4 (10)	74.5 (75)	100.1 (107)	24.0 (23)	1.2 (0.9)	28.1 (24)	98 (28.8)	159 (46.8)	16 (4.7)	41 (12.1)	24 (7.1)	**	-
2006/07														
Ontario[5]	**3,254**	**19 (12)**	**75.6 (78)**	**98.9 (107)**	**22.1 (21)**	**0.8 (0.7)**	**36.3 (30)**	**796 (26.5)**	**1,328 (44.2)**	**188 (6.3)**	**335 (11.2)**	**196 (6.5)**	**14 (0.5)**	**145 (4.8)**
Central East	452	13.3 (9)	73.3 (76)	98.2 (107.5)	23.9 (23)	1.0 (0.8)	35.6 (28)	87 (20.3)	217 (50.7)	27 (6.3)	55 (12.9)	24 (5.6)	**	14 (3.3)
Central South	555	19.7 (12)	75.4 (78)	100.5 (107)	23.6 (22)	0.9 (0.7)	35.0 (29)	105 (20.1)	275 (52.7)	40 (7.7)	61 (11.7)	27 (5.2)	**	9 (1.7)
East – Champlain	331	18.8 (14)	80.7 (85)	102.2 (113)	19.9 (17)	0.7 (0.6)	38.4 (28.5)	109 (37.6)	100 (34.5)	26 (9.0)	19 (6.6)	30 (10.3)	-	6 (2.1)
Northeast	190	19.5 (13)	75.5 (81)	99.1 (108.5)	21.6 (20)	0.8 (0.7)	34.0 (28)	40 (22.2)	80 (44.4)	11 (6.1)	23 (12.8)	25 (13.9)	**	-
Northwest	72	20.6 (13.5)	72.3 (74)	97.0 (107)	24.4 (23.5)	0.6 (0.6)	46.6 (39.5)	21 (35.0)	25 (41.7)	**	**	7 (11.7)	-	-
South East	108	21.5 (15)	81.5 (82)	102.1 (111.5)	20.5 (19)	0.5 (0.5)	47.0 (40)	37 (35.9)	48 (46.6)	**	8 (7.8)	7 (6.8)	-	-
Southwest	560	21.0 (10)	72.3 (74)	95.1 (104)	21.1 (20)	0.9 (0.7)	35.3 (27)	151 (29.8)	167 (32.9)	38 (7.5)	56 (11.0)	35 (6.9)	**	58 (11.4)
Toronto – North & East	205	14.7 (11)	80.5 (83)	99.8 (105)	18.5 (18)	0.9 (0.6)	29.9 (27)	60 (32.1)	77 (41.2)	9 (4.8)	19 (10.2)	6 (3.2)	-	16 (8.6)
Toronto – Southeast	217	23.8 (15)	79.6 (82)	101.2 (108)	21.4 (21)	0.7 (0.6)	39.3 (38)	71 (34.8)	70 (34.3)	7 (3.4)	19 (9.3)	6 (2.9)	-	31 (15.2)
Toronto – West	198	23.8 (14)	75.9 (78)	98.5 (105)	22.2 (21)	0.8 (0.6)	41.1 (38)	72 (40.2)	66 (36.9)	11 (6.1)	22 (12.3)	7 (3.9)	**	-
West GTA	366	18.1 (10)	72.5 (74)	97.6 (105)	23.8 (23)	1.0 (0.8)	34.3 (29)	43 (12.6)	203 (59.4)	11 (3.2)	51 (14.9)	22 (6.4)	**	11 (3.2)

Ontario Stroke System Region	Admission to Rehabilitation[1] (N)	Days from Stroke Onset to Admission, Mean (Median)	Admission FIM® Score, Mean (Median)	Discharge FIM® Score, Mean (Median)	Change in FIM® Score, Mean (Median)	FIM® Efficiency[2], Mean (Median)	Length of Stay[3], Mean (Median)	Home without Services[4], n (%)	Home with Services[4], n (%)	Other Community Services[4], n (%)	Long-Term Care Facility[4], n (%)	Acute Care Facility[4], n (%)	Died[4], n (%)	Unavailable/ Unknown[4], n (%)
2007/08														
Ontario[5]	**3,229**	**19.1 (12)**	**75.6 (77)**	**99 (107)**	**22.2 (21)**	**0.9 (0.7)**	**36.7 (29)**	**865 (29.1)**	**1,280 (43.1)**	**178 (6)**	**283 (9.5)**	**207 (7)**	**14 (0.5)**	**142 (4.8)**
Central East	480	15.1 (11)	70.5 (72)	95.4 (105)	23.6 (22)	1.0 (0.8)	33.4 (26)	86 (19.5)	216 (49.0)	26 (5.9)	44 (10.0)	46 (10.4)	**	18 (4.1)
Central South	523	18.5 (12)	75.1 (76)	100.9 (107)	25.3 (25)	0.9 (0.8)	38.4 (31)	93 (19.0)	273 (55.7)	39 (8.0)	64 (13.1)	20 (4.1)	**	-
East – Champlain	281	21.7 (13)	81.6 (85.5)	102.4 (112)	20.7 (17)	0.8 (0.7)	35.9 (29)	116 (44.6)	76 (29.2)	24 (9.2)	13 (5.0)	21 (8.1)	-	10 (3.8)
Northeast	140	19.2 (13)	76.6 (78.5)	100.4 (111)	22.8 (21)	0.8 (0.6)	42.2 (30.5)	41 (29.9)	60 (43.8)	9 (6.6)	12 (8.8)	14 (10.2)	-	**
Northwest	84	17.8 (13)	74.2 (79)	97.2 (108.5)	22.0 (16)	0.5 (0.4)	53.6 (46)	23 (34.3)	30 (44.8)	**	**	9 (13.4)	-	-
South East	129	22.4 (16)	81.8 (86)	105.3 (112)	22.4 (23)	0.6 (0.5)	46.2 (37)	44 (35.8)	56 (45.5)	7 (5.7)	10 (8.1)	6 (4.9)	-	-
Southwest	613	18.1 (10)	73.1 (73)	94.7 (104)	20.4 (18)	0.9 (0.6)	33.9 (26)	169 (30.4)	189 (34.0)	30 (5.4)	55 (9.9)	47 (8.5)	8 (1.4)	58 (10.4)
Toronto – North & East	184	14.5 (11)	81.4 (85.5)	97.0 (106)	15.8 (16)	0.9 (0.7)	26.9 (20)	63 (39.9)	50 (31.6)	6 (3.8)	15 (9.5)	8 (5.1)	-	16 (10.1)
Toronto – Southeast	209	27.5 (12)	80.5 (81)	102.6 (108.5)	20.7 (21)	0.8 (0.6)	33.2 (31.5)	70 (36.3)	58 (30.1)	6 (3.1)	20 (10.4)	**	-	38 (19.7)
Toronto – West	155	26.0 (16)	79.5 (81)	101.3 (107)	21.5 (20)	0.5 (0.5)	49.0 (42)	79 (52.3)	41 (27.2)	10 (6.6)	13 (8.6)	7 (4.6)	-	**
West GTA	431	18.7 (11)	73.3 (75)	100.1 (106)	24.4 (23)	1.0 (0.7)	36.0 (29)	81 (20.6)	231 (58.8)	17 (4.3)	36 (9.2)	28 (7.1)	-	-
2008/09														
Ontario[5]	**3,363**	**19.5 (12)**	**75.6 (78)**	**99.3 (108)**	**22.5 (21)**	**0.9 (0.7)**	**36.3 (30)**	**845 (27.6)**	**1,379 (45)**	**184 (6)**	**314 (10.2)**	**232 (7.6)**	**14 (0.5)**	**99 (3.2)**
Central East	510	15.1 (10)	72.4 (74)	97.2 (108)	23.1 (24)	1.0 (0.8)	33.1 (28)	86 (19.2)	241 (53.7)	25 (5.6)	46 (10.2)	44 (9.8)	**	**
Central South	562	18.0 (11)	74.9 (77)	99.8 (108)	24.4 (24)	1.0 (0.8)	35.3 (29)	136 (26.5)	254 (49.4)	43 (8.4)	48 (9.3)	28 (5.4)	**	**
East – Champlain	278	23.9 (14)	82.7 (84)	105.3 (112)	22.5 (20)	0.6 (0.5)	42.7 (42)	102 (39.4)	70 (27.0)	33 (12.7)	19 (7.3)	20 (7.7)	**	13 (5.0)
Northeast	146	17.9 (13.5)	75.4 (79)	97.2 (106)	20.9 (19.5)	0.8 (0.5)	39.6 (31)	27 (20.5)	61 (46.2)	**	11 (8.3)	26 (19.7)	-	**
Northwest	99	17.9 (14)	69.2 (71)	100.9 (110)	26.6 (25)	0.8 (0.7)	50.4 (44)	30 (35.3)	31 (36.5)	**	**	14 (16.5)	-	**
South East	133	22.0 (16)	79.7 (81)	102.8 (112)	22.7 (23.5)	0.6 (0.5)	49.6 (40)	48 (38.1)	56 (44.4)	**	11 (8.7)	7 (5.6)	**	-
Southwest	560	16.1 (10)	71.7 (73)	94.0 (104)	21.0 (19)	0.9 (0.7)	33.9 (27)	135 (26.7)	182 (36.0)	35 (6.9)	54 (10.7)	48 (9.5)	**	49 (9.7)
Toronto – North & East	155	15.3 (11)	81.2 (83)	99.8 (105)	17.4 (17)	0.9 (0.7)	27.1 (22)	40 (30.1)	59 (44.4)	8 (6.0)	7 (5.3)	**	-	14 (10.5)
Toronto – Southeast	263	19.3 (13)	81.0 (82)	101.3 (108)	19.7 (18)	0.7 (0.6)	35.1 (30)	88 (35.8)	77 (31.3)	**	56 (22.8)	6 (2.4)	-	14 (5.7)
Toronto – West	189	23.7 (13)	81.9 (84)	103.4 (109)	21.2 (18.5)	0.6 (0.6)	40.6 (38)	91 (50.3)	66 (36.5)	8 (4.4)	11 (6.1)	**	-	-
West GTA	468	27.1 (11)	73.3 (76)	99.8 (105)	24.7 (24)	1.1 (0.8)	33.9 (28)	62 (14.2)	282 (64.7)	16 (3.7)	46 (10.6)	29 (6.7)	-	**
2009/10														
Ontario[5]	**3,426**	**19.5 (12)**	**75.8 (78)**	**100 (107)**	**22.3 (21)**	**0.9 (0.7)**	**34.1 (29)**	**879 (30.5)**	**1,258 (43.6)**	**171 (5.9)**	**274 (9.5)**	**228 (7.9)**	**7 (0.2)**	**67 (2.3)**
Central East	520	14.5 (10)	71.7 (73)	98.9 (107)	25.4 (24)	1.0 (0.9)	32.8 (27)	116 (27.2)	197 (46.2)	23 (5.4)	46 (10.8)	44 (10.3)	-	-
Central South	569	28.3 (11)	73.3 (76)	99.2 (106)	23.4 (23)	0.9 (0.8)	34.8 (28)	111 (23.7)	239 (51.0)	52 (11.1)	38 (8.1)	25 (5.3)	**	**
East – Champlain	276	25.9 (16)	79.1 (80)	101.8 (109)	20.8 (20)	0.7 (0.6)	34.8 (31.5)	101 (41.7)	76 (31.4)	21 (8.7)	6 (2.5)	28 (11.6)	-	10 (4.1)
Northeast	193	20.1 (13)	75.1 (75)	97.7 (106)	20.0 (18)	0.7 (0.6)	38.9 (28)	25 (15.5)	86 (53.4)	**	15 (9.3)	29 (18.0)	**	-
Northwest	121	18.9 (14)	73.1 (77.5)	104.5 (112)	23.4 (22)	0.7 (0.6)	38.7 (32.5)	42 (46.7)	30 (33.3)	-	**	15 (16.7)	**	**
South East	126	20.9 (13)	79.5 (80.5)	101.0 (110.5)	21.8 (20)	0.6 (0.5)	44.5 (44)	18 (16.8)	66 (61.7)	**	11 (10.3)	9 (8.4)	-	-
Southwest	556	15.2 (10)	74.4 (74)	97.2 (106)	22.0 (20)	0.9 (0.7)	30.4 (27.5)	155 (32.5)	168 (35.2)	33 (6.9)	55 (11.5)	36 (7.5)	**	29 (6.1)
Toronto – North & East	128	15.3 (12)	84.2 (86)	101.7 (108)	17.1 (16)	0.8 (0.7)	24.8 (21)	39 (34.2)	42 (36.8)	**	**	**	-	25 (21.9)
Toronto – Southeast	300	15.4 (12)	81.9 (81)	102.9 (110)	20.1 (20)	0.7 (0.7)	31.8 (30)	97 (37.5)	89 (34.4)	7 (2.7)	55 (21.2)	10 (3.9)	**	-
Toronto – West	167	26.6 (15)	80.7 (83)	106.6 (110)	23.1 (22)	0.6 (0.6)	43.2 (40)	98 (72.6)	17 (12.6)	8 (5.9)	8 (5.9)	**	-	-
West GTA	470	16.5 (11)	74.7 (76)	99.5 (106)	22.4 (21)	1.1 (0.8)	34.1 (28)	77 (19.1)	248 (61.4)	16 (4.0)	38 (9.4)	24 (5.9)	**	-

Data sources: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD) and National Rehabilitation Reporting System (CIHI-NRS), 2003/04 to 2009/10.

Inclusion criteria: All patients aged ≥18 years with a diagnosis of stroke (using ICD-10 codes) discharged from an acute care hospital who were admitted to inpatient rehabilitation and classified as Rehabilitation Client Group (RCG) 1 (Stroke) and RCG 2 (Brain Dysfunction) in the CIHI-NRS database.

[1] Patients discharged from an acute inpatient hospital with a diagnosis of stroke and admitted into an inpatient rehabiliation hospital in the same fiscal year.

[2] FIM® efficiency is the change in total FIM® score divided by total length of stay; it provides information on the average amount of functional recovery per day of inpatient rehabilitation.

[3] Length of stay refers to the total time spent in inpatient rehabilitation and is calculated using the admission and discharge dates in the NRS database (LOS = discharge date minus admission date).

[4] Among patients discharged alive from an acute care facility (N=2,713 in 2003/04; 2,943 in 2004/05; 2,961 in 2005/06; 3,002 in 2006/07; 2,969 in 2007/08; 3,067 in 2008/09; and 2,884 in 2009/10).

[5] Based on unique patients (i.e., does not include multiple patient-visits).

** Cell value suppressed for reasons of privacy and confidentiality.

Notes:

(1) Facility-based analysis (i.e., the location of the facility is used to report regional performance).

(2) Cells in which there was no reported/available data are marked with a hyphen (-).

(3) FIM® = Functional Independence Measurement

4. Home Care Services

Community Care Access Centre Services

Findings

- **Exhibit 4.1:** The median time for a CCAC rehabilitation service to provide home-based rehabilitation was almost one month (27 days) following stroke onset. Across the LHINs, this varied from 19 to 35 days. Fifty-eight percent of stroke patients receiving CCAC services within 60 days of being discharged from an acute facility also received rehabilitative services; the remaining 42% did not receive any rehabilitative services. No significant progress was made between 2006/07 and 2007/08.
- **Exhibit 4.2:** The median number of visits per client for all rehabilitation services was three over 60 days. In general, rehabilitation support services provided to home care clients in Ontario were insufficient, with modest variation across LHINs. The median number of personal support and homemaker hours received over 60 days was 11 to 12 hours in 2007/08, which was no change from the previous year.

Conclusions

Based on best practice recommendations, the number of service visits per client is insufficient. It is concerning, given the prevalence of depression among stroke survivors, that CCAC-based psychology services were delivered across the province until 2007/08 but are no longer available.

Recommendations

The OSN should investigate the timeliness of providing CCAC-based rehabilitation services and determine whether CCAC-based rehabilitation can provide best practice stroke care. There should be provincial standards for community-based rehabilitation.

Exhibit 4.1

Time to Community Care Access Centre (CCAC) rehabilitation services provided to adult home care clients (active and new) following acute hospitalization for stroke, in Ontario and by Local Health Integration Network, 2006/07 and 2007/08

2006/07

Group/Sub-Group	No. of Clients with Stroke[1]	Rehabilitation Services (Physiotherapy, Occupational Therapy, Speech Therapy or Social Work)		
		No. of clients[1]	Mean no. of days to first service	Median no. of days to first service
Ontario	**5,858**	**3,393**	**33.8**	**27**
Local Health Integration Network				
1. Erie St. Clair	366	185	29.2	22
2. South West	562	301	29.5	23
3. Waterloo Wellington	341	198	34.0	31
4. Hamilton Niagara Haldimand Brant	821	553	32.3	25
5. Central West	318	188	33.3	26
6. Mississauga Halton	390	267	33.6	28
7. Toronto Central	430	235	33.6	25
8. Central	612	370	34.5	28
9. Central East	657	385	32.1	26
10. South East	224	137	44.5	33
11. Champlain	320	158	44.0	41
12. North Simcoe Muskoka	240	96	32.1	28
13. North East	372	212	39.4	34
14. North West	155	93	27.9	19
LHIN unknown	50	15	27.5	26

2007/08

Group/Sub-Group	No. of Clients with Stroke[1]	Rehabilitation Services (Physiotherapy, Occupational Therapy, Speech Therapy or Social Work)		
		No. of clients[1]	Mean no. of days to first service	Median no. of days to first service
Ontario	**5,954**	**3,430**	**33.3**	**27**
Local Health Integration Network				
1. Erie St. Clair	387	206	29.5	23
2. South West	571	311	29.7	23
3. Waterloo Wellington	357	217	31.9	26
4. Hamilton Niagara Haldimand Brant	839	536	31.1	25
5. Central West	328	222	33.3	24.5
6. Mississauga Halton	451	283	33.0	27
7. Toronto Central	499	250	30.2	21
8. Central	604	383	36.1	31
9. Central East	595	358	32.9	29
10. South East	243	140	42.5	30
11. Champlain	362	192	40.3	32
12. North Simcoe Muskoka	255	90	35.0	35
13. North East	341	170	38.9	31
14. North West	122	72	26.3	19.5

Data sources: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), 2006/07, and Ontario Ministry of Health and Long-Term Care, Home Care Database, 2006/07 to 2007/08.

Inclusion criteria: All clients aged ≥18 years discharged from an acute care facility in 2006/07 with a stroke-related diagnosis (based on ICD-10 codes) who received home care services within 60 days of discharge. Active clients included those receiving home care services 90 days before admission to acute care (N=1,757). New clients included those not receiving home care services 90 days before hospitalization for acute stroke (N=4,101).

[1] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) CCAC-based analysis (i.e., the location of the CCAC is used to report regional performance).

(2) Calculated time in days to first CCAC rehabilitation visit was based on subtracting the acute stroke/TIA admission date from the first rehabiliation CCAC service date.

Exhibit 4.2

Community Care Access Centre (CCAC) support services provided to adult home care clients (active and new) 60 days following an acute hospitalization for stroke, in Ontario and by Local Health Integration Network, 2006/07 and 2007/08

2006/07

Group/Sub-Group	No. of Clients with Stroke [1]	Nursing			Personal Support			Personal Support and Homemaker Services			Occupational Therapy (OT)		
		No. of clients [1]	Mean no. of visits per client	Median no. of visits per client	No. of clients [1]	Mean no. of hours per client	Median no. of hours per client	No. of clients [1]	Mean no. of hours per client	Median no. of hours per client	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client
Ontario	**5,858**	**1,507**	**10.2**	**7**	**465**	**21.3**	**13**	**1, 539**	**19.9**	**12**	**2,329**	**2.8**	**2**
Local Health Integration Network													
1. Erie St. Clair	366	182	11.1	6	110	17.8	14	-	-	-	133	2.5	2
2. South West	562	182	10.1	6	124	20.3	10	96	20.4	12	223	2.2	2
3. Waterloo Wellington	341	48	8.4	7	9	32.3	14	93	22.7	16	152	2.8	2
4. Hamilton Niagara Haldimand Brant	821	171	10.3	6	-	-	-	265	20.5	12	409	2.3	2
5. Central West	318	63	10.2	6	**	15.0	8.5	85	21.5	13	136	3.6	3
6. Mississauga Halton	390	57	11.2	6	-	-	-	130	21.5	11	206	3.4	3
7. Toronto Central	430	98	9.2	6.5	-	-	-	152	15.1	9	157	3.3	3
8. Central	612	127	11.1	7	**	7.0	7	197	17.7	11	221	3.8	3
9. Central East	657	173	10.2	8	26	33.1	23.5	243	18.8	12	249	3.2	3
10. South East	224	69	12.7	9	**	3.0	3	77	25.0	15	94	2.1	2
11. Champlain	320	93	8.0	6	62	18.6	11	77	22.6	12	90	2.6	2
12. North Simcoe Muskoka	240	84	9.2	7	49	17.0	9	21	14.5	8	58	2.6	2
13. North East	372	111	10.0	7	74	27.9	13.5	65	16.7	14	122	2.0	2
14. North West	155	41	8.5	6	-	-	-	35	28.9	14	67	2.0	2
LHIN unknown	50	8	18.0	8	**	38.7	42	**	21.0	23	12	2.2	2

Group/Sub-Group	Physiotherapy (PT)			Speech Therapy (ST)			Social Work (SW)			Psychological Services			Rehabilitation Services (OT, PT, ST or SW)		
	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client
Ontario	**1,561**	**3.8**	**3**	**668**	**3.0**	**2**	**168**	**2.6**	**2**	**21**	**3.4**	**3**	**3,393**	**4.4**	**3**
Local Health Integration Networ															
1. Erie St. Clair	102	5.4	4	30	3.9	3	7	1.9	2	-	-	-	185	5.5	4
2. South West	139	3.3	3	51	2.9	2	21	2.6	2	-	-	-	301	3.8	3
3. Waterloo Wellington	70	3.8	3	32	3.2	2.5	18	2.4	1.5	-	-	-	198	4.2	3
4. Hamilton Niagara Haldimand Brant	292	3.7	3	103	3.3	3	18	2.2	1.5	-	-	-	553	4.4	3
5. Central West	90	4.6	4.5	35	3.3	3	8	3.3	2.5	**	4.0	4	188	5.6	4
6. Mississauga Halton	121	4.6	4	43	3.1	2	**	2.0	2	**	2.5	2	267	5.2	4
7. Toronto Central	90	3.3	3	58	3.1	2.5	6	2.5	2.5	8	3.4	2.5	235	4.3	3
8. Central	126	4.2	4	99	3.0	2	10	2.7	1.5	**	4.3	4	370	4.6	3
9. Central East	180	3.4	3	64	2.4	2	16	3.2	3	**	3.6	2	385	4.2	3
10. South East	61	3.3	3	26	2.2	2	11	2.3	2	-	-	-	137	3.6	3
11. Champlain	80	3.2	3	29	2.0	2	**	1.0	1	-	-	-	158	3.5	3
12. North Simcoe Muskoka	42	3.3	3	21	2.4	2	30	2.7	2	-	-	-	96	4.3	4
13. North East	117	3.1	3	64	3.1	2	17	2.7	2	-	-	-	212	4.0	3
14. North West	45	3.6	4	12	2.3	1.5	**	4.0	4	-	-	-	93	3.6	2
LHIN unknown	**	3.7	2	**	3.0	3	-	-	-	-	-	-	15	3.4	3

Data sources: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), 2006/07; Ontario Ministry of Health and Long-Term Care, Home Care Database, 2006/07 and 2007/08.

Inclusion criteria: All clients aged ≥18 years discharged from an acute care facility in 2006/07 with a stroke-related diagnosis (based on ICD-10 codes) who received home care services within 60 days of discharge. Patients were followed for 60 days from time of first CCAC service received within 60 days of hospitalization for acute stroke or TIA.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

** Cell value suppressed for reasons of privacy and confidentiality.

Notes:

(1) CCAC-based analysis (i.e., the location of the CCAC is used to report regional performance).

(2) Cells in which there was no reported/available data are marked with a hyphen (-)

2007/08

Group/Sub-Group	No. of Clients with Stroke [1]	Nursing			Personal Support			Personal Support and Homemaker Services			Occupational Therapy (OT)		
		No. of clients [1]	Mean no. of visits per client	Median no. of visits per client	No. of clients [1]	Mean no. of hours per client	Median no. of hours per client	No. of clients [1]	Mean no. of hours per client	Median no. of hours per client	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client
Ontario	**5,954**	**1477**	**10.1**	**6**	**545**	**20.3**	**12**	**1,568**	**20.2**	**11**	**2,438**	**2.6**	**2**
Local Health Integration Network													
1. Erie St. Clair	387	184	7.9	5	142	22.0	14	-	-	-	134	2.4	2
2. South West	571	157	7.9	5	149	16.2	8	35	17.1	12	239	2.3	2
3. Waterloo Wellington	357	44	11.5	8.5	13	27.6	14	78	26.7	15.5	170	2.3	2
4. Hamilton Niagara Haldimand Brant	839	156	9.3	5.5	-	-	-	313	20.1	12	391	2.3	2
5. Central West	328	65	10.8	7	-	-	-	100	18.3	10.5	175	3.0	3
6. Mississauga Halton	451	45	13.2	6	-	-	-	132	17.6	10	238	2.9	3
7. Toronto Central	499	96	14.6	8	-	-	-	177	16.5	9	175	2.5	2
8. Central	604	124	12.1	7	-	-	-	246	19.1	11	257	3.2	3
9. Central East	595	193	11.3	8	26	15.5	12	218	21.9	12	231	2.8	3
10. South East	243	66	12.0	6	**	42.6	51	79	26.4	15	101	2.1	2
11. Champlain	362	93	10.7	7	88	20.8	9	70	26.0	11	115	2.4	2
12. North Simcoe Muskoka	255	86	8.9	6.5	42	20.5	13.5	18	22.0	10.5	50	2.2	2
13. North East	341	123	8.2	6	80	23.7	15	61	14.4	11	112	2.0	1
14. North West	122	45	6.1	5	-	-	-	41	22.4	12	50	1.9	2

Group/Sub-Group	Physiotherapy (PT)			Speech Therapy (ST)			Social Work (SW)			Psychological Services			Rehabilitation Services (OT, PT, ST or SW)		
	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client	No. of clients [1]	Mean no. of visits per client	Median no. of visits per client
Ontario	**1,550**	**3.6**	**3**	**691**	**2.9**	**2**	**153**	**2.7**	**2**	**0**	**-**	**-**	**3, 430**	**4.1**	**3**
Local Health Integration Networl															
1. Erie St. Clair	119	4.3	3	41	3.4	3	**	1.8	2	-	-	-	206	4.8	3
2. South West	140	3.2	3	56	2.8	2	16	2.4	2	-	-	-	311	3.8	3
3. Waterloo Wellington	82	3.7	3	46	3.2	3	16	2.8	2	-	-	-	217	4.1	3
4. Hamilton Niagara Haldimand Brant	288	3.4	3	95	3.1	3	20	2.3	2	-	-	-	536	4.2	3
5. Central West	92	4.9	5	50	2.9	3	8	4.6	5	-	-	-	222	5.2	4
6. Mississauga Halton	115	3.9	4	51	2.4	2	**	2.3	2	-	-	-	283	4.5	4
7. Toronto Central	93	3.3	3	62	3.5	3	9	3.6	2	-	-	-	250	3.9	3
8. Central	135	3.6	3	97	2.9	2	8	2.9	3	-	-	-	383	4.2	4
9. Central East	171	3.6	3	60	2.4	2	14	3.2	2.5	-	-	-	358	4.1	3
10. South East	69	2.8	2	20	2.3	2	10	1.5	1	-	-	-	140	3.3	3
11. Champlain	97	3.3	3	43	1.9	1	7	2.9	3	-	-	-	192	3.7	3
12. North Simcoe Muskoka	30	3.3	2.5	25	3.6	3	14	2.0	2	-	-	-	90	3.6	2
13. North East	88	3.4	2	33	3.1	3	13	3.1	2	-	-	-	170	3.9	3
14. North West	31	3.7	3	12	2.3	2	**	2.5	2	-	-	-	72	3.5	2

Data sources: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), 2007/08; and Ontario Ministry of Health and Long-Term Care, Home Care Database, 2007/08 and 2008/09.

Inclusion criteria: All clients aged ≥18 years discharged from an acute care facility in 2007/08 with a stroke-related diagnosis (based on ICD-10 codes) who received home care services within 60 days. Patients were followed for 60 days from time of first CCAC service received within 60 days of hospitalization for acute stroke or TIA.

[1] Based on unique patients (i.e., does not include multiple patient-visits).

** Cell value suppressed for reasons of privacy and confidentiality.

Notes:

(1) CCAC-based analysis (i.e., the location of the CCAC is used to report regional performance).

(2) Cells in which there was no reported/available data are marked with a hyphen (-)

5. Longer-term Patient Outcomes

Age- and Sex-adjusted Readmission Rates at 30 and 90 Days

Findings

- **Exhibit 5.1:** Following the first emergency department visit or inpatient admission for stroke/TIA, the rate of another stroke-related revisit or readmission within 30 days decreased slightly in Ontario (p=0.22). District stroke centres experienced the greatest improvement in 30-day stroke-related readmissions with a 20% relative decrease between 2003/04 and 2008/09. Patients were more likely to be readmitted if they went to a non-designated centre. There was much variability across LHINs; in 2008/09, stroke-related readmissions ranged from 3.2% in the North West LHIN to 5.6% in the Central West LHIN.
- **Exhibit 5.2:** Following the first emergency department visit or inpatient admission for stroke/TIA, the rate of another admission within 90 days decreased slightly in Ontario between 2003/04 and 2008/09 (p=0.02). Decreases in stroke-related readmission rates were observed for all stroke types, with rates of TIA readmissions declining the most: from 8.9% in 2003/04 to 8.2% in 2008/09. District stroke centres experienced the greatest improvement in 90-day stroke-related readmissions: from 7.3% in 2003/04 to 5.3% in 2008/09. Non-designated centres consistently had the highest rates of readmission within 90 days. Modest variation existed across the LHINs. In 2008/09, readmissions related to stroke/TIA varied from 7.7% in the Central West LHIN to 5.5% in the South East LHIN.

Conclusions and Recommendations

The overall decline in 30- and 90-day readmission rates may be related to the growing number of stroke secondary prevention clinics across the province, and improved access to these clinics may further reduce the readmission rates for stroke. Although patients with a TIA index visit or hospitalization had the greatest decline in 30- and 90-day stroke/TIA readmission rates over the seven years, it is concerning that TIA patients had the highest rate of 30- and 90-day stroke/TIA readmissions.

The OSN should develop a risk-adjusted model to allow for better comparisons across facilities and regions. Access to rapid TIA assessment clinics/secondary prevention clinics may improve the rate of readmission among TIA patients.

Age- and Sex-adjusted All-cause Readmission Rates at 30 Days

Findings

- **Exhibit 5.3:** Following the first emergency department visit or inpatient admission for stroke/TIA, the rate of another inpatient non-elective admission for any cause within 30 days decreased in Ontario, from 8.8% in 2003/04 to 8.3% in 2009/10 (p=0.11). There was a slight increase in all-cause readmissions among intracerebral hemorrhage patients and a slight decrease in all-cause readmissions among TIA patients. Regional and district centres had lower readmissions than non-designated centres. Improvements in 30-day all-cause readmissions were most dramatic at district stroke centres, declining from 8.6% in 2003/04 to 7.1% in 2008/09.

Conclusions and Recommendations

This indicator will be part of the 2012/13 Hospital Service Accountability Agreement as an explanatory indicator. The OSN remains engaged with the LHIN Health System Indicator Steering Committee and its Technical Working Group to provide advice on stroke centre impact on this outcome. Given that readmission rates are not adjusted for stroke severity, the OSN needs to develop risk adjustment models for future reports.

Age- and Sex-adjusted Mortality Rates

Findings

- **Exhibit 5.4:** Between 2003/04 and 2008/09, inhospital mortality among admitted stroke/TIA patients had a relative decrease of 9.5% provincially for stroke/TIA, with declines observed for all stroke types (p=0.0003). The most dramatic decrease in inhospital mortality was for intracerebral stroke patients, ranging from 41.2% in 2003/04 to 35.9% in 2008/09. District stroke centres experienced the greatest decrease in inhospital mortality: from 15.6% in 2003/04 to 12.9% in 2008/09. Across Local Health Integration Networks, inhospital mortality rates in 2008/09 varied substantially, from 9.4% in the North West LHIN to 17.0% in the North East LHIN.

- **Exhibit 5.5:** Between 2003/04 and 2008/09, Ontario's 30-day mortality rate had a relative decrease of 7.5% for stroke/TIA (p=0.002), 5.4% for ischemic stroke and 9.1% for intracerebral hemorrhage. Non-designated centres experienced the greatest decline in 30-day mortality, falling from 12.9% in 2003/04 to 11.3% in 2008/09. There was modest variation across LHINs, ranging from 10.5% in the North West LHIN to 13.5% in the South East LHIN in 2008/09.
- **Exhibit 5.6:** Provincially, there was a decrease in mortality rates at one year following stroke/TIA admission, from 24.1% in 2003/04 to 22.3% in 2008/09 (p<0.0001). Dramatic decreases were observed for intracerebral hemorrhage (from 54.2% in 2003/04 to 49.5% in 2008/09) and subarachnoid hemorrhage (from 52.5% in 2003/04 to 45.7% in 2008/09). Regional variation ranged from 20.5% in the Erie St. Clair LHIN to 23.4% in the North East LHIN.

Conclusions and Recommendations

Mortality rates dropped by 8% in the province and improved across all stroke sub-types. This degree of decline in seven years is similar to that observed by Tu et al.[9] who found a 9% decline in inhospital stroke fatality rates over a 10-year period (1994–2004). The 30-day age- and sex-adjusted mortality rate in Ontario in 2008/09 was 14.3%, very similar to Tu's 2004/05 inhospital stroke fatality rate of 14.4%. Although the highest mortality rates were observed in regional stroke centres, this can likely be attributed to the fact that regional centres receive more severe stroke cases and a higher proportion of patients with intracerebral hemorrhage; however, regional centres have the lowest inhospital mortality rates for ischemic stroke.[10] The decrease in the inhospital mortality rate observed for intracerebral hemorrhage may be due to better management and access to computed tomography.

The OSN needs to develop a risk-adjusted stroke mortality model to make better comparisons across LHINs, regions and facility types.

[9] Tu JV, Nardi L, Fang J, Liu J, Khalid L, Johansen H, for the Canadian Cardiovascular Outcomes Research Team. National trends in rates of death and hospital admissions related to acute myocardial infarction, heart failure and stroke, 1994-2004. *CMAJ.* 2009; 180(13):E118–25.

[10] Kapral MK, Hall R, Stamplecoski M, Meyer S, Asllani E, Fang J, Richards J, O'Callaghan C, Silver FL. *Registry of the Canadian Stroke Network – Report on the 2008/09 Ontario Stroke Audit.* Toronto: Institute for Clinical Evaluative Sciences; 2011.

Exhibit 5.1

Age- and sex-adjusted revisit or readmission rates within 30 days following stroke or transient ischemic attack (TIA), in Ontario and by stroke type, OSS region, OSS classification and Local Health Integration Network, 2003/04 to 2008/09

Group/Sub-Group	Adjusted[1] Revisit/Readmission Rate (%)					
	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Ontario[2]	**5.0**	**5.1**	**4.7**	**4.8**	**4.8**	**4.7**
Stroke Type						
Intracerebral hemorrhage	3.7	3.8	3.4	3.7	3.2	3.0
Ischemic stroke	4.0	4.1	3.7	3.8	3.9	3.8
Subarachnoid hemorrhage	5.1	4.6	4.2	3.9	4.4	3.3
Transient ischemic attack	6.7	6.8	6.5	6.7	6.5	6.4
Ontario Stroke System Region						
Central East	5.9	4.3	5.0	5.6	5.3	4.9
Central South	4.7	5.0	4.7	4.4	4.4	4.7
East – Champlain	5.4	7.4	4.8	5.8	5.3	5.4
Northeast	4.9	4.3	4.2	4.8	4.8	4.1
Northwest	3.9	4.7	4.7	3.9	5.2	3.2
South East	5.7	7.4	3.9	4.0	5.4	3.8
Southwest	4.8	4.4	5.3	4.5	4.9	4.7
Toronto – North & East	4.4	4.1	3.4	3.2	3.7	4.6
Toronto – Southeast	4.8	4.7	5.4	6.6	4.7	3.8
Toronto – West	3.7	5.8	5.2	4.7	5.9	5.0
West GTA	5.1	5.1	4.7	4.6	4.0	5.2
Ontario Stroke System Classification						
Regional stroke centre	4.4	4.5	3.9	4.1	4.4	4.2
District stroke centre	5.0	4.8	4.4	4.8	4.6	4.0
Non-designated	5.2	5.5	5.3	5.2	5.2	5.2
Local Health Integration Network						
1. Erie St. Clair	4.9	4.5	5.7	4.2	4.0	4.2
2. South West	4.7	4.2	4.9	4.7	5.5	5.1
3. Waterloo Wellington	4.5	4.2	5.5	5.0	5.1	5.0
4. Hamilton Niagara Haldimand Brant	4.7	5.3	4.4	4.2	4.2	4.5
5. Central West	5.4	4.6	4.5	5.4	3.4	5.6
6. Mississauga Halton	5.0	5.3	4.8	4.2	4.4	5.0
7. Toronto Central	3.9	5.3	4.5	4.8	5.1	4.2
8. Central	5.0	3.7	4.7	3.7	4.2	4.8
9. Central East	5.6	5.1	4.7	6.2	5.9	5.3
10. South East	5.7	7.4	3.9	4.0	5.4	3.8
11. Champlain	5.4	7.4	4.8	5.8	5.3	5.4
12. North Simcoe Muskoka	5.6	3.5	5.6	5.6	4.4	4.4
13. North East	4.9	4.3	4.2	4.8	4.8	4.1
14. North West	3.9	4.7	4.7	3.9	5.2	3.2

Data sources: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), and National Ambulatory Care Reporting System (CIHI-NACRS); 2003/04 to 2008/09.

Inclusion criteria: All patients aged ≥18 years readmitted to an emergency department or inpatient setting of an acute care hospital in Ontario with a diagnosis of stroke (ischemic or hemorrhagic) or TIA on both admissions within 30 days of the initial stroke event in each year.

Exclusion criteria: Patients with an elective admission, scheduled emergency department visit or transfer within a facility or between facilities within 24 hours.

[1] Indirect standardization based on an age-sex regression model was used to calculate rates.

[2] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) No washout periods were applied; e.g., if a patient's first hospitalization for stroke had a discharge date of March 31, 2005 (FY 2004/05), followed by another hospitalization for stroke/TIA on April 1, 2005 (FY 2005/06), the April 1 hospitalization would be considered the first hospitalization in 2005/06 and not a readmission related to the hospitalization in 2004/05.

(2) Facility-based analysis (i.e., the location of the facility was used to report regional performance).

(3) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

Exhibit 5.2

Age- and sex-adjusted revisit or readmission rates within 90 days following stroke or transient ischemic attack (TIA), in Ontario and by stroke type, OSS region, OSS classification and Local Health Integration Network, 2003/04 to 2008/09

Group/Sub-Group	Adjusted[1] Revisit/Readmission Rate (%)					
	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Ontario[2]	**7.0**	**7.2**	**6.7**	**6.5**	**6.7**	**6.4**
Stroke Type						
Intracerebral hemorrhage	5.4	6.2	5.3	5.0	4.7	4.3
Ischemic stroke	6.0	6.2	5.6	5.5	5.6	5.6
Subarachnoid hemorrhage	6.0	5.6	5.3	5.2	5.9	4.2
Transient ischemic attack	8.9	8.8	8.6	8.6	8.9	8.2
Ontario Stroke System Region						
Central East	8.0	6.4	6.8	7.3	7.1	7.0
Central South	6.8	6.9	6.9	5.9	6.3	6.1
East – Champlain	7.1	9.5	6.8	7.7	7.6	6.5
Northeast	6.8	6.3	6.1	7.2	7.4	5.8
Northwest	6.2	8.5	7.4	5.6	7.3	5.8
South East	7.2	9.8	5.3	6.3	7.6	5.5
Southwest	6.9	6.5	7.5	6.3	6.9	6.6
Toronto – North & East	6.3	6.3	4.8	4.3	4.9	6.2
Toronto – Southeast	6.5	6.7	7.1	8.4	6.3	5.8
Toronto – West	5.9	7.6	7.0	6.4	7.6	6.6
West GTA	7.3	6.8	6.3	6.3	5.5	6.9
Ontario Stroke System Classification						
Regional stroke centre	6.3	6.7	5.7	5.7	6.4	6.0
District stroke centre	7.3	7.0	6.7	6.6	6.5	5.3
Non-designated	7.2	7.4	7.1	7.0	7.0	7.0
Local Health Integration Network						
1. Erie St. Clair	7.7	7.1	8.0	6.6	6.1	5.8
2. South West	6.2	6.0	7.2	6.1	7.6	7.1
3. Waterloo Wellington	6.5	6.2	7.6	6.8	6.8	6.2
4. Hamilton Niagara Haldimand Brant	6.9	7.2	6.6	5.6	6.1	6.1
5. Central West	7.8	6.0	6.1	7.6	4.4	7.7
6. Mississauga Halton	7.1	7.3	6.4	5.6	6.2	6.5
7. Toronto Central	5.7	6.9	6.2	6.3	6.7	6.1
8. Central	7.1	5.9	6.1	5.0	5.9	6.6
9. Central East	7.5	7.3	6.5	8.2	7.2	6.9
10. South East	7.2	9.8	5.3	6.3	7.6	5.5
11. Champlain	7.1	9.5	6.8	7.7	7.6	6.5
12. North Simcoe Muskoka	8.1	6.1	7.7	7.0	6.8	6.7
13. North East	6.8	6.3	6.1	7.2	7.4	5.8
14. North West	6.2	8.5	7.4	5.6	7.3	5.8

Data sources: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), and National Ambulatory Care Reporting System (CIHI-NACRS); 2003/04 to 2008/09

Inclusion criteria: All patients aged ≥18 years readmitted to an emergency department or inpatient setting of an acute care hospital in Ontario with a diagnosis of stroke (ischemic or hemorrhagic) or TIA on both admissions within 90 days of initial stroke event starting in each year.

Exclusion criteria: Patients with an elective admission, scheduled emergency department visit or transfer within a facility or between facilities within 24 hours.

[1] Indirect standardization based on an age-sex regression model was used to calculate rates.

[2] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) No washout periods were applied; e.g., if a patient's first hospitalization for stroke had a discharge date of March 31, 2005 (FY 2004/05), followed by another hospitalization for stroke/TIA on April 1, 2005 (FY 2005/06), the April 1 hospitalization would be considered the first hospitalization in 2005/06 and not a readmission related to the hospitalization in 2004/05.

(2) Facility-based analysis (i.e., the location of the facility was used to report regional performance).

(3) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

Exhibit 5.3

Age- and sex-adjusted all-cause readmission rates within 30 days following stroke or transient ischemic attack (TIA), in Ontario and by stroke type, OSS region, OSS classification and Local Health Integration Network, 2003/04 to 2008/09

Group/Sub-Group	Adjusted[1] Readmission Rate (%)					
	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Ontario[2]	**8.8**	**8.8**	**8.6**	**8.3**	**8.3**	**8.3**
Stroke Type						
Intracerebral hemorrhage	8.0	7.9	9.7	8.6	8.3	8.5
Ischemic stroke	8.9	9.0	8.6	8.5	8.3	8.3
Subarachnoid hemorrhage	9.9	7.2	8.9	7.8	7.9	8.5
Transient ischemic attack	8.9	8.8	8.4	8.0	8.4	8.2
Ontario Stroke System Region						
Central East	9.3	8.0	8.1	8.9	7.7	8.6
Central South	8.1	8.3	7.8	7.7	8.4	8.1
East – Champlain	8.4	9.0	8.2	7.1	6.9	7.0
Northeast	10.5	9.9	10.3	8.8	10.6	8.3
Northwest	5.9	9.8	10.1	7.2	8.6	10.0
South East	8.2	9.6	7.1	8.2	7.0	7.9
Southwest	9.2	8.3	9.1	7.7	8.3	8.6
Toronto – North & East	8.9	8.1	8.4	7.8	7.8	8.5
Toronto – Southeast	8.4	8.7	8.5	10.8	7.8	7.3
Toronto – West	9.7	10.1	9.3	8.1	9.5	8.5
West GTA	9.3	9.8	9.3	10.2	9.2	8.9
Ontario Stroke System Classification						
Regional stroke centre	8.3	8.9	8.1	7.9	8.2	8.0
District stroke centre	8.6	8.3	8.5	8.0	7.6	7.1
Non-designated	9.2	8.9	8.9	8.7	8.6	8.8
Local Health Integration Network						
1. Erie St. Clair	9.6	9.2	10.2	8.1	9.0	9.4
2. South West	8.8	7.6	8.3	7.4	7.8	7.9
3. Waterloo Wellington	6.9	8.2	8.8	7.8	8.5	7.3
4. Hamilton Niagara Haldimand Brant	8.5	8.3	7.3	7.7	8.4	8.4
5. Central West	10.3	9.9	9.6	10.8	10.8	9.7
6. Mississauga Halton	8.7	9.7	9.1	9.8	8.3	8.4
7. Toronto Central	9.0	9.4	8.3	8.2	8.0	7.4
8. Central	8.7	8.4	8.9	7.1	7.7	9.8
9. Central East	9.5	8.1	7.9	10.1	8.4	7.8
10. South East	8.2	9.6	7.1	8.2	7.0	7.9
11. Champlain	8.4	9.0	8.2	7.1	6.9	7.0
12. North Simcoe Muskoka	9.5	8.3	9.9	10.1	8.7	9.2
13. North East	10.5	9.9	10.3	8.8	10.6	8.3
14. North West	5.9	9.8	10.1	7.2	8.6	10.0

Data sources: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), and National Ambulatory Care Reporting System (CIHI-NACRS); 2003/04 to 2008/09.

Inclusion criteria: All patients aged ≥18 years readmitted to an inpatient setting of an acute care hospital in Ontario within 30 days of initial stroke (ischemic or hemorrhagic) or TIA event starting in each year.

Exclusion criteria: Patients with an elective admission or transfer within a facility or between facilities within 24 hours.

[1] Indirect standardization based on an age-sex regression model was used to calculate rates.

[2] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) No washout periods were applied; e.g., if a patient's first hospitalization for stroke had a discharge date of March 31, 2005 (FY 2004/05), followed by another hosptialization for stroke/TIA on April 1, 2005 (FY 2005/06), the April 1 hospitalization would be considered the first hospitalization in 2005/06 and not a readmission related to the hospitalization in 2004/05.

(2) Facility-based analysis (i.e., the location of the facility was used to report regional performance).

(3) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

(4) See Appendix H for a list of the most frequent 30-day readmission diagnoses in Ontario (2006/07 to 2008/09).

Exhibit 5.4

Age- and sex-adjusted inhospital mortality rates among adult patients following stroke or transient ischemic attack, in Ontario and by stroke type, OSS region, OSS classification and Local Health Integration Network, 2003/04 to 2008/09

Group/Sub-Group	Adjusted[1] Inhospital Mortality Rate (%)					
	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Ontario[2]	**15.8**	**14.6**	**14.3**	**15.0**	**15.0**	**14.3**
Stroke Type						
Intracerebral hemorrhage	41.2	41.7	37.9	36.9	38.4	35.9
Ischemic stroke	15.1	13.8	13.7	14.4	14.0	13.7
Subarachnoid hemorrhage	40.3	37.8	39.1	41.4	42.5	37.4
Transient ischemic attack	0.5	0.3	0.2	0.4	0.3	0.3
Ontario Stroke System Region						
Central East	15.2	14.4	13.9	14.4	14.4	13.1
Central South	16.6	14.0	14.6	15.6	15.0	14.2
East – Champlain	16.8	17.8	13.2	15.2	15.8	15.2
Northeast	14.5	12.5	14.6	13.3	13.5	17.0
Northwest	17.5	10.4	10.1	9.5	11.4	9.4
South East	18.9	15.5	19.0	19.6	17.7	16.1
Southwest	14.0	13.2	14.1	14.1	14.7	13.7
Toronto – North & East	18.3	16.2	16.8	14.2	14.3	13.0
Toronto – Southeast	15.3	14.2	13.9	17.3	17.2	15.2
Toronto – West	18.3	16.5	14.8	19.1	17.1	14.7
West GTA	13.5	15.4	12.8	13.9	13.1	14.2
Ontario Stroke System Classification						
Regional stroke centre	17.9	16.6	16.1	16.0	16.5	15.5
District stroke centre	15.6	13.2	13.5	14.0	14.0	12.9
Non-designated	15.1	14.2	13.7	15.0	14.3	13.8
Local Health Integration Nework						
1. Erie St. Clair	12.0	12.3	13.8	11.5	14.0	11.6
2. South West	15.5	13.9	14.3	16.1	15.1	15.3
3. Waterloo Wellington	17.7	16.3	13.1	17.2	16.6	15.3
4. Hamilton Niagara Haldimand Brant	16.2	13.1	15.2	15.1	14.4	13.7
5. Central West	12.8	12.0	8.5	9.9	10.3	11.5
6. Mississauga Halton	13.8	17.1	14.7	15.8	14.7	15.5
7. Toronto Central	16.1	15.7	14.9	17.0	16.9	13.7
8. Central	19.1	16.9	15.7	16.3	14.6	13.4
9. Central East	16.5	14.9	15.7	14.8	16.2	14.4
10. South East	18.9	15.5	19.0	19.6	17.7	16.1
11. Champlain	16.8	17.8	13.2	15.2	15.8	15.2
12. North Simcoe Muskoka	12.2	11.9	10.5	14.4	11.9	13.0
13. North East	14.5	12.5	14.6	13.3	13.5	17.0
14. North West	17.5	10.4	10.1	9.5	11.4	9.4

Data sources: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD); 2003/04 to 2008/09.

Inclusion criteria: All patients aged ≥18 years who died in an inpatient setting of an acute care hospital in Ontario with a diagnosis of stroke (ischemic or hemorrhagic) or TIA starting in each fiscal year.

[1] All rates were statistically adjusted for age and sex; rates were not adjusted for stroke severity or comorbidities; indirect standardization based on an age-sex regression model was used to calculate rates.

[2] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) No washout periods were applied; e.g., if a patient's first hospitalization for stroke had a discharge date of March 31, 2005 (FY 2004/05), followed by another hospitalization for stroke/TIA on April 1, 2005 (FY 2005/06), the April 1 hospitalization would be considered the first hospitalization in 2005/06 and not a readmission related to the hospitalization in 2004/05.

(2) Facility-based analysis (i.e., the location of the facility was used to report regional performance).

(3) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

Exhibit 5.5

Age- and sex-adjusted mortality rates at 30 days following stroke or transient ischemic attack (TIA), in Ontario and by stroke type, OSS region, OSS classification and Local Health Integration Network, 2003/04 to 2008/09

Group/Sub-Group	Adjusted[1] Mortality Rate (%)					
	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Ontario[2]	**13.3**	**12.5**	**12.6**	**12.7**	**13.1**	**12.3**
Stroke Type						
Intracerebral hemorrhage	42.9	43.3	41.2	40.0	41.9	39.0
Ischemic stroke	14.9	14.1	14.3	14.1	14.5	14.1
Subarachnoid hemorrhage	41.8	41.0	44.1	44.9	38.6	36.4
Transient ischemic attack	1.3	1.1	1.1	1.1	1.3	0.9
Ontario Stroke System Region						
Central East	12.7	12.0	12.8	12.5	13.1	10.7
Central South	13.7	12.4	13.2	13.2	14.2	13.2
East – Champlain	12.7	13.3	10.6	10.9	11.7	12.3
Northeast	12.7	12.1	13.0	12.1	12.3	13.4
Northwest	13.1	11.4	10.3	11.1	12.5	10.5
South East	14.8	11.4	14.2	14.5	13.9	13.5
Southwest	13.9	12.4	12.6	12.2	13.5	11.7
Toronto – North & East	13.7	12.6	14.3	12.1	12.5	12.0
Toronto – Southeast	13.7	12.4	12.4	14.3	14.3	13.6
Toronto – West	14.5	12.6	12.8	14.9	12.9	12.1
West GTA	12.5	13.3	11.6	13.6	12.4	12.1
Ontario Stroke System Classification						
Regional stroke centre	14.7	14.2	14.4	13.7	14.2	13.5
District stroke centre	13.4	12.7	13.3	13.0	14.0	12.8
Non-designated	12.9	11.7	11.6	12.3	12.3	11.3
Local Health Integration Network						
1. Erie St. Clair	12.1	12.0	12.3	11.3	14.1	10.7
2. South West	15.2	12.7	12.8	12.9	13.2	12.4
3. Waterloo Wellington	13.7	13.3	12.4	13.7	13.9	12.9
4. Hamilton Niagara Haldimand Brant	13.7	12.0	13.5	13.0	14.3	13.3
5. Central West	14.3	13.5	12.0	13.3	13.3	11.1
6. Mississauga Halton	11.4	13.3	11.4	13.7	11.9	12.7
7. Toronto Central	13.1	13.1	13.1	14.0	13.7	12.1
8. Central	15.0	12.5	13.8	13.3	12.8	10.7
9. Central East	13.8	12.0	12.8	12.5	13.2	12.4
10. South East	14.8	11.4	14.2	14.5	13.9	13.5
11. Champlain	12.7	13.3	10.6	10.9	11.7	12.3
12. North Simcoe Muskoka	10.2	10.8	12.3	12.8	12.2	11.2
13. North East	12.7	12.1	13.0	12.1	12.3	13.4
14. North West	13.1	11.4	10.3	11.1	12.5	10.5

Data sources: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), and National Ambulatory Care Reporting System (CIHI-NACRS); Ontario Ministry of Health and Long-Term Care, Registered Persons Database (RPDB); 2003/04 to 2008/09.

Inclusion criteria: All patients aged ≥18 years who died either in hospital or following discharge within 30 days of admission to an emergency department or inpatient setting of an acute care hospital with a diagnosis of stroke (ischemic or hemorrhagic) or TIA, starting in each fiscal year.

[1] All rates were statistically adjusted for age and sex; rates were not adjusted for stroke severity or comorbidities; indirect standardization based on an age-sex regression model was used to calculate rates.

[2] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) No washout periods were applied; e.g., if a patient's first hospitalization for stroke had a discharge date of March 31, 2005 (FY 2004/05), followed by another hospitalization for stroke/TIA on April 1, 2005 (FY 2005/06), the April 1 hospitalization would be considered the first hospitalization in 2005/06 and not a readmission related to the hospitalization in 2004/05.

(2) Facility-based analysis (i.e., the location of the facility was used to report regional performance).

(3) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.

Exhibit 5.6

Age- and sex-adjusted mortality rates at one year following stroke or transient ischemic attack (TIA), in Ontario and by stroke type, OSS region, OSS classification and Local Health Integration Network, 2003/04 to 2008/09

Group/Sub-Group	Adjusted[1] Mortality Rate (%)					
	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Ontario[2]	**24.1**	**22.9**	**22.9**	**23.4**	**23.1**	**22.3**
Stroke Type						
Intracerebral hemorrhage	54.2	52.8	51.4	50.3	51.2	49.5
Ischemic stroke	27.5	26.5	26.3	26.3	26.1	25.9
Subarachnoid hemorrhage	52.5	51.6	53.3	52.9	48.0	45.7
Transient ischemic attack	8.9	8.5	8.5	9.2	8.5	7.7
Ontario Stroke System Region						
Central East	23.7	22.9	22.6	22.6	22.6	20.7
Central South	25.0	22.8	23.7	24.0	24.5	23.0
East – Champlain	23.7	23.5	21.6	20.3	21.5	21.4
Northeast	23.9	23.4	22.7	22.7	21.1	23.4
Northwest	24.1	18.3	20.0	20.6	19.1	20.7
South East	25.1	23.2	24.4	24.8	22.7	22.5
Southwest	24.6	21.7	22.6	24.0	23.8	21.1
Toronto – North & East	22.8	22.3	23.3	21.8	21.7	22.2
Toronto – Southeast	24.3	23.3	23.5	26.5	27.3	23.8
Toronto – West	26.3	24.1	24.8	26.6	23.5	23.4
West GTA	23.0	24.2	22.0	24.2	22.4	22.6
Ontario Stroke System Classification						
Regional stroke centre	25.8	24.0	24.7	24.3	23.9	23.5
District stroke centre	24.2	23.3	23.6	23.5	23.4	22.3
Non-designated	23.7	22.3	21.9	23.1	22.5	21.4
Local Health Integration Network						
1. Erie St. Clair	23.0	22.0	22.7	23.0	25.1	20.5
2. South West	25.8	21.5	22.6	24.6	22.9	21.6
3. Waterloo Wellington	24.8	23.6	23.1	23.6	22.9	23.0
4. Hamilton Niagara Haldimand Brant	25.1	22.4	24.0	24.2	25.0	23.0
5. Central West	25.1	26.3	23.5	23.4	24.7	22.7
6. Mississauga Halton	21.8	23.1	21.3	24.6	21.1	22.6
7. Toronto Central	24.5	23.4	24.3	24.9	23.7	22.5
8. Central	25.7	23.0	23.0	23.2	22.3	20.8
9. Central East	23.9	23.0	23.0	23.9	24.3	22.9
10. South East	25.1	23.2	24.4	24.8	22.7	22.5
11. Champlain	23.7	23.5	21.6	20.3	21.5	21.4
12. North Simcoe Muskoka	20.9	22.5	22.7	22.1	21.8	21.2
13. North East	23.9	23.4	22.7	22.7	21.1	23.4
14. North West	24.1	18.3	20.0	20.6	19.1	20.7

Data sources: Canadian Institute for Health Information, Discharge Abstract Database (CIHI-DAD), and National Ambulatory Care Reporting System (CIHI-NACRS); Ontario Ministry of Health and Long-Term Care, Registered Persons Database (RPDB); 2003/04 to 2008/09.

Inclusion criteria: All patients aged ≥18 years who died either in hospital or following discharge within 365 days of admission to an emergency department or inpatient setting of an acute care hospital with a diagnosis of stroke (ischemic or hemorrhagic) or TIA, starting in each fiscal year.

[1] All rates were statistically adjusted for age and sex; rates were not adjusted for stroke severity or comorbidities; indirect standardization based on an age-sex regression model was used to calculate rates.

[2] Based on unique patients (i.e., does not include multiple patient-visits).

Notes:

(1) No washout periods were applied; e.g., if a patient's first hospitalization for stroke had a discharge date of March 31, 2005 (FY 2004/05), followed by another hospitalization for stroke/TIA on April 1, 2005 (FY 2005/06), the April 1 hospitalization would be considered the first hospitalization in 2005/06 and not a readmission related to the hospitalization in 2004/05.

(2) Facility-based analysis (i.e., the location of the facility was used to report regional performance).

(3) See Appendix D for a list of hospitals classified as regional and district stroke centres by the OSS.