

STROKE NETWORK
of Southeastern Ontario



**Regional Paramedic Program
for Eastern Ontario**

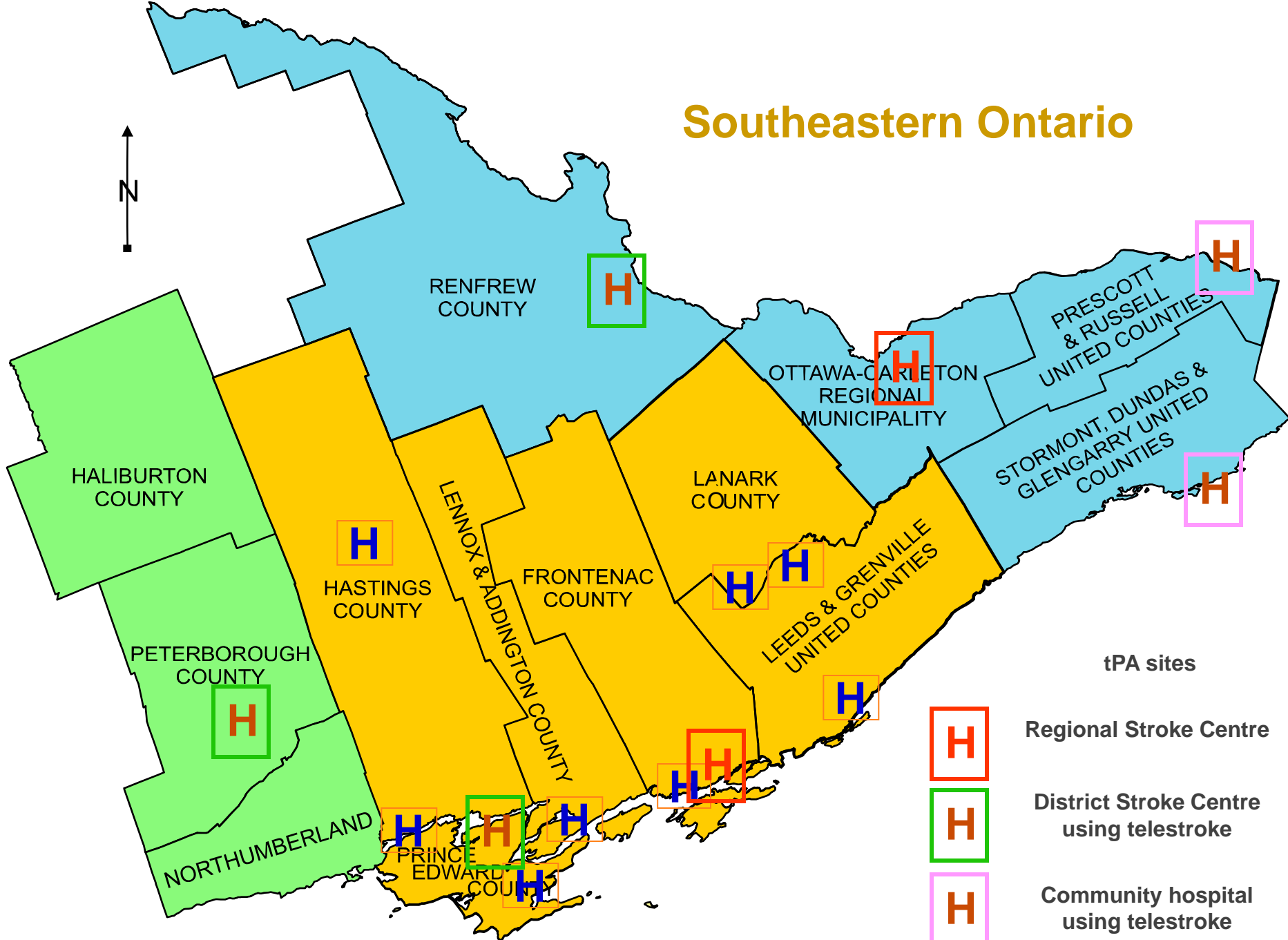
Emergency Stroke Care

How are we doing?

**Southeast Regional & District
Acute Stroke Protocol Committee
June 2016**

**with thanks to EMS providers and Regional Paramedic Program of Eastern Ontario
(J. Lewis and S. Duncan) for EMS data collection**

Southeastern Ontario



tPA sites



Regional Stroke Centre



District Stroke Centre using telestroke

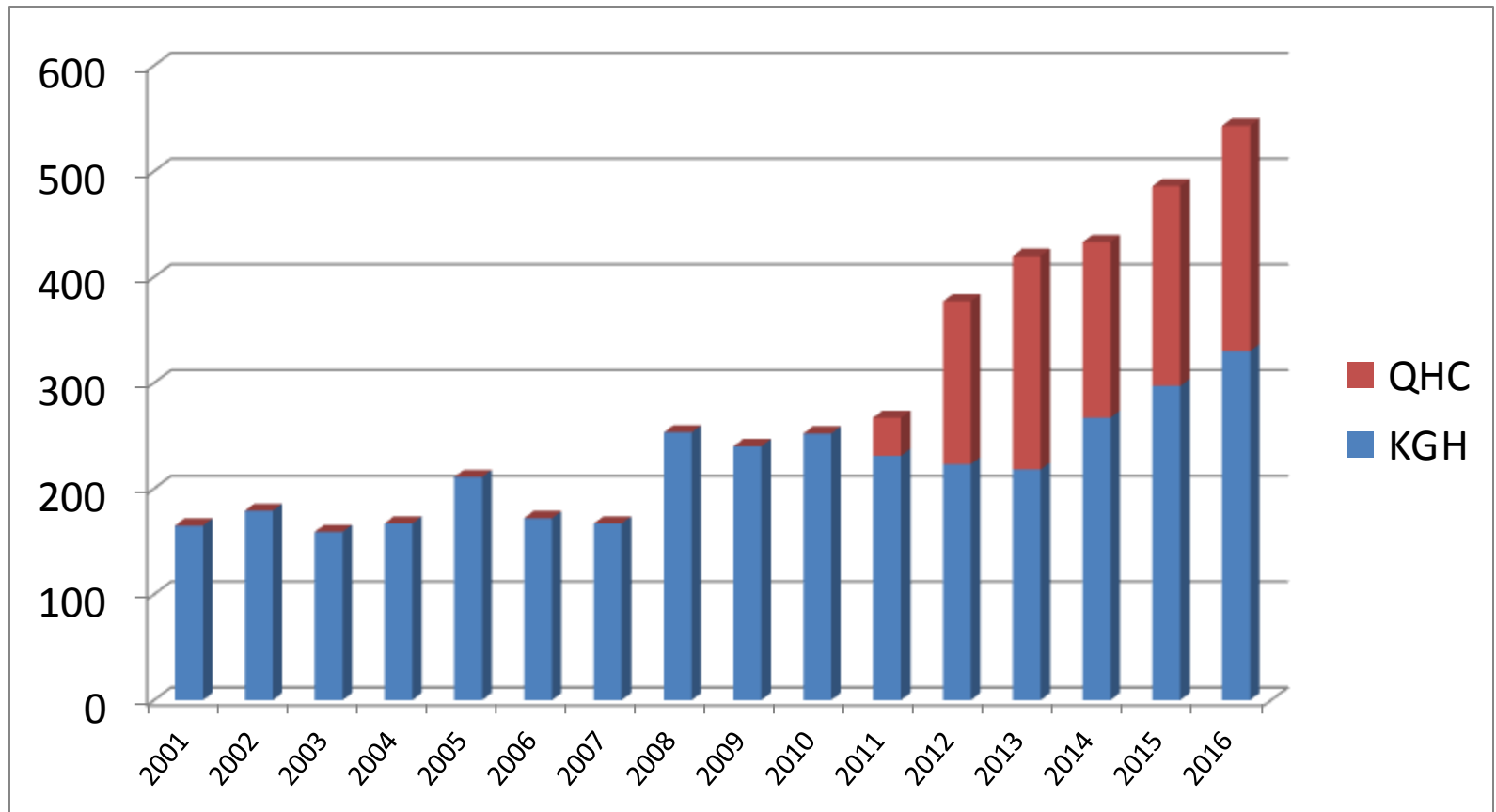


Community hospital using telestroke

KGH + QHC

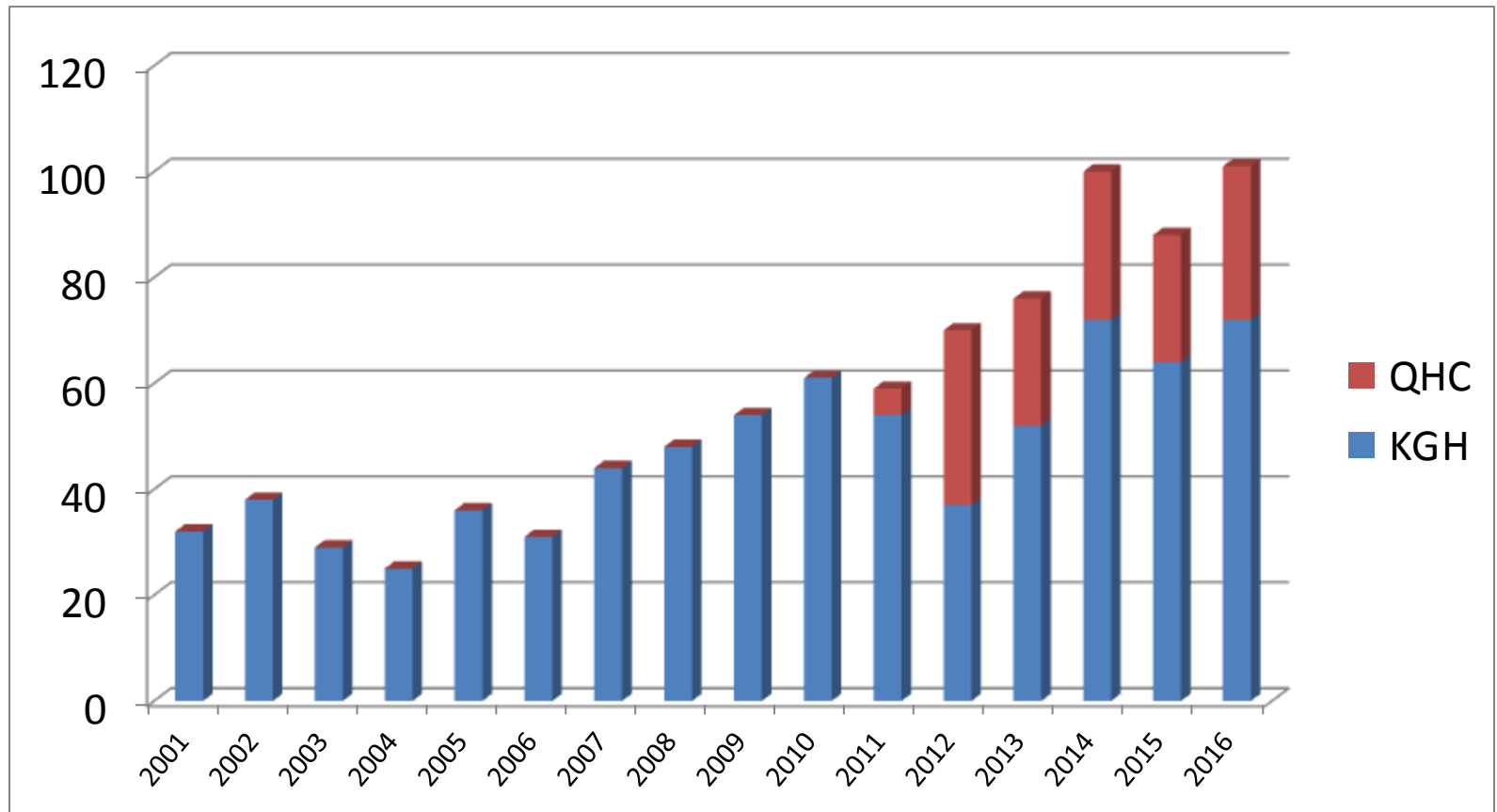
**stroke protocol activations
and
tPA Volumes**

SEO ASP Activations KGH/QHC by Fiscal Year



**2016 In- hospital stroke protocol activations
13 at KGH; 6 at QHC**

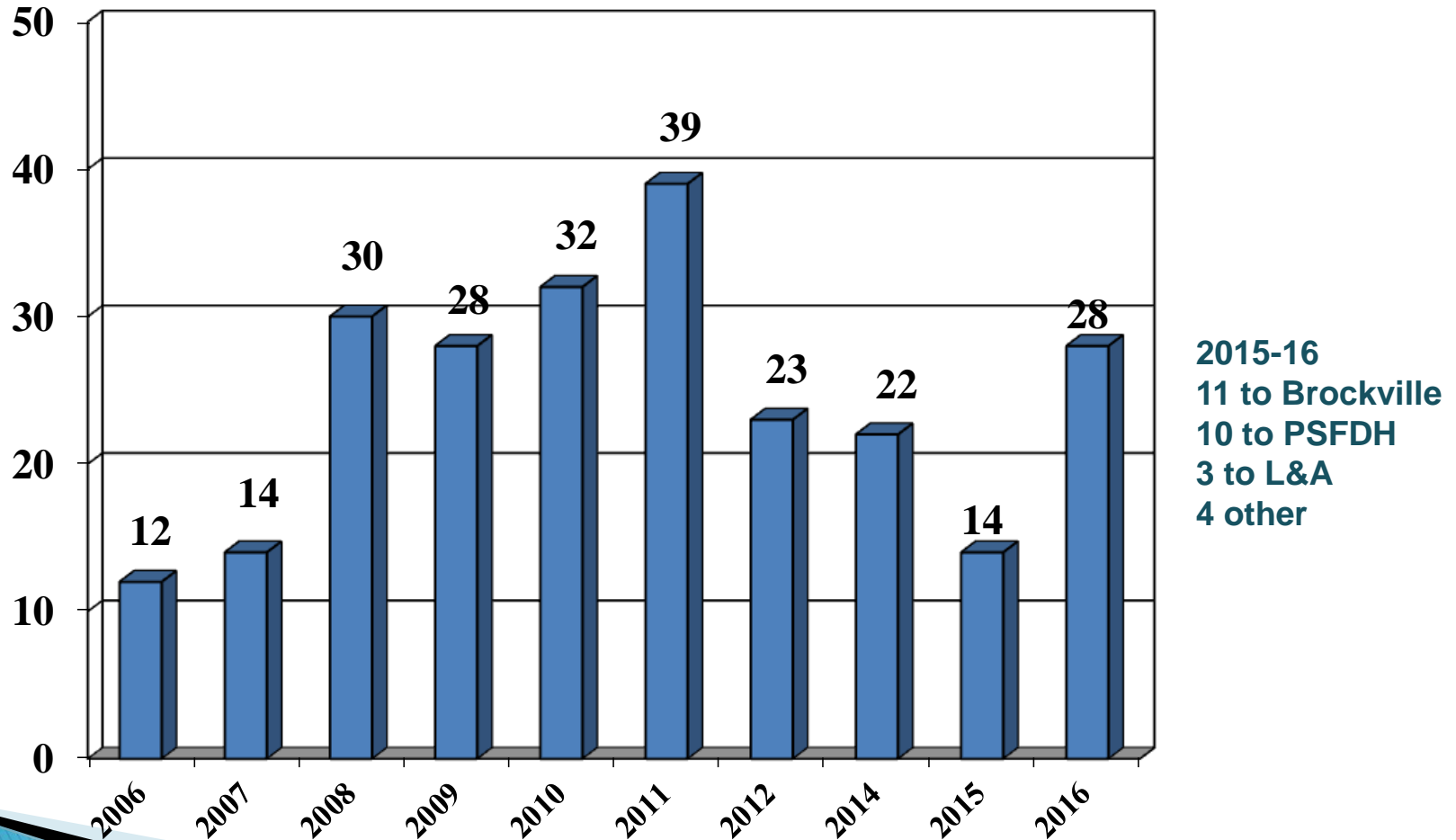
KGH/QHC tPA Volumes by Fiscal Year



**2014-15 Report Card: KGH DTN time 53 mins; QHC 70 mins in FY 14-15
NB - value of EMS pre-notification & patient staying on stretcher to CT!!**

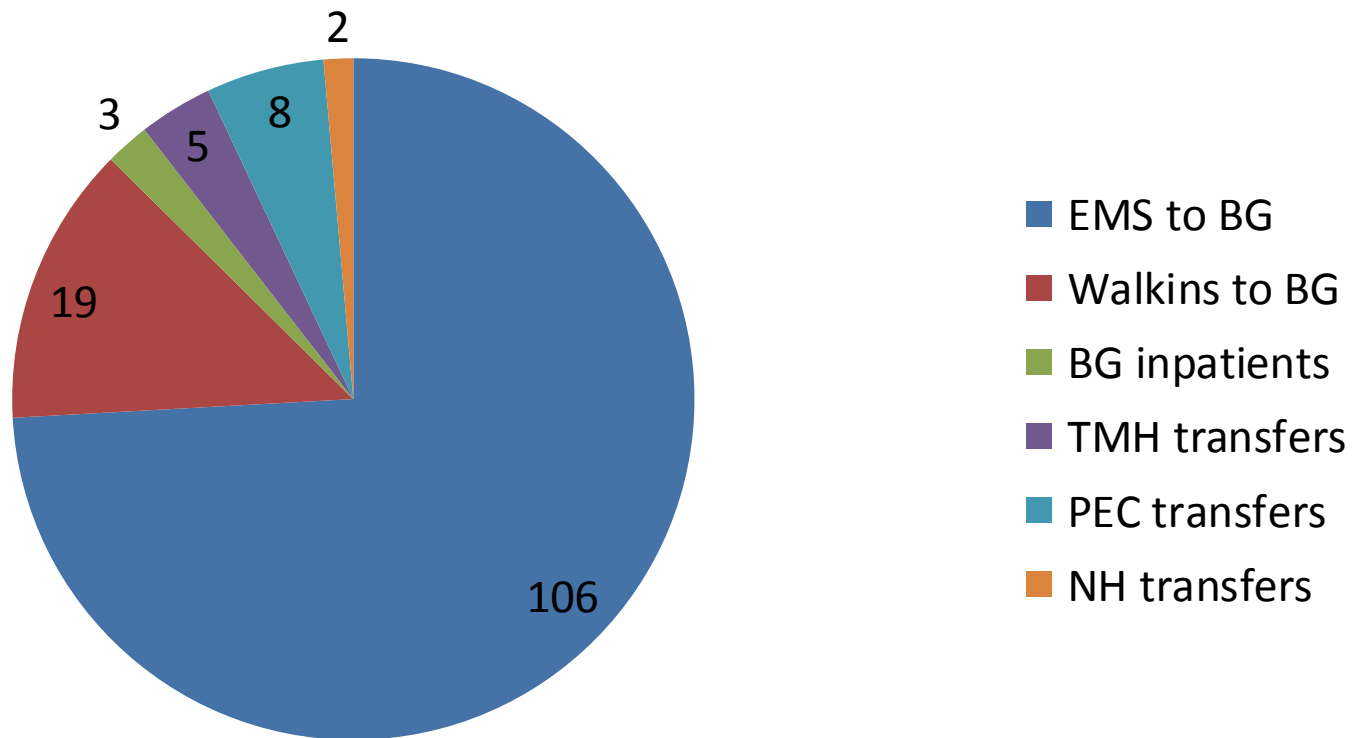
Stroke Protocol Repatriations by FY

KGH ED to Local ED



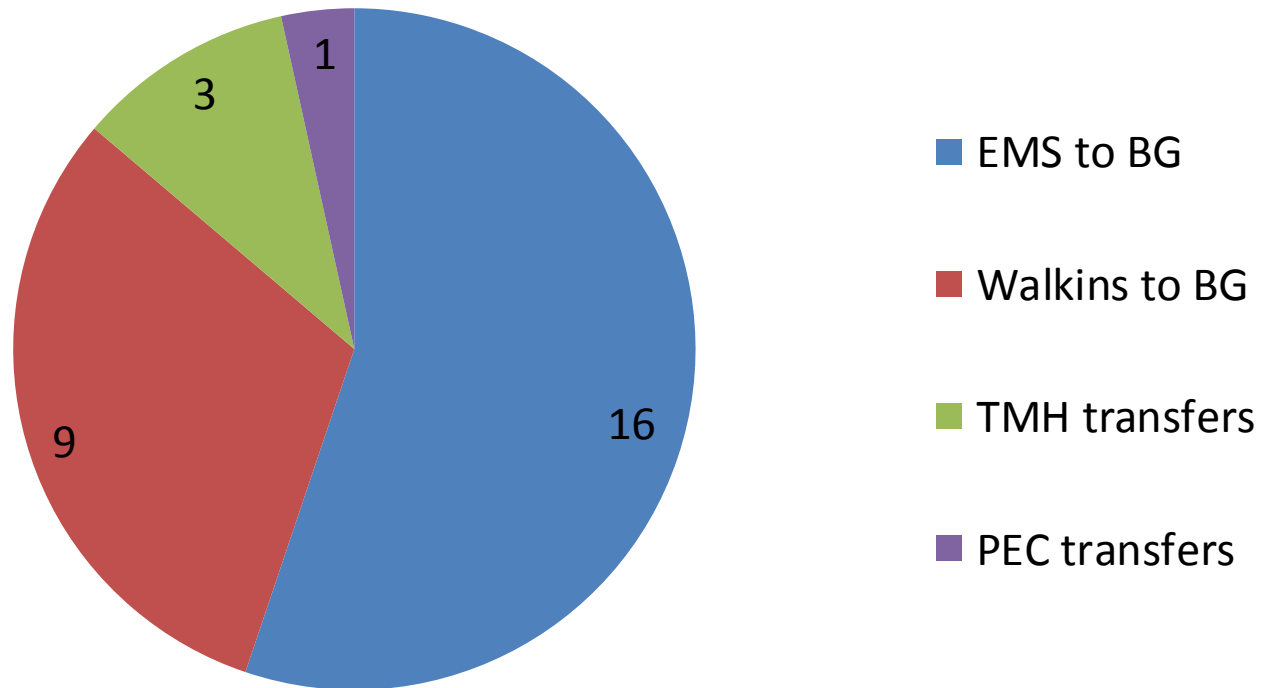
2015-6 QHC Code Stroke Activations

code stroke activations by source



2015-6 QHC tPA Patients

Origin of tPA Patients



Median DTN time = 63 mins
Ave Door to CT time 15 mins

Ontario Stroke Report Card

Public Release June 1st 2016

Ontario Stroke Evaluation FY 14-15

- CIHI administrative data
- CIHI 340 – stroke data

ONTARIO STROKE REPORT CARD, 2014/15: SOUTH EAST LOCAL HEALTH INTEGRATION NETWORK

Poor performance¹

Acceptable performance²

Exemplary performance³

Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2014/15 (2013/14)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performer ⁷	
						Sub-LHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	59.2% (61.5%)	51.0–80.0%	64.9% (64.8%)	Essex Sub-LHIN	1, 3
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5 (1.4)	1.3–2.7	1.2 (1.1)	Ottawa Centre Sub-LHIN	7, 8, 9, 11
3 [§]	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	14.2 (16.0)	0.0–27.3	–	–	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care (excluding those with contraindications).	–	–	–	–	–
5	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	77.2% (71.5%)	11.1–85.2%	90.4% (88.3%)	Bluewater Health, Sarnia	7, 6
6	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes).	56.0 (50.0)	53.0–70.0	38.0 (33.0)	Niagara Health System, Greater Niagara	4, 8
7 [§]	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA).	13.2% (14.1%)	0.0–31.6%	17.3% (17.0%)	South Etobicoke – Toronto Sub-LHIN	6, 14
8 [§]	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁸ at any time during their inpatient stay.	68.0% (38.5%)	18.9–83.5%	72.3% (62.7%)	Urban Guelph Sub-LHIN	3, 10
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	–	–	–	–	–
10 [§]	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	21.6% (18.8%)	0.0–42.6%	8.2% (11.7%)	Rouge Valley Health System, Ajax	3
11 [§]	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	27.5% (28.1%)	3.1–45.5%	45.4% (46.3%)	Manitoulin-Sudbury Sub-LHIN	9, 1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	–	–	–	–	–
13 [§]	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (10.0)	5.0–13.0	6.0 (5.0)	BH Sarnia, LH Oshawa, PRH, QHC Belleville and SRHC ⁹	8, 9
14	Stroke rehabilitation	Mean number of minutes per day of direct therapy that inpatient stroke rehabilitation patients received.	–	–	–	–	–
15 [§]	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	47.1% (46.6%)	40.4–51.7%	80.8% (76.6%)	Bruyère Continuing Care Inc.	3, 8
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.8 (0.9)	0.7–0.9	1.5 (1.3)	Grand River Hospital Corp., Freeport	12, 3
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2013/14–2014/15.	14.1 (14.4)	–	10.8 (8.6)	South East CCAC	10, 13
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110).	42.0% (43.5%)	17.2–48.9%	58.7% (57.3%)	Grand River Hospital Corp., Freeport	3
19 [§]	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.9% (9.1%)	0.0–24.2%	2.5% (2.8%)	Urban Guelph Sub-LHIN	None
20 [§]	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	7.0 (7.4)	0.0–14.3	–	–	None

¹ Performance below the 50th percentile.

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

³ Benchmark achieved or performance within 5% absolute/relative difference from the benchmark.

⁴ Facility-based analysis (excluding indicators 1, 2, 7, 8, 11, 12 and 19) for patients aged 18–108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

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

⁶ Benchmarks were calculated using the ABC methodology (Weissman et al. *J Eval Clin Pract.* 1999; 5(3):269–81) on facility/sub-LHIN data; the 2013/14 benchmarks are displayed in brackets.

⁷ High performers include acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 58 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year.

⁸ Revised definition obtained through consensus with Ontario Stroke Network regional directors (February 2014). In 2012/13 there were 14 stroke units, in 2013/14 there were 16 stroke units, and in 2014/15 there were 21 stroke units.

⁹ High performers include Bluewater Health (BH) Sarnia site, Lakeridge Health (LH) Oshawa site, Pembroke Regional Hospital (PRH), Quinte Health Care (QHC) Belleville site, and Southlake Regional Health Centre (SRHC).

Hospital Service Accountability Agreement indicators, 2010/11

– Data not available n/a = Not applicable § = Contribute to QBP performance

STROKE PROGRESS REPORT: SOUTH EAST LOCAL HEALTH INTEGRATION NETWORK

2014/15 COMPARED TO 2011/12 – 2013/14

Indicator No.	Care Continuum Category	Indicator ⁴	Progressing Well ¹		Progressing ²		Not Progressing ³		Data not available		Greatest Improvement ⁶
			LHIN FY 2014/15 (previous 3-year average)		Variance within LHIN ⁵ 2014/15 (2011/12)		Sub-LHIN/Facility		LHIN		
			Min	Max	Min	Max					
1	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	59.2%	(59.7%)	51.0%	(38.9%)	80.0%	(67.6%)	Woodbridge (Vaughan) Sub-LHIN	3	
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.5	(1.3)	1.3	(0.5)	2.7	(2.1)	Algoma Sub-LHIN	None	
3 [§]	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	14.2	(15.4)	0.0	(0.0)	27.3	(24.8)	North Bay Regional Health Centre	6, 2	
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care (excluding those with contraindications).	-	-	-	-	-	-	-	-	
5	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	77.2%	(70.0%)	11.1%	(28.6%)	85.2%	(87.0%)	Brockville General Hospital	2, 12	
6	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes).	56.0	(47.3 [†])	53.0	(37.7 [†])	70.0	(37.7 [†])	Royal Victoria Regional Health Centre	12	
7 [§]	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA).	13.2%	(14.4% [†])	0.0%	(7.1% [†])	31.6%	(37.5% [†])	Flamborough Sub-LHIN	2, 6	
8 [§]	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁷ at any time during their inpatient stay.	68.0%	(38.4%)	18.9%	(2.5%)	83.5%	(83.2%)	Belleville Sub-LHIN	10, 3	
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	-	-	-	-	-	-	-	-	
10 [§]	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	21.6%	(21.3%)	0.0%	(0.0%)	42.6%	(41.7%)	Rouge Valley Health System, Ajax	None	
11 [§]	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	27.5%	(29.8%)	3.1%	(9.4%)	45.5%	(52.2%)	Central York Region Sub-LHIN	8, 5	
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	-	-	-	-	-	-	-	-	
13 [§]	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0	(10.0)	5.0	(6.0)	13.0	(20.0)	Grand River Hospital Corp., Freeport, and Hamilton Health Sciences Corp., General Regional Rehab	8, 3	
14	Stroke rehabilitation	Mean number of minutes per day of direct therapy that inpatient stroke rehabilitation patients received.	-	-	-	-	-	-	-	-	
15 [§]	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	47.1%	(43.8%)	40.4%	(25.9%)	51.7%	(57.5%)	Bruyère Continuing Care Inc.	3, 8	
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.8	(0.8)	0.7	(0.4)	0.9	(1.1)	Grand River Hospital Corp., Freeport	3, 12	
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2013/14-2014/15.	14.1	(13.5)	-	-	-	-	North East CCAC	13, 6	
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110).	42.0%	(44.6%)	17.2%	(31.0%)	48.9%	(63.2%)	Providence Healthcare	8, 5	
19 [§]	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.9%	(10.3%)	0.0%	(0.0%)	24.2%	(18.2%)	Dufferin County Sub-LHIN	3, 6, 10	
20 [§]	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	7.0	(8.0)	0.0	(5.4)	14.3	(13.4)	Peterborough Regional Health Centre	None	

¹ Statistically significant improvement.

² Performance improving but not statistically significant.

³ No change or performance decline.

⁴ Facility-based analysis (excluding indicators 1, 2, 7, 8, 11, 12 and 19) for patients aged 18–108. Indicators are based on CIHI data unless otherwise specified. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

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

⁶ Greatest improvement sites/sub-LHINs include acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 58 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year.

⁷ Revised definition obtained through consensus with Ontario Stroke Network regional directors (February 2014). In 2012/13 there were 14 stroke units, in 2013/14 there were 16 stroke units, and in 2014/15 there were 21 stroke units.

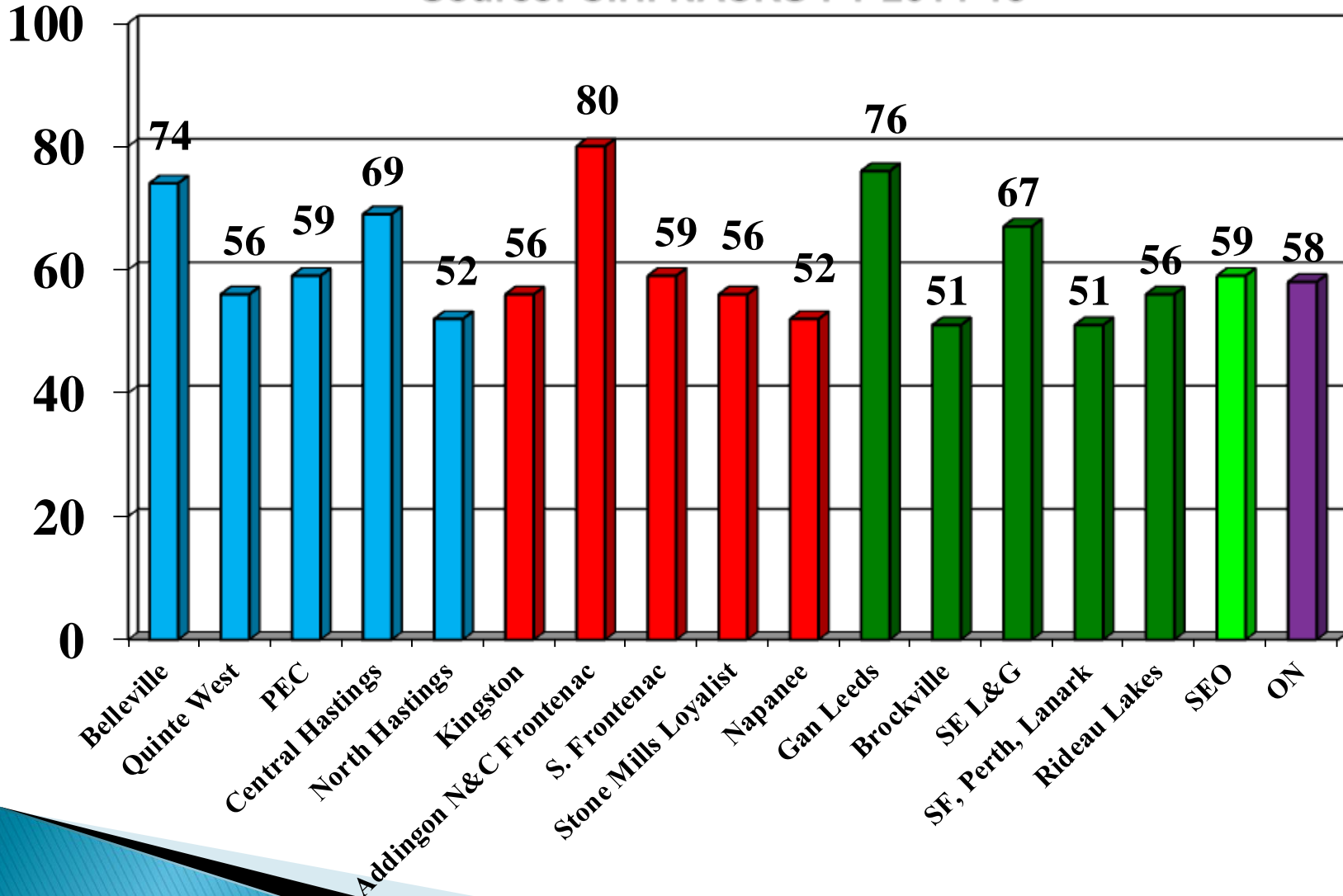
⁸ Includes Ontario Stroke Audit data (2010/11 and/or 2012/13).

Hospital Service Accountability Agreement indicators, 2010/11

- Data not available n/a = Not applicable § = Contribute to QBP performance

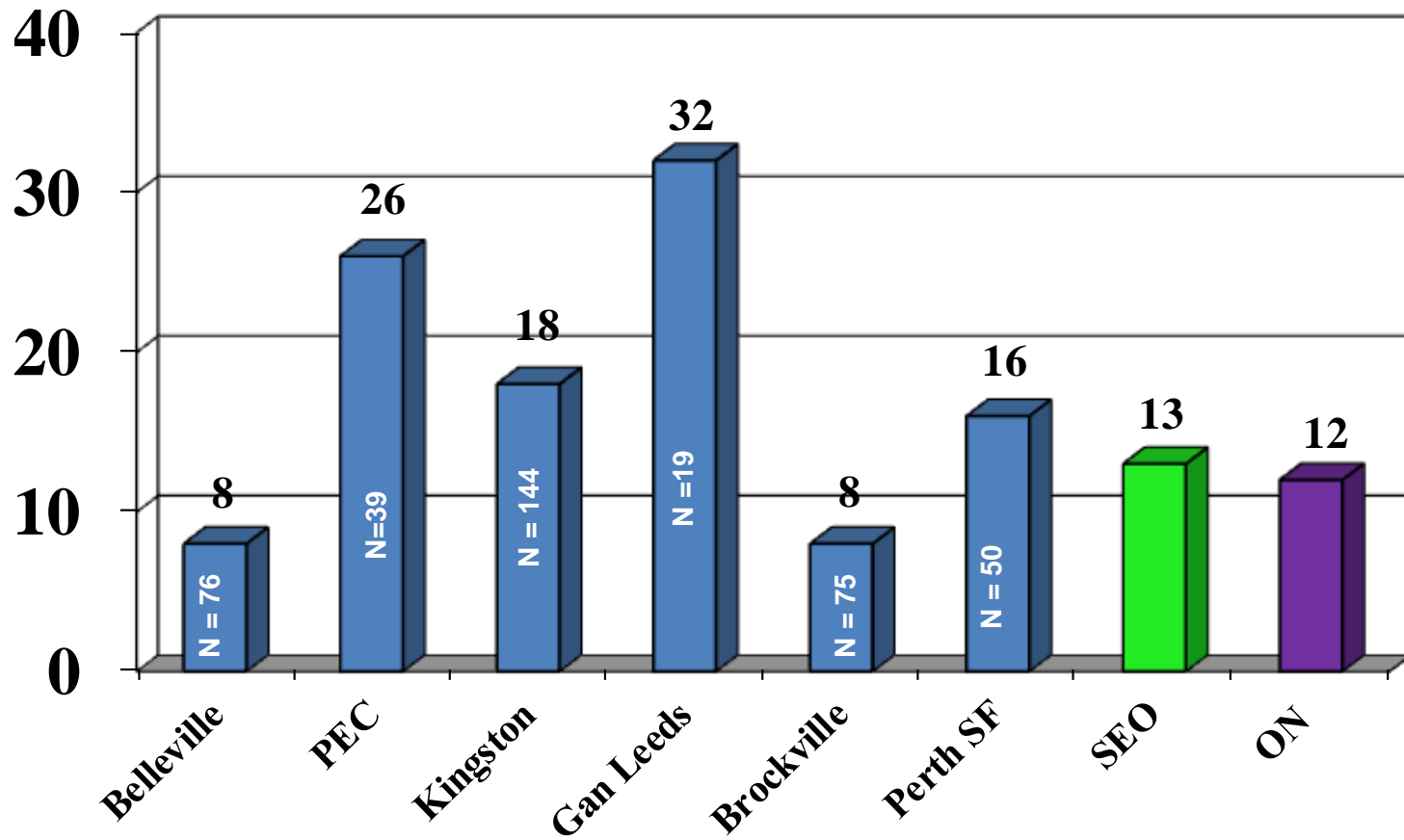
% All Stroke Transported by Ambulance

Source: CIHI NACRS FY 2014-15



% Thrombolysis Among Ischemic Strokes

Source: CIHI NACRS FY 2014-15



Acute Stroke Unit Utilization

“A geographical unit with identifiable co-located beds that are occupied by stroke patients 75% of the time and have a dedicated inter-professional team with expertise in stroke care with the following professionals at a minimum: nursing, physiotherapy, occupational therapy, speech language pathologist” (MOHLTC Stroke QBP Indicator Report, Nov 2015 p. 20)

Geographic clustered care



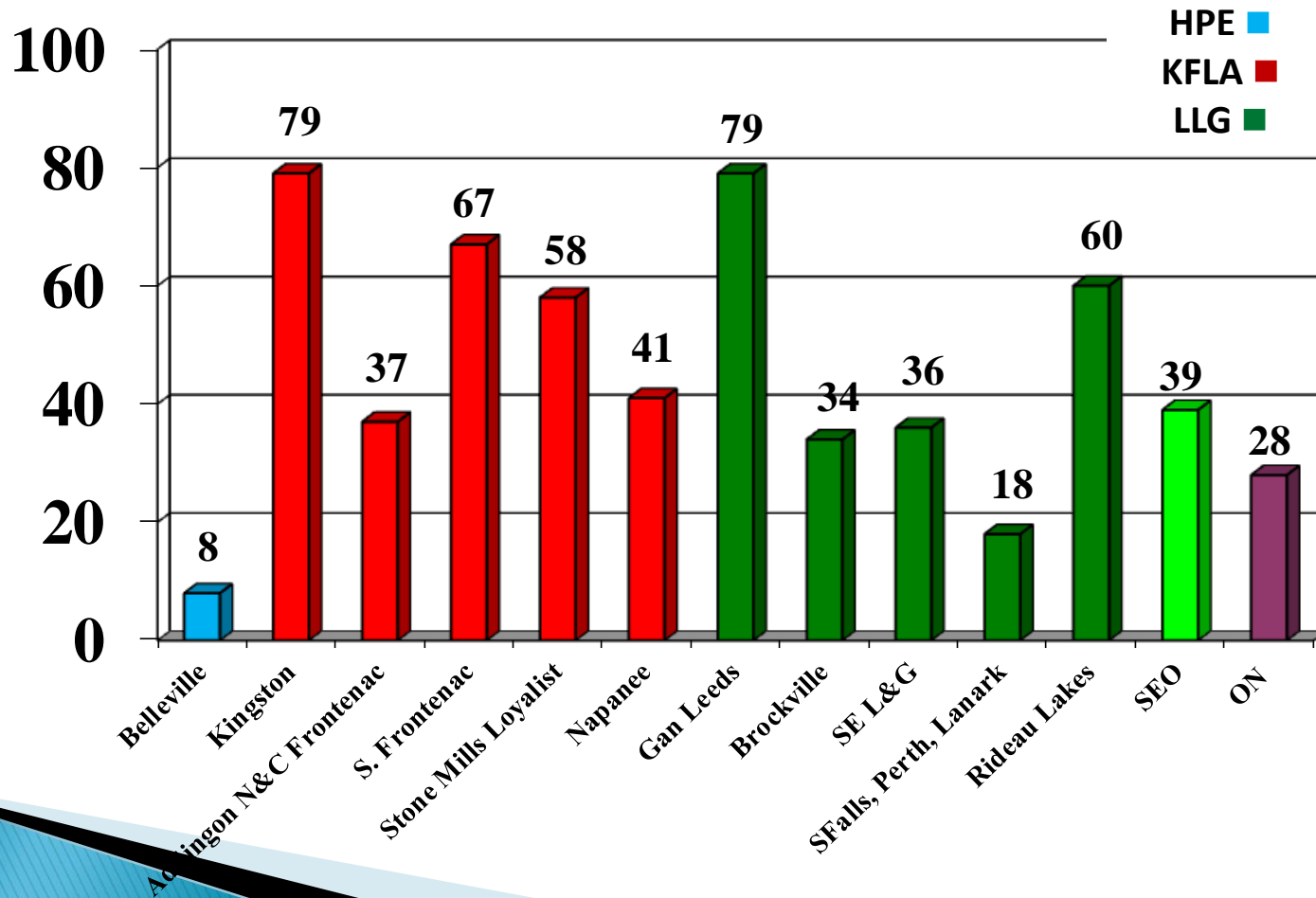
Expert team approach



Standardized care pathways

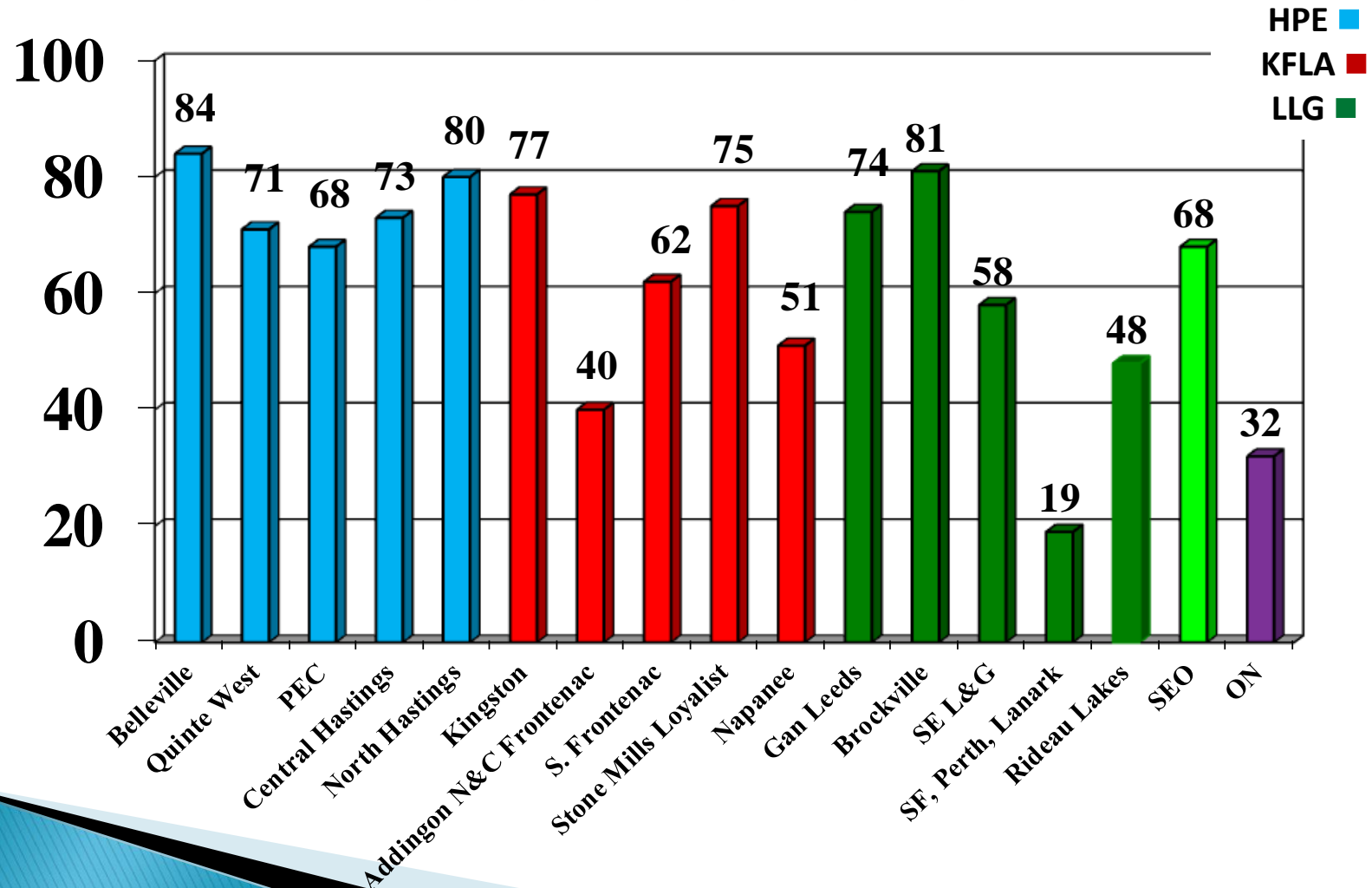
% Accessing Acute Stroke Unit Care

Source: CIHI 340 FY 2013-14



% Accessing Acute Stroke Unit Care

Source: CIHI 340 FY 2014-15



ONTARIO STROKE REPORT CARD, 2014/15

Progressing well¹

Progressing²

Not progressing³

Data not available

Indicator No.	Care Continuum Category	Indicator ⁴	Ontario FY 2014/15 (2013/14)	Variance Across LHINs (Min–Max)	Provincial Benchmark ⁵	High Performer ⁶	
						Sub-LHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	58.0% (58.7%)	49.0–61.8%	64.9% (64.8%)	Essex Sub-LHIN	1, 3
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.3 (1.3)	1.1–1.8	1.2 (1.1)	Ottawa Centre Sub-LHIN	7, 8, 9, 11
3 [§]	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	10.6 (11.7)	10.1–14.2	–	–	7
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with atrial fibrillation prescribed or recommended anticoagulant therapy on discharge from acute care (excluding those with contraindications).	–	–	–	–	–
5	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	78.9% (76.9%)	70.8–87.6%	90.4% (88.3%)	Bluewater Health, Sarnia	7, 6
6	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes).	52.0 (57.0)	37.0–76.5	38.0 (33.0)	Niagara Health System, Greater Niagara	4, 8
7 [§]	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA).	11.9% (11.9%)	8.8–14.9%	17.3% (17.0%)	South Etobicoke – Toronto Sub-LHIN	6, 14
8 [§]	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁷ at any time during their inpatient stay.	32.5% (28.2%)	1.3–75.9%	72.3% (62.7%)	Urban Guelph Sub-LHIN	3, 10
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented initial dysphagia screening performed during admission to acute care.	–	–	–	–	–
10 [§]	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	26.0% (28.4%)	13.2–32.3%	8.2% (11.7%)	Rouge Valley Health System, Ajax	3
11 [§]	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	35.1% (34.2%)	27.1–42.7%	45.4% (46.3%)	Manitoulin-Sudbury Sub-LHIN	9, 1
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral for outpatient rehabilitation.	–	–	–	–	–
13 [§]	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	9.0 (9.0)	6.0–14.0	6.0 (5.0)	BH Sarnia, LH Oshawa, PRH, QHC Belleville and SRHC ⁸	8, 9
14	Stroke rehabilitation	Mean number of minutes per day of direct therapy that inpatient stroke rehabilitation patients received.	–	–	–	–	–
15 [§]	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	59.7% (53.2%)	41.5–78.3%	80.8% (76.6%)	Bruyère Continuing Care Inc.	3, 8
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	1.0 (0.9)	0.7–1.6	1.5 (1.3)	Grand River Hospital Corp., Freeport	12, 3
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2013/14-2014/15.	7.3 (6.0)	5.6 – 14.1	10.8 (8.6)	South East CCAC	10, 13
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RPG = 1100 or 1110).	41.3% (37.6%)	31.5–54.7%	58.7% (57.3%)	Grand River Hospital Corp., Freeport	3
19 [§]	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	7.0% (7.8%)	3.5–10.5%	2.5% (2.8%)	Urban Guelph Sub-LHIN	None
20 [§]	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	8.0 (7.7)	7.0–9.2	–	–	None

Hospital Service Accountability Agreement indicators, 2010/11
 – Data not available n/a = Not applicable [§] = Contribute to Q&P performance

¹ Statistically significant improvement from previous 3-year average.

² Performance improving but not statistically significant from previous 3-year average.

³ No change or performance decline from previous 3-year average.

⁴ Facility-based analysis (excluding indicators 1, 2, 7, 8, 11, 12 and 19) for patients aged 18–108. Indicators are based on CIHI data. Low rates are desired for indicators 2, 3, 6, 10, 13, 19 and 20.

⁵ Benchmarks were calculated using the ABC methodology (Weissman et al. *J Eval Clin Pract.* 1999; 5(3):269–81) on facility/sub-LHIN data; the 2013/14 benchmarks are displayed in brackets.

⁶ High performers include acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 58 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year.

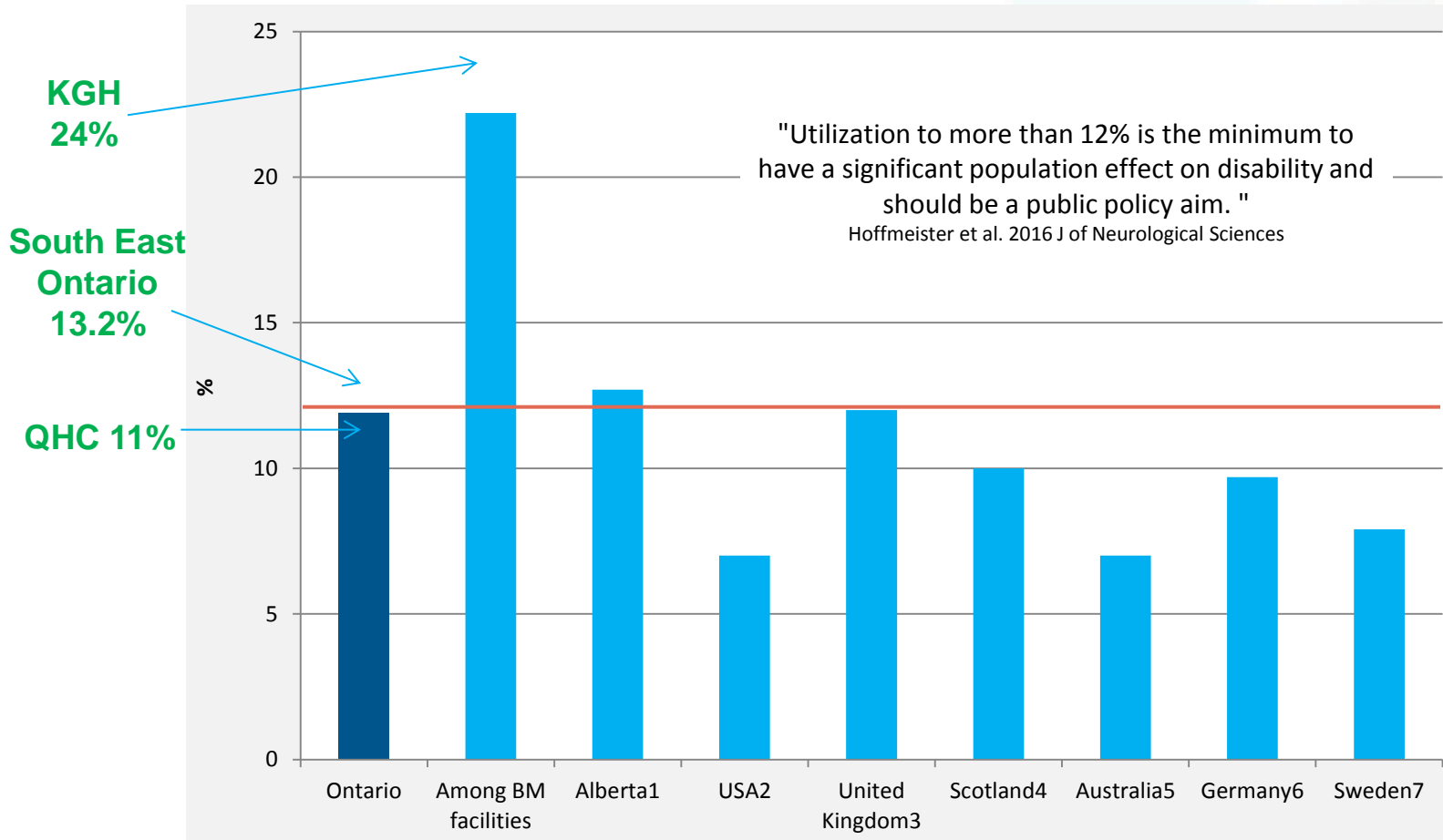
⁷ Revised definition obtained through consensus with Ontario Stroke Network regional directors (February 2014). In 2012/13 there were 14 stroke units, in 2013/14 there were 16 stroke units, and in 2014/15 there were 21 stroke units.

⁸ High performers include Bluewater Health (BH) Sarnia site, Lakeridge Health (LH) Oshawa site, Pembroke Regional Hospital (PRH), Quinte Health Care (QHC) Belleville site, and SouthLake Regional Health Centre (SRHC).

Local Health Integration Networks (LHINs)

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

tPA Access - How are we doing ?



¹ Jeerakathil T et al, The Alberta Provincial Stroke Strategy: A Legacy of Stroke Care for Alberta. Edmonton: Alberta Provincial Stroke Strategy; 2012 (2010/11 data)

² Schwamm LH. , Ali SF, Reeves MJ, et al. Temporal Trends in Patient Characteristics and Treatment With Intravenous Thrombolysis Among Acute Ischemic Stroke Patients at Get With the Guidelines—Stroke Hospitals. *Circ Cardiovasc Qual Outcomes.* 6:543-9. 2013

³ Intercollegiate Stroke Working Party. National Sentinel Stroke Clinical Audit . Public Report for England, Wales and Northern Ireland. 2015.

⁴ NHS National Services Scotland. Scottish Stroke Care Audit 2013 Nation Report. 2015

⁵ National Stroke Foundation. National Stroke Audit - Acute Services Report 2015. Melbourne Australia

⁶ Gumbinger C , Reuter B, Hacke W, et al. Restriction of therapy mainly explains lower thrombolysis rates in reduced stroke service levels. *Neurology.* 86:1-8. 2016

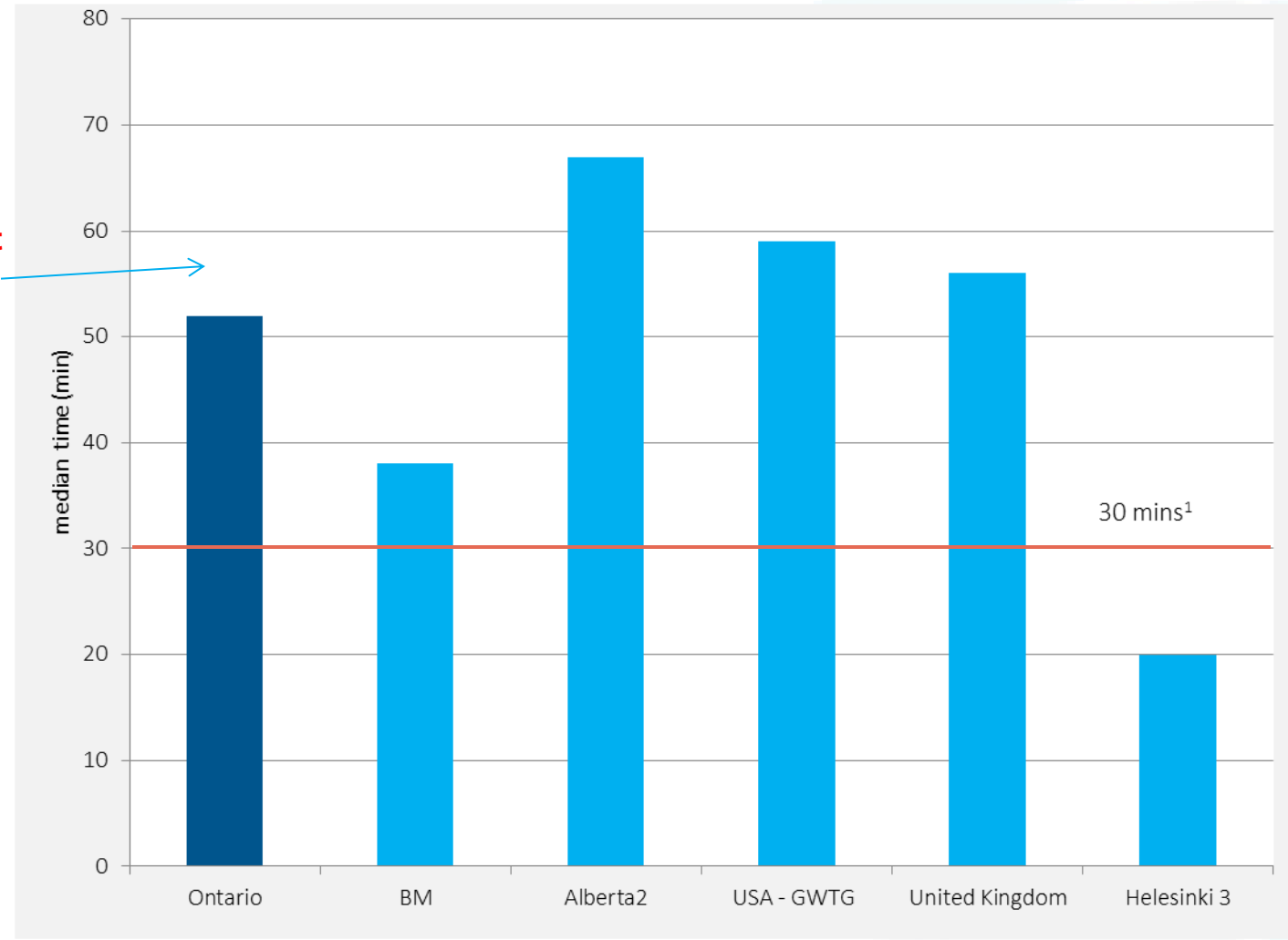
⁷ Hillmann et al , *BioMed Research International* vol 2015, Article ID 432497

⁸ Utilization to more than 12% is the minimum to have a significant population effect on disability and should be a public policy aim. " Hoffmeister et al. 2016 J of Neurological Sciences



tPA Door-to-needle time - How are we doing ?

**South East Ontario
56 mins**



¹ Good is not Good Enough: The Benchmark Stroke Door-to-Needle Time Should be 30 Minutes. Kamel et al Can J Neurol Sci. 2014; 41: 694-696

² Jeerakathil T et al, The Alberta Provincial Stroke Strategy: A Legacy of Stroke Care for Alberta. Edmonton: Alberta Provincial Stroke Strategy; 2012 (2010/11 data)

³ Meretoja et al, Neurology 2012



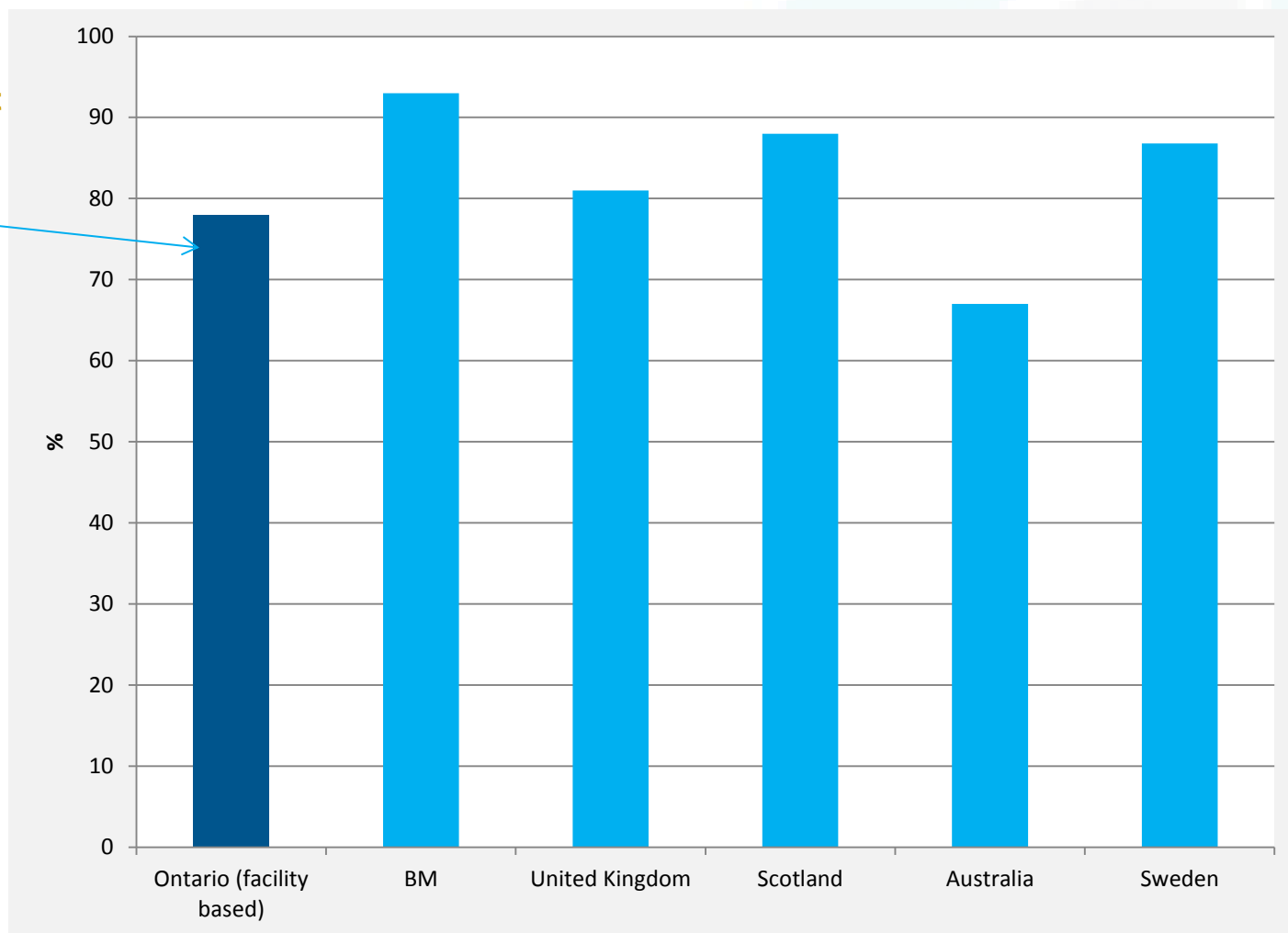


ontario **stroke**
network

Advancing the Ontario Stroke System

2014/15 SU admissions - How are we doing ?

South East
Ontario
Facilities
72%





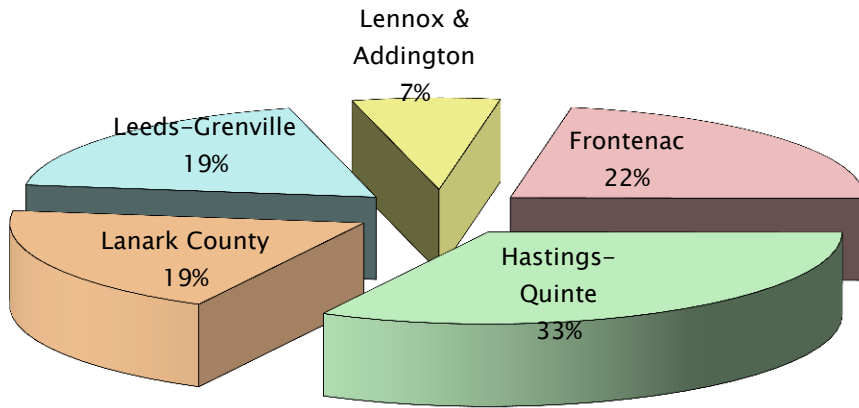
**Regional Paramedic Program
for Eastern Ontario**

Regional Paramedic Program for Eastern Ontario

Stroke Report 2015

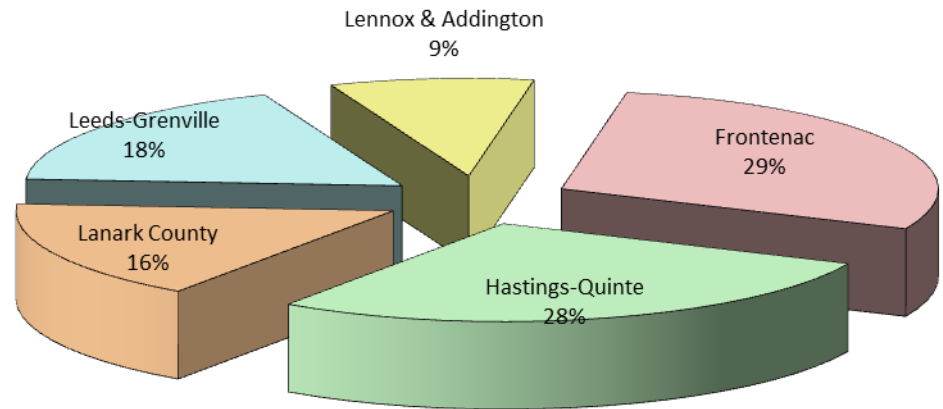
Calendar Year 2015

**ACUTE STROKE PROTOCOL PATIENTS (n=386)
RESPONDING AMBULANCE SERVICE**



2014
ASP stroke calls
by location
N=386

**ACUTE STROKE PROTOCOL PATIENTS (n=400)
RESPONDING AMBULANCE SERVICE**



2015
ASP stroke calls
by location
N=400

Calendar 2014

	QHC-B	KGH	TOH	CCH	PRHC	TOTAL
0- 30 mins	5	3				8
31- 60 mins	30	43	8			81
61- 90 mins	34	41	24	5		104
91- 120 mins	25	44	9		1	79
121-210 mins	28	57	16	1	2	104
Greater than 3.5 hrs	3	7				10
Total	125	195	57	6	3	386

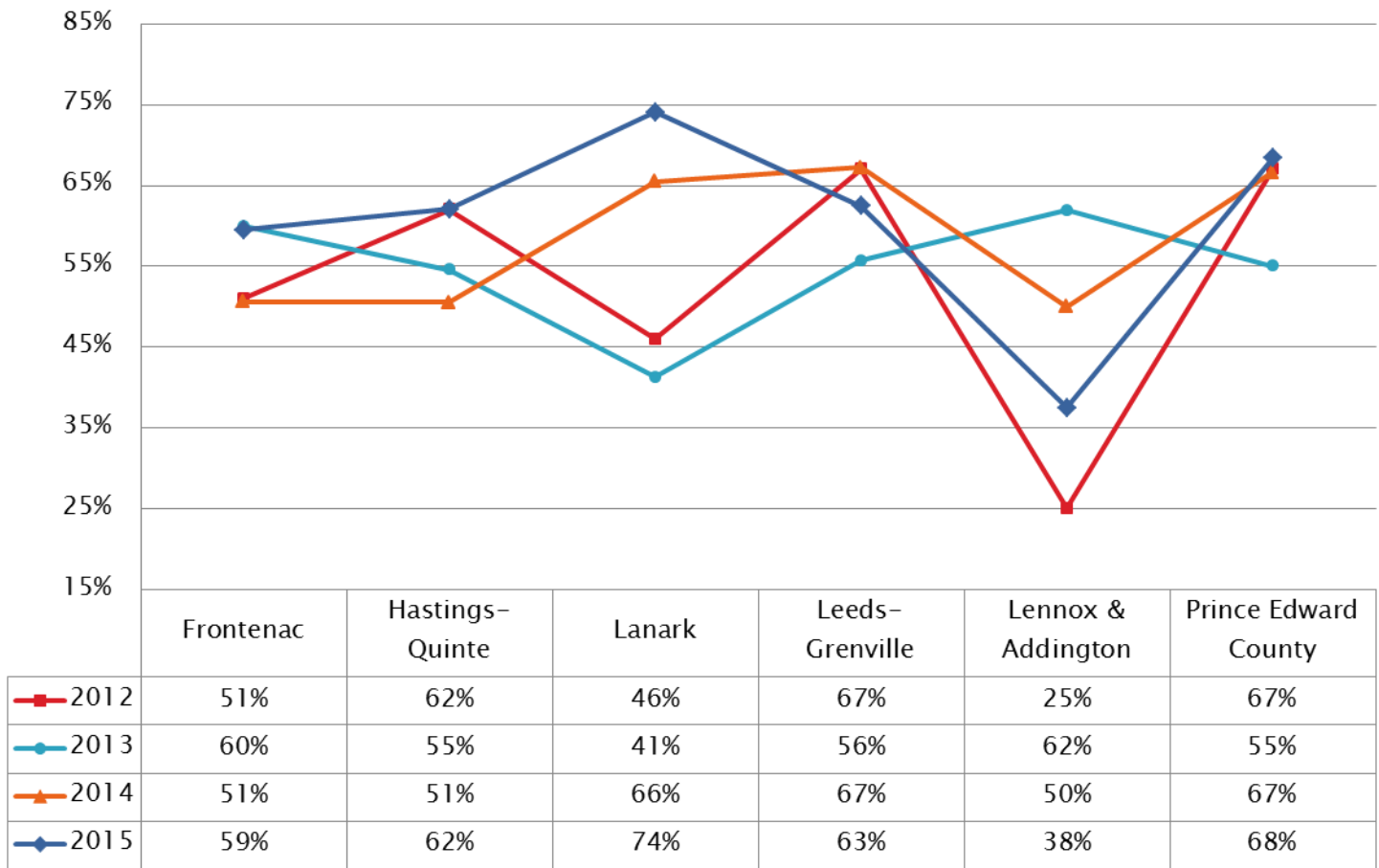
**Public Awareness:
ASP calls
symptom onset to
arrival at a stroke
centre**

Calendar 2015

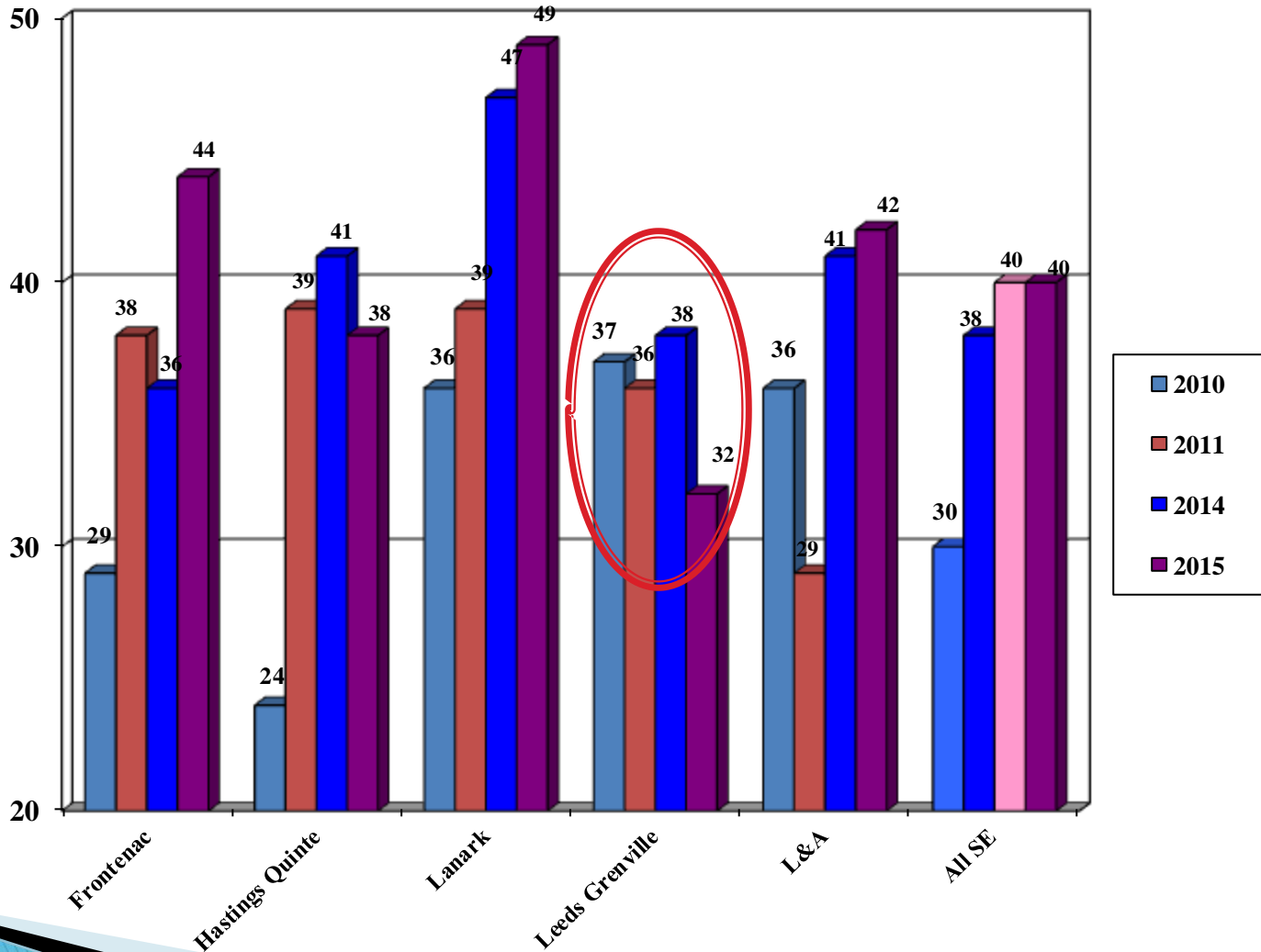
	QHC-B	KGH	TOH	CCH	PRH	PRHC	TOTAL
0- 30 mins	5	12					17
31- 60 mins	34	47	7	1			89
61- 90 mins	25	56	20	3			104
91- 120 mins	20	47	11			2	80
121-210 mins	18	58	15		1	2	94
Greater than 3.5 hrs	2	5					7
Time of onset not documented	6	3					9
Total	110	228	53	4	1	4	400

Public Awareness

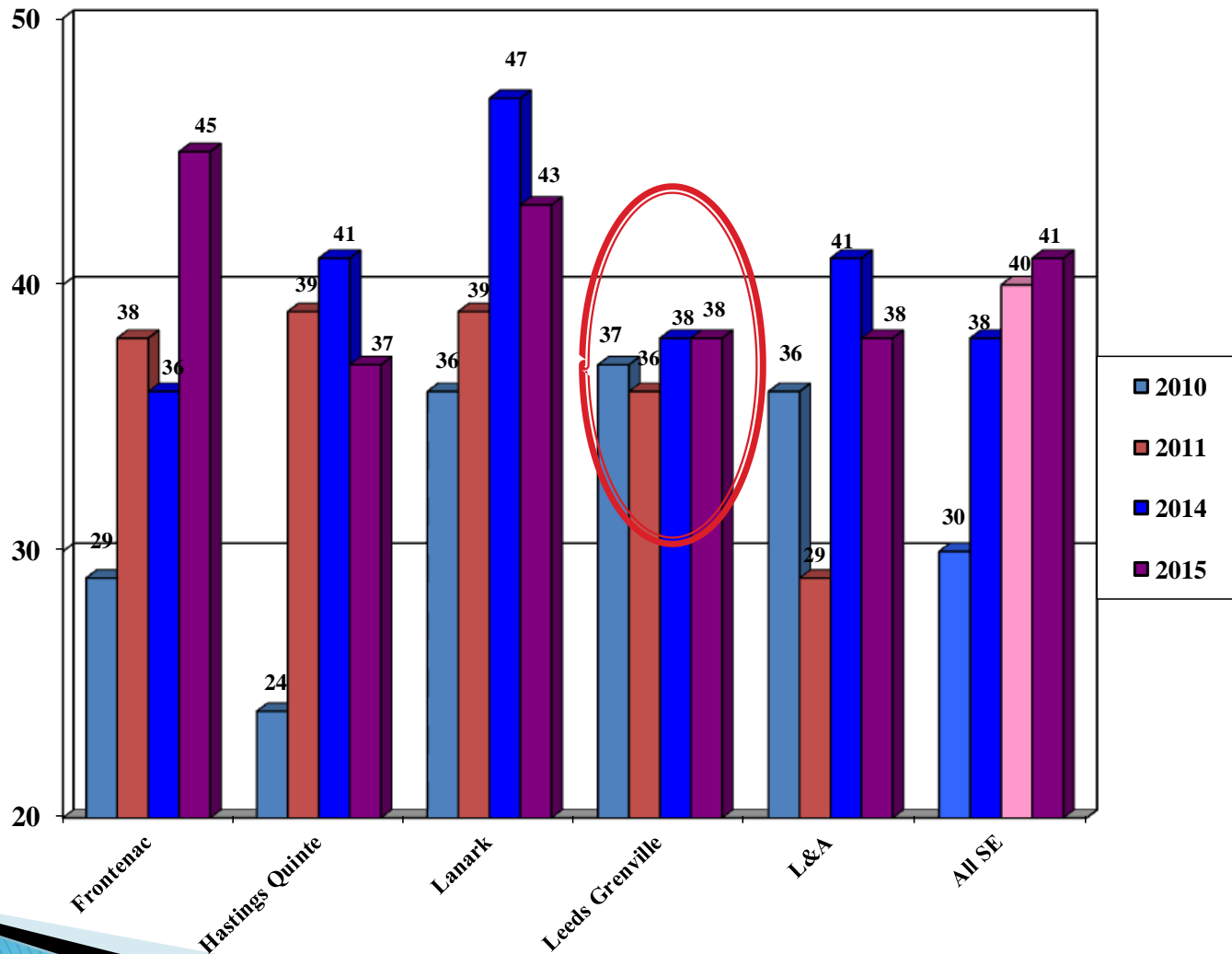
% acute stroke protocol patients (excluding transfers) who activated EMS **within 30 mins** of symptom onset



% ASP Calls of Total Stroke Calls by EMS 2010 to June 2015



% ASP Calls of Total Stroke Calls by EMS 2010 to 2015 (full CY2015)



Transfers vs Bypass

	2009	2010	2011	2012	2013	2014	2015
Stroke Centre is closest hospital	74 (33%)	74 (34%)	129 (44%)	161 (46%)	176 (49%)	165 (43%)	165 (41%)
Bypass	112 (50%)	106 (48%)	115 (39%)	133 (38%)	146 (41%)	135 (35%)	168 (42%)
Transfers	44 (17%)	39 (18%)	49 (17%)	56 (16%)	38 (11%)	86 (22%)	66 (17%)
TOTAL	223	219	293	350	360	386	400

Reasons for the 66 transfers in 2015:

- **Over half were brought by private car**
- 10 In-hospital strokes (3 in the ED); 1 visiting family
- 5 Brought to ED by ambulance after TIA recurred in ED
- others brought to ED via EMS (GSC<10; seizures; UTD onset; CVA while in offload delay; one error - should have been ASP)



Home location for the 34 patients arriving by car

Almonte 1	Napanee 3
Bancroft 1	Perth 6
Brockville 6	Picton 2
Carleton Place 2	Smiths Falls 8
Kemptville 4	Kingston 1

Reasons for not bypassing:

- ▶ TIA (42%)
- ▶ Unknown time of onset (31.5%)
- ▶ Outside time window (17%)
- ▶ Seizure (3.5%)
- ▶ GCS < 10 (3.5%)
- ▶ Other, e.g. not documented (2.5%)

**Account
for 74% of
exclusions**

THANK YOU!



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Endovascular Thrombectomy



Endovascular Thrombectomy

- ▶ KGH Pilot, Workgroup and Cases to date
 - ▶ Provincial Workgroup
 - ▶ Regional Access
 - ▶ Discussion – Facilitators and Barriers
 - Imaging
 - Transport
 - Other
- 