

STROKE NETWORK
of Southeastern Ontario



**Regional Paramedic Program
for Eastern Ontario**

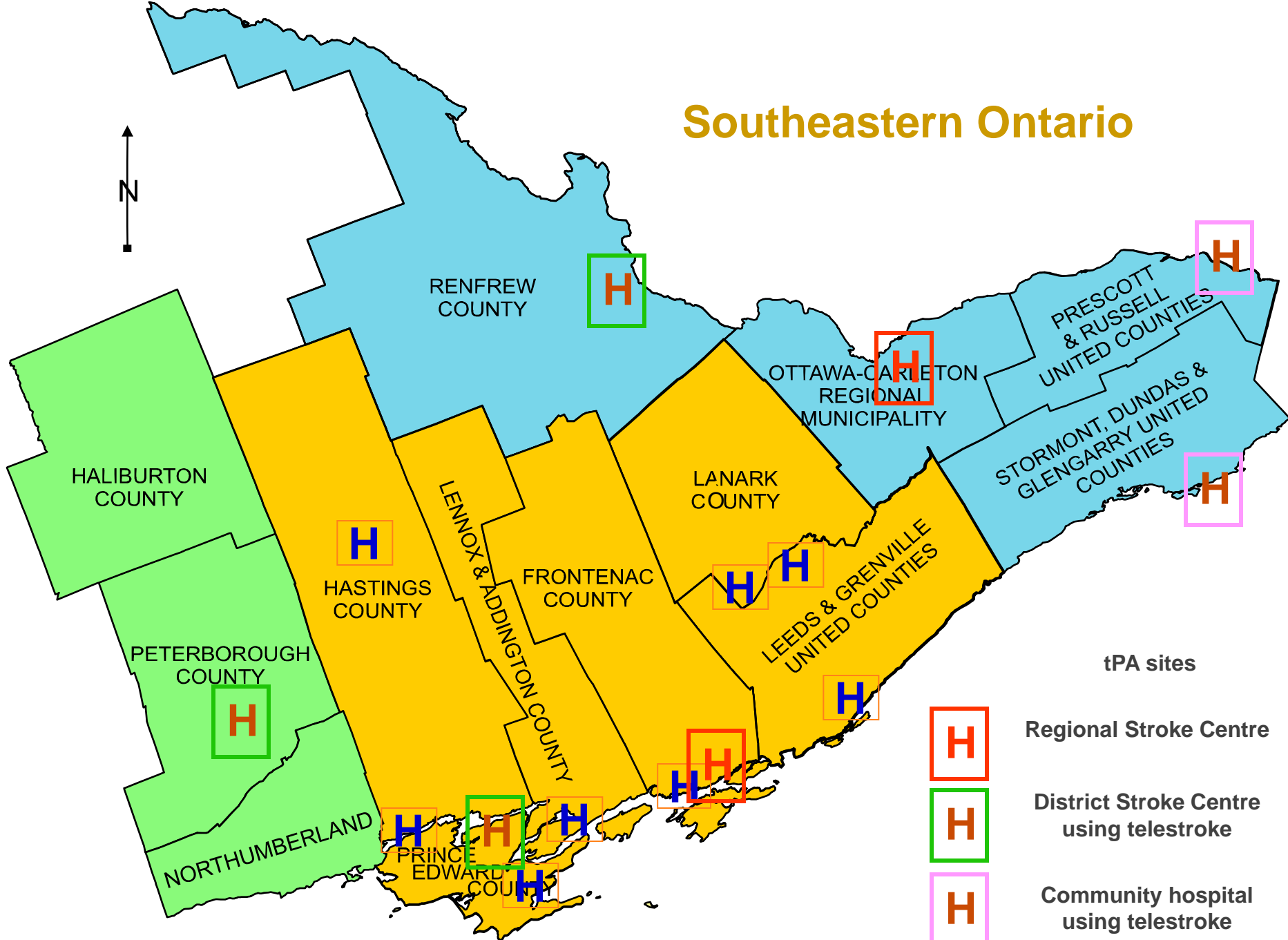
Emergency Stroke Care

How are we doing?

**Southeast Regional & District
Acute Stroke Protocol Committee
June 2017**

**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

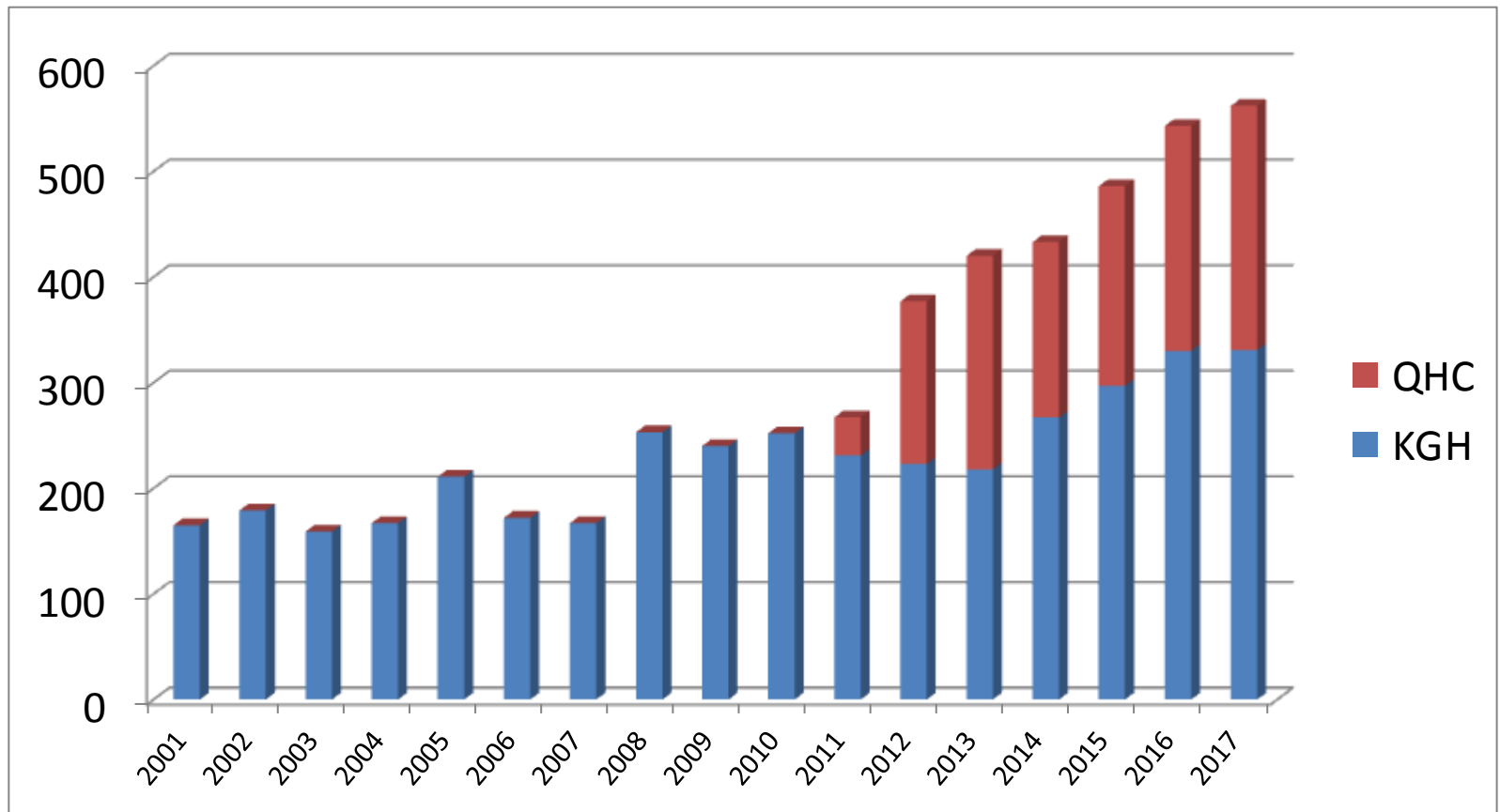


Community hospital using telestroke

KGH + QHC

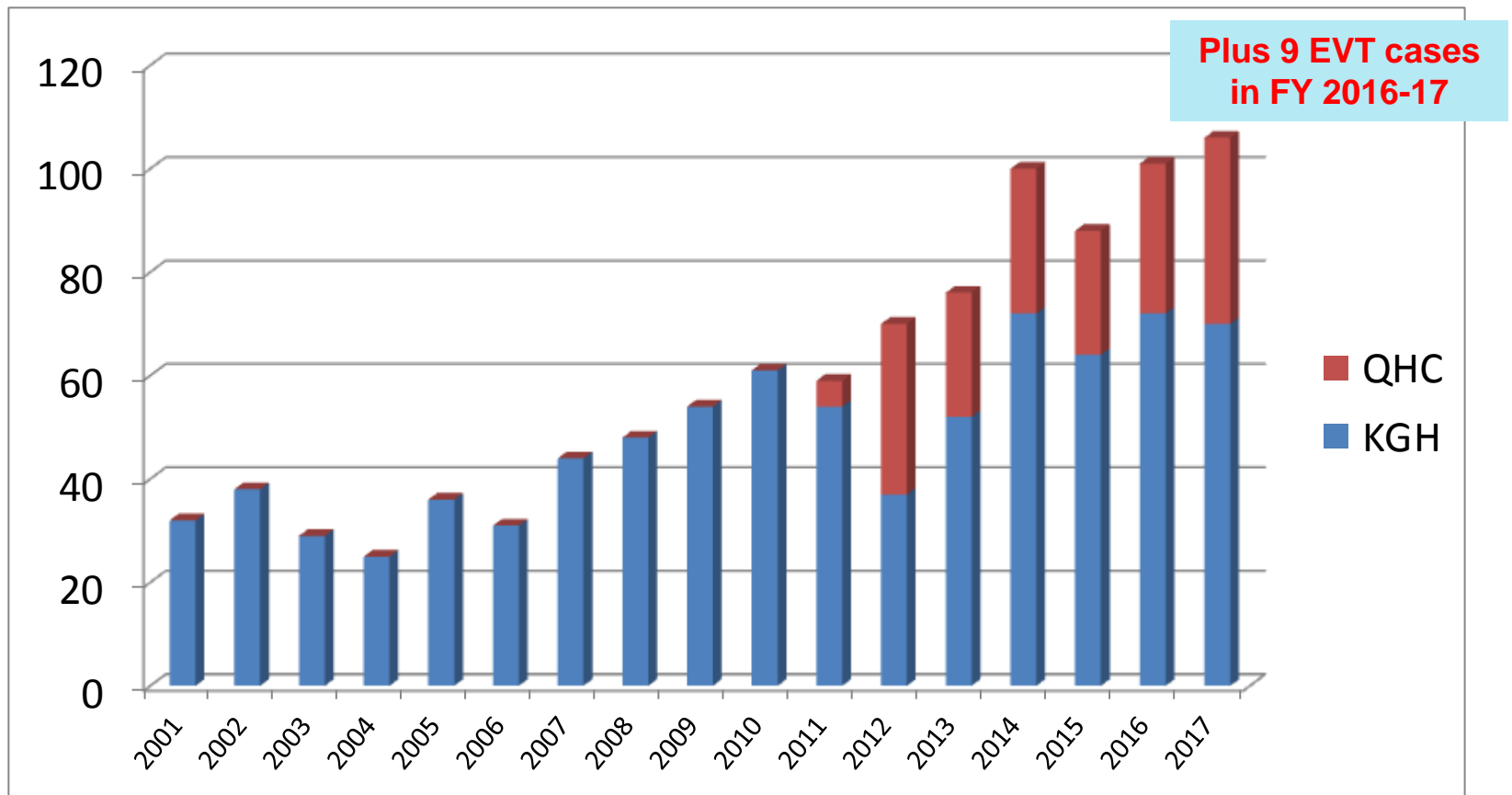
**stroke protocol activations
and
tPA Volumes**

SEO ASP Activations KGH/QHC by Fiscal Year



**2016-17 In- hospital stroke protocol activations
24 at KGH; 14 at QHC (each doubled)**

KGH/QHC tPA Volumes by Fiscal Year



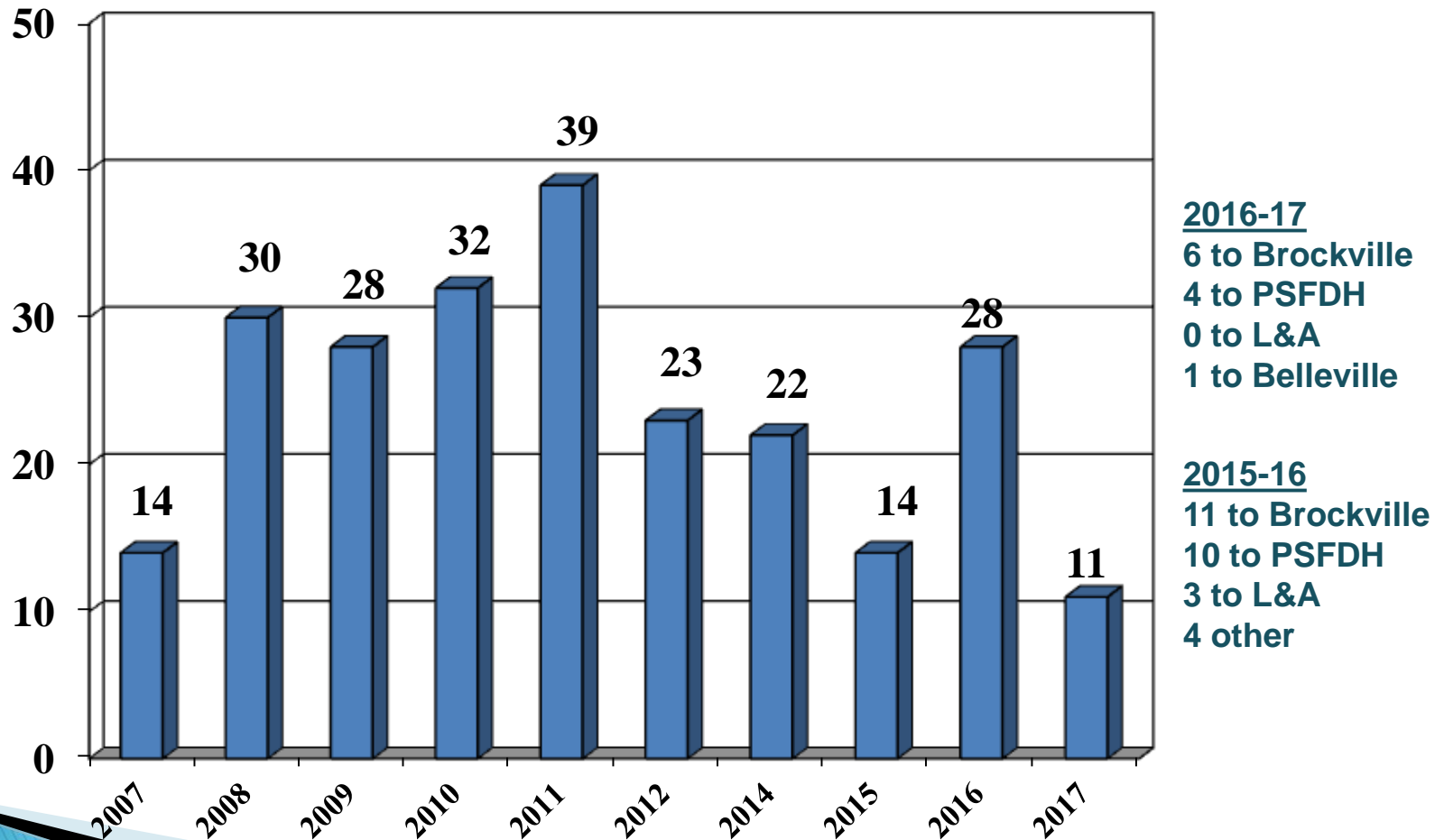
2015-16 Report Card: KGH DTN time 45 mins; QHC 68 mins

Most recent data - DTN times: KGH 31 mins; QHC 63.5 mins

NB - value of EMS pre-notification & patient staying on stretcher to CT!!

Stroke Protocol Repatriations by FY

KGH ED to Local ED



Ontario Stroke Report Card

Public Release June 13th 2017

Ontario Stroke Evaluation FY 15-16

- CIHI administrative data
- CIHI 340 – stroke data

ONTARIO STROKE REPORT CARD, 2015/16: SOUTH EAST LOCAL HEALTH INTEGRATION NETWORK

*****DROP in stroke mortality rate from 14.2 % to 11.6%*****

Poor performance¹

Acceptable performance²

Exemplary performance³

Data not available or benchmark not available

Indicator No.	Care Continuum Category	Indicator ⁴	LHIN FY 2015/16 (2014/15)	Variance Within LHIN ⁵ (Min–Max)	Provincial Benchmark ⁶	High Performers ⁷	
						Sub-LHIN/Facility	LHIN
1	Public awareness and patient education	Proportion of stroke/TIA patients who arrived at the ED by ambulance.	57.8% (59.2%)	41.9–73.1%	65.3%	Essex Sub-LHIN	1, 4
2	Prevention of stroke	Annual age- and sex-adjusted inpatient admission rate for stroke/TIA (per 1,000 population).	1.6 (1.5)	1.3–2.2	1.1	Ottawa Centre Sub-LHIN	8, 11
3 ⁵	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients).	11.6 (14.2)	0.0–22.9	–	–	11
4	Prevention of stroke	Proportion of ischemic stroke/TIA inpatients aged 65 and older with atrial fibrillation who filled a prescription for anticoagulant therapy within 90 days of discharge from acute care.	72.3% (65.9%)	62.5–100%	85.5%	South West York Region Sub-LHIN	None
5	Prevention of stroke	Proportion of ischemic stroke inpatients who received carotid imaging.	79.3% (77.2%)	28.6–89.8%	91.7%	Bluewater Health, Sarnia	7, 1
6	Acute stroke management	Median door-to-needle time among patients who received acute thrombolytic therapy (tPA) (minutes).	52.0 (56.0)	44.5–68.0	33.0	Hamilton Health Sciences Corp., General	None
7 ⁵	Acute stroke management	Proportion of ischemic stroke patients who received acute thrombolytic therapy (tPA).	12.5% (13.2%)	0.0–28.2%	17.7%	Hamilton Outer Core Sub-LHIN	11, 4
8 ⁵	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit ⁸ at any time during their inpatient stay.	72.6% (68.0%)	19.0–86.0%	78.7%	Thunder Bay City Sub-LHIN	3
9	Prevention of stroke	Proportion of ischemic stroke/TIA patients discharged from the ED and referred to secondary prevention services.	76.8% (59.5%)	22.2–96.2%	94.4%	London Health Sciences Centre, University Hospital	None
10 ⁶	Acute stroke management	Proportion of ALC days to total length of stay in acute care.	23.5% (21.6%)	0.0–65.6%	8.2%	Bluewater Health, Sarnia	None
11 ⁵	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation.	30.2% (27.8%)	5.0–78.6%	47.8%	Chatham-Kent Sub-LHIN	1
12 ⁵	Stroke rehabilitation	Proportion of acute stroke (excluding TIA) patients with mild disability (AlphaFIM > 80) discharged home.	75.0% (78.9%)	68.4–75.6%	–	–	14, 12
13 ⁵	Stroke rehabilitation	Median number of days between stroke (excluding TIA) onset and admission to stroke inpatient rehabilitation.	8.0 (8.0)	5.0–13.0	5.0	Southlake Regional Health Centre	None
14 ⁵	Stroke rehabilitation	Median number of minutes per day of direct therapy received by inpatient stroke rehabilitation patients.	74.9 (–)	62.1–88.3	–	–	3, 8
15 ⁴	Stroke rehabilitation	Proportion of inpatient stroke rehabilitation patients achieving RPG active length of stay target.	42.8% (46.6%)	35.0–49.0%	82.0%	St. Joseph's Health Centre, Guelph	3
16	Stroke rehabilitation	Median FIM efficiency for moderate stroke in inpatient rehabilitation.	0.8 (0.8)	0.7–1.0	1.5	St. Joseph's Health Centre, Guelph	12, 3
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke patients on discharge from inpatient acute care or inpatient rehabilitation in 2014/15–2015/16.	13.3 (14.1)	–	12.4	Waterloo Wellington CCAC	3, 10
18 ⁵	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe stroke (RPG 1100 or 1110).	44.7% (42.0%)	39.3–46.9%	58.7%	St. Joseph's Health Centre, Guelph	None
19 ⁵	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCC (excluding patients originating from LTC/CCC).	5.2% (5.9%)	0.0–21.1%	2.0%	Urban Guelph Sub-LHIN	None
20 ⁵	Reintegration	Age- and sex-adjusted readmission rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients).	6.7 (7.0)	0.0–12.8	–	–	None

Hospital Service Accountability Agreement indicator, 2015/16

– Data not available ⁵ Contributes to QBP performance

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

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

⁶ Top benchmark achieved between 2013/14 and 2015/16. Benchmarks were calculated using the ABC methodology (Weissman et al. *J Eval Clin Pract* 1999; 5(3):269–81) on sub-LHIN or facility data.

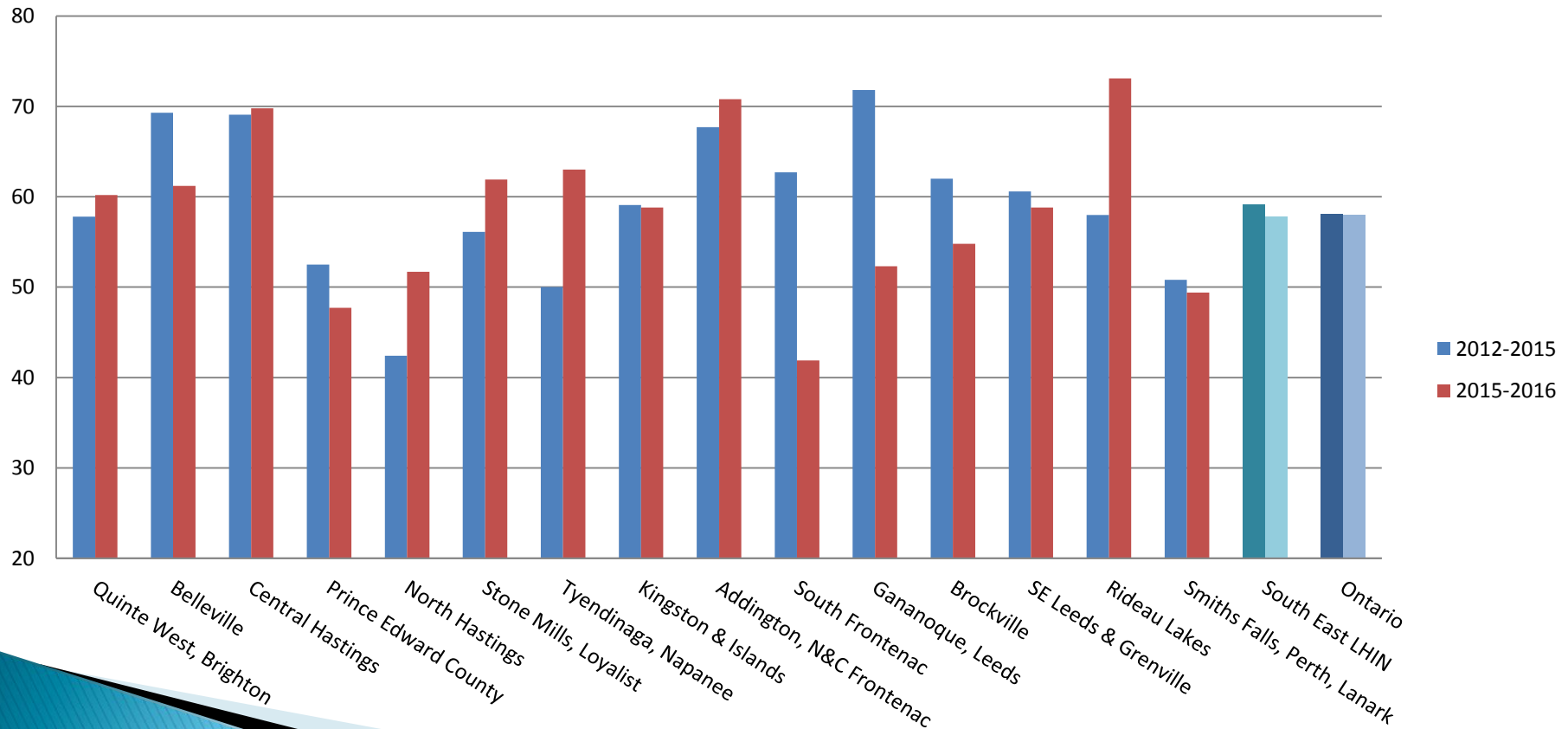
⁷ Sub-LHIN/Facility: Highest performer among acute care institutions treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 64 stroke patients per year, or sub-LHINs with at least 30 stroke patients per year. LHIN: Top two with exemplary performance.

⁸ The revised definition was developed with the consensus of Ontario Stroke Network regional directors (February 2014). There were 14 stroke units in 2012/13, 16 in 2013/14, 21 in 2014/15, and 28 in 2015/16.

% All Stroke Transported by Ambulance

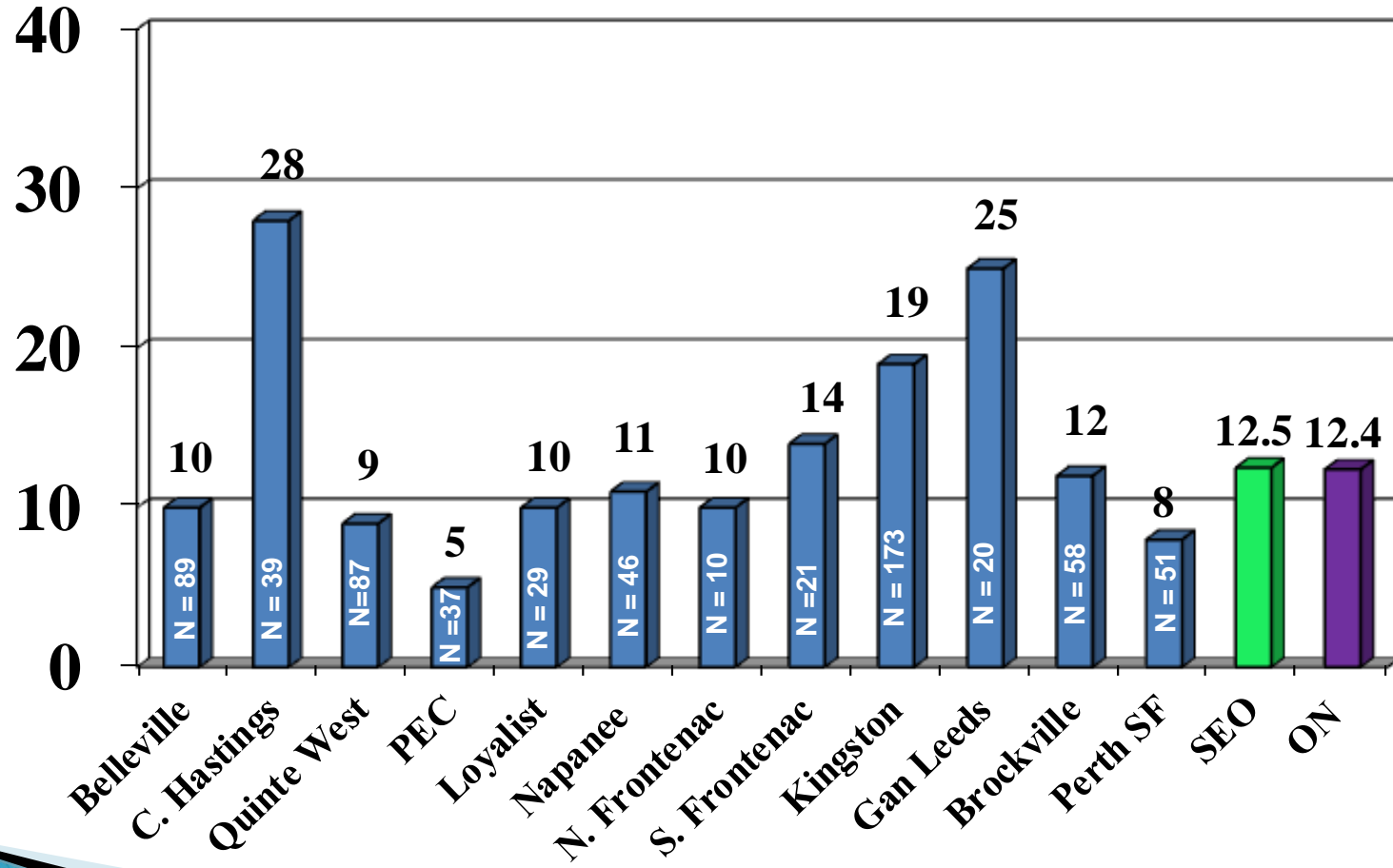
Source: CIHI NACRS FY 2015-16

Percent of those with Stroke/TIA who Arrived in the ED by Ambulance
2015/16 compared to previous 3 years by South East sub-LHIN



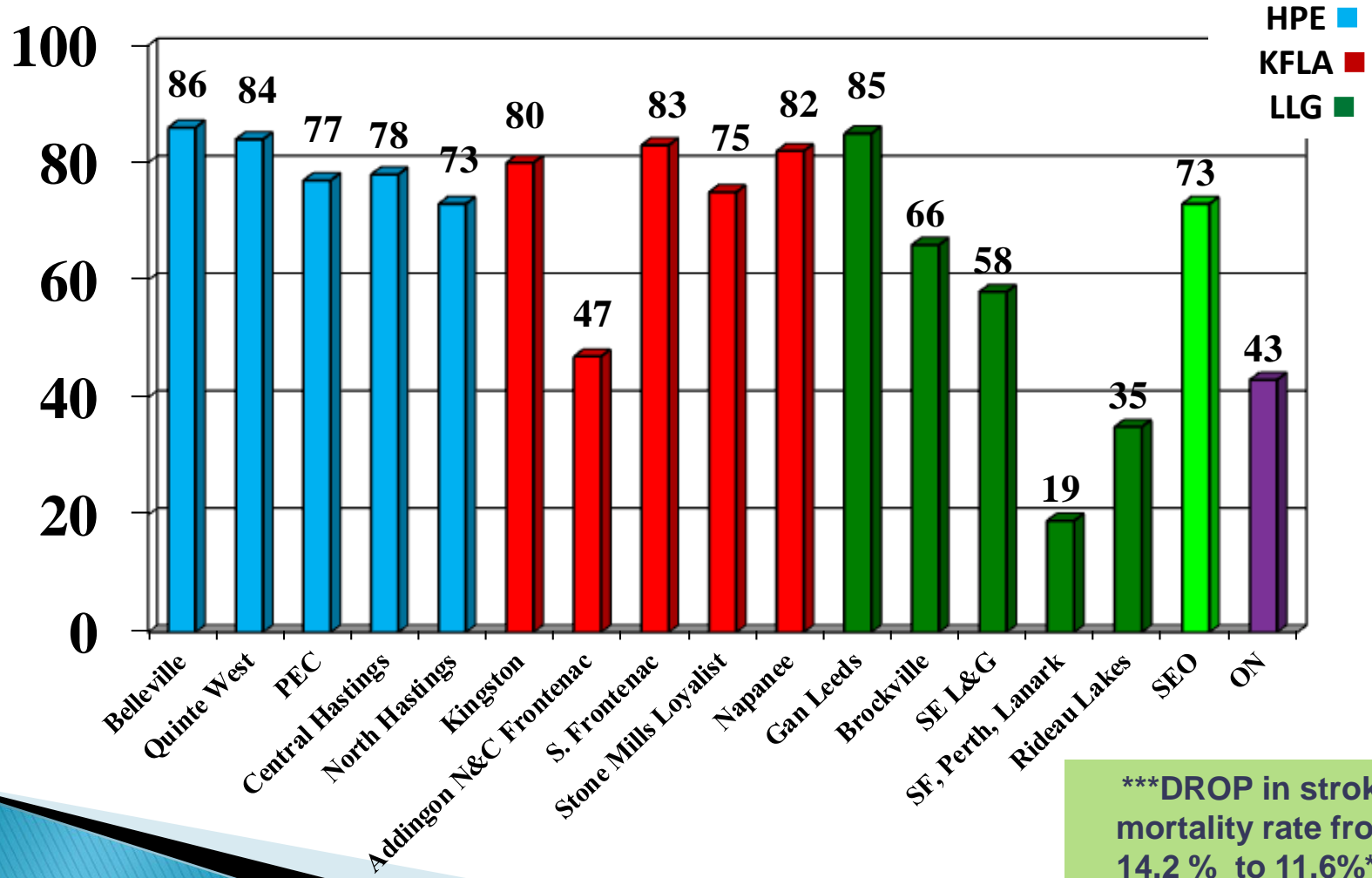
% Thrombolysis Among Ischemic Strokes

Source: CIHI NACRS FY 2015-16

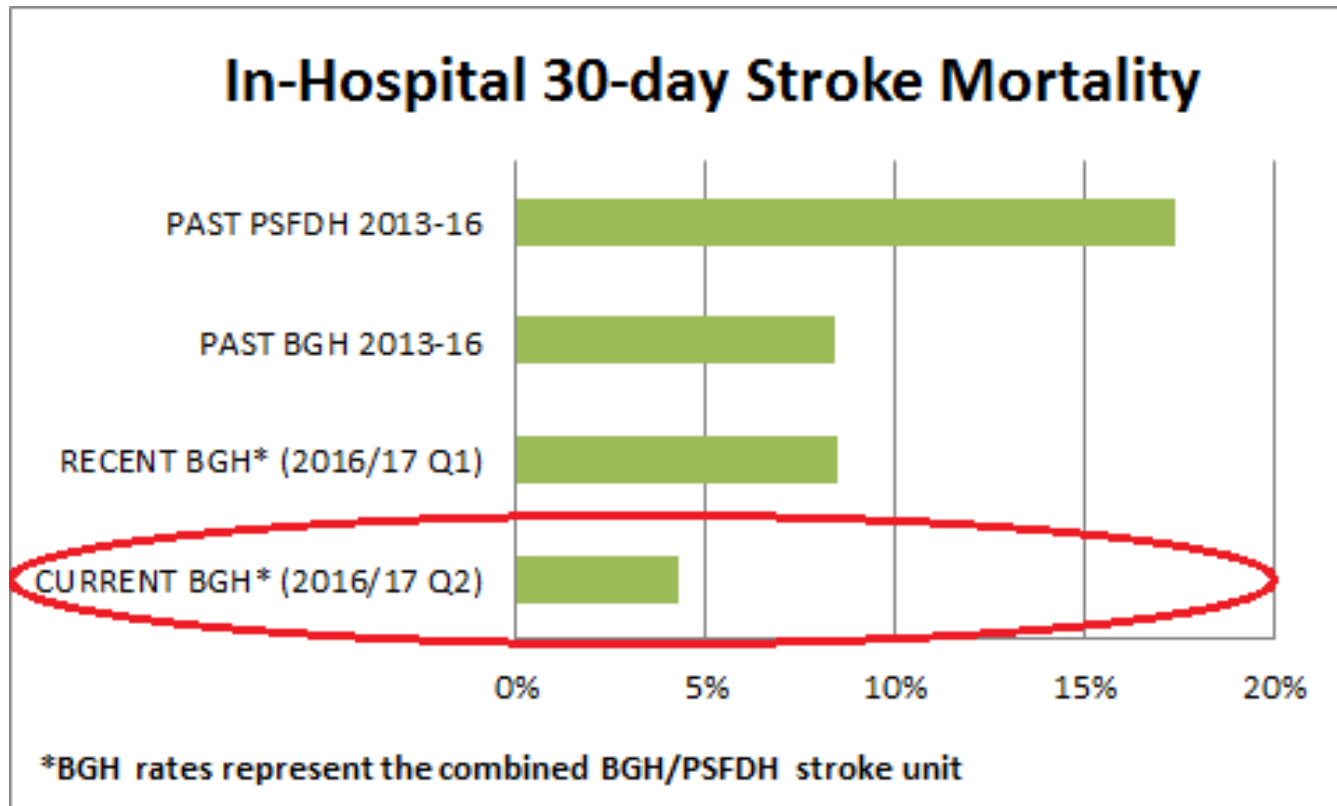


% Accessing Acute Stroke Unit Care

Source: CIHI 340 FY 2015-16



LLG Stroke Unit, Brockville: Drop in Mortality



In- hospital mortality rates within the first 30 days have dropped from 17.4% (PSFDH) and 8.4% (BrGH) for the three years pre-implementation to a combined rate of only 4.3% (Q2 2016/17)



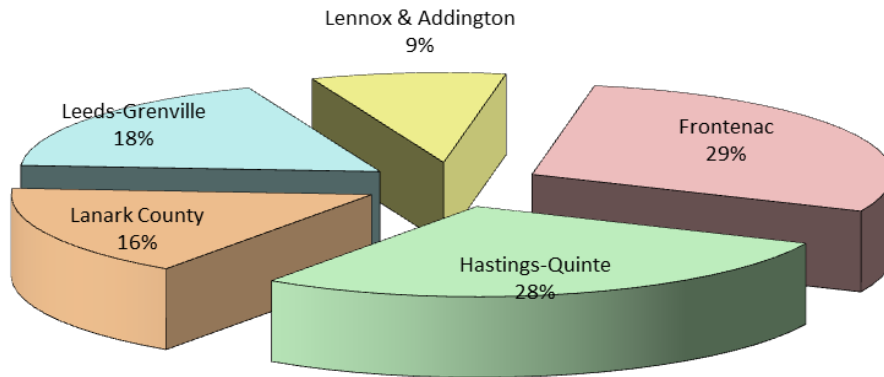
**Regional Paramedic Program
for Eastern Ontario**

Regional Paramedic Program for Eastern Ontario

Stroke Report 2016

Calendar Year 2016

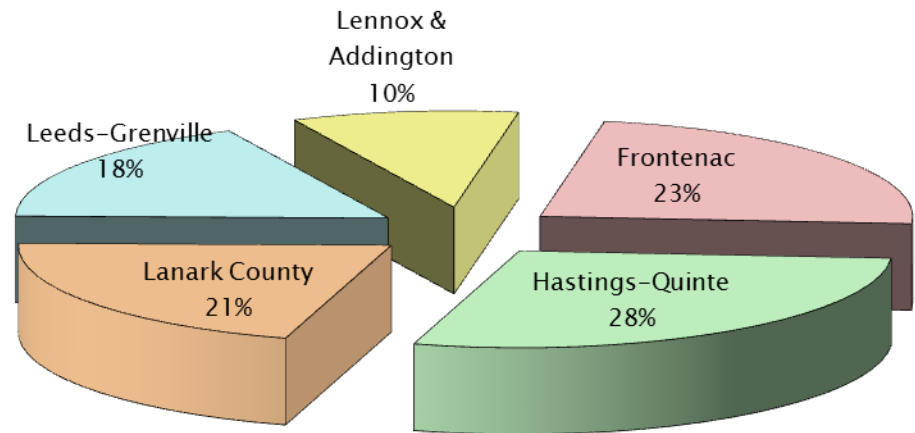
ACUTE STROKE PROTOCOL PATIENTS (n=400)
RESPONDING AMBULANCE SERVICE



2015

ASP stroke calls by location N=400

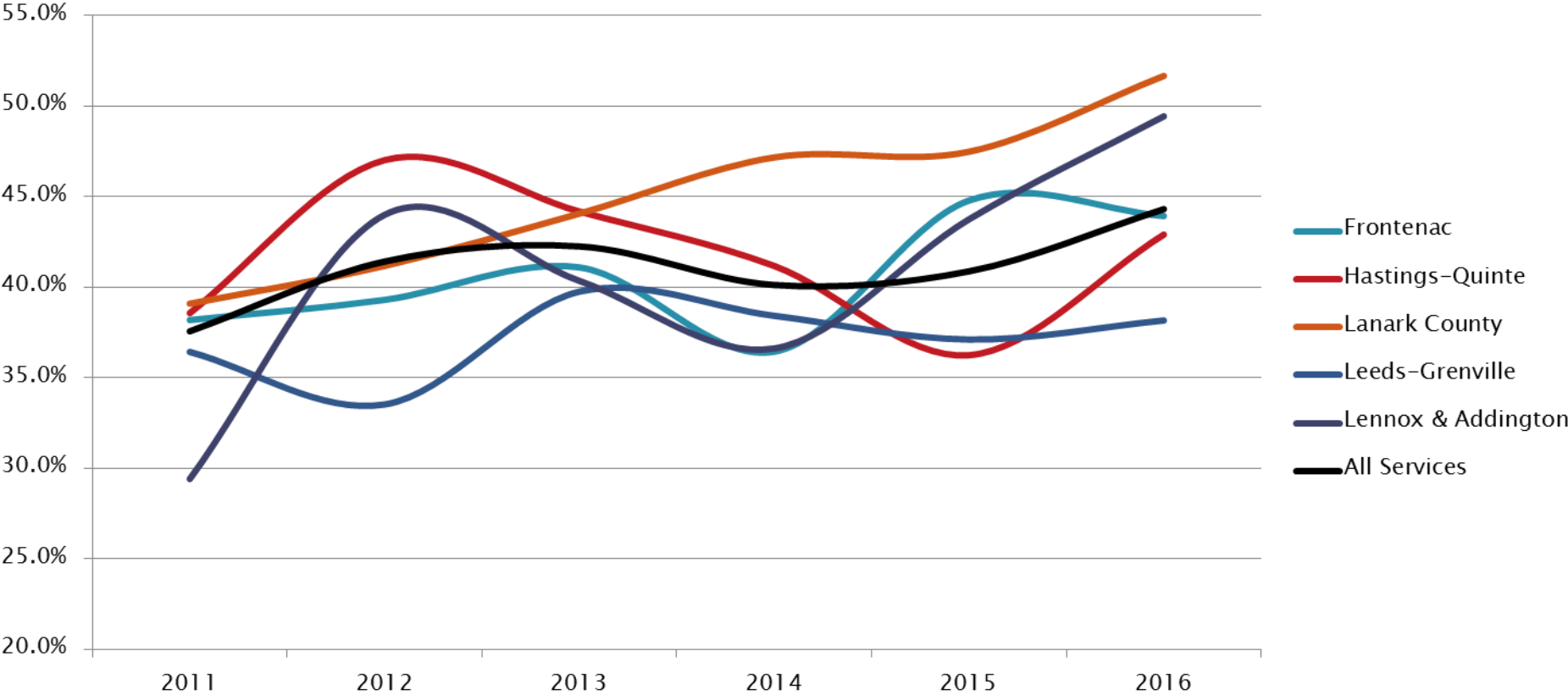
ACUTE STROKE PROTOCOL (N=448)
RESPONDING AMBULANCE SERVICE



2016

ASP stroke calls by location N=448

% OF STROKE PATIENTS CARRIED BY EACH AMBULANCE SERVICE WHO WERE ACUTE STROKE PROTOCOLS



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

Calendar 2016

	QHC-B	KGH	TOH	CCH	PRH	PRHC	TOTAL
0- 30 mins	9	11		1			21
31- 60 mins	42	52	12				106
61- 90 mins	34	60	17	2			113
91- 120 mins	15	36	14				65
121-210 mins	30	62	27	1	1	1	122
Greater than 3.5 hrs	2	12	7				21
Total	132	233	77	4	1	1	448

Transfers vs Bypass

	2010	2011	2012	2013	2014	2015	2016
Stroke Centre is closest hospital	74 (34%)	129 (44%)	161 (46%)	176 (49%)	165 (43%)	165 (41%)	183 (41%)
Bypass	106 (48%)	115 (39%)	133 (38%)	146 (41%)	135 (35%)	168 (42%)	183 (41%)
Transfers	39 (18%)	49 (17%)	56 (16%)	38 (11%)	86 (22%)	66 (17%)	82 (18%)
TOTAL	219	293	350	360	386	400	448

Reasons for the 82 transfers in 2016:

- **61 were brought by private car (three quarters)**
- 6 In-hospital strokes (3 in the ED); 1 visiting family
- 4 brought to ED by ambulance after TIA
- others brought to ED via EMS (GSC<10; seizure; UTD onset)

Home location for the 61 patients arriving by car

Almonte 5	Napanee 1
Bancroft 1	Perth 14
Brockville 5	Picton 1
Carleton Place 6	Smiths Falls 9
Kemptville 8	Trenton 4
Kingston 7	

Reasons for not bypassing (N= 563):

- ▶ TIA (43%)
- ▶ Unknown time of onset (47%)
- ▶ Outside time window (12%) N=69*
- ▶ Seizure (3.4%)
- ▶ Unconscious or unstable (2.5%)

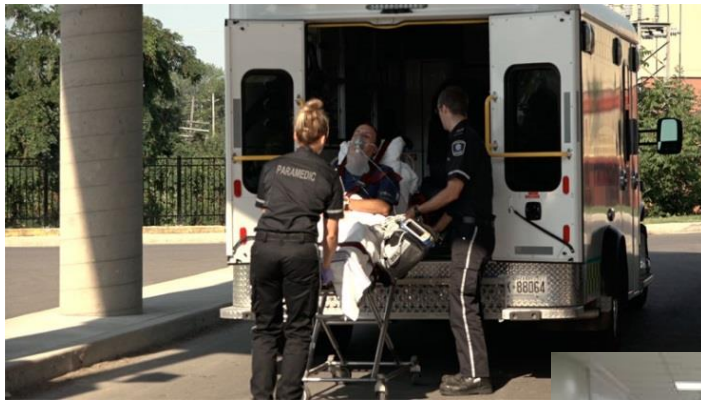
**Account
for 90% of
exclusions**

*Of the 69 not within time window, 18 would have been eligible if the time window had been 4.5 hours

Future Considerations

- ▶ EVT 24/7 this fiscal
- ▶ Public awareness: *FAST* decals on ambulances
- ▶ Change in BLS and Paramedic Prompt Card to expand the time window - Dec 2017
- ▶ Update to walk-in protocols -new time window
- ▶ QHC - EVT Repatriation (very low volumes)
- ▶ L&A Paramedic Service - stroke boundary
- ▶ Telestroke in Brockville??

THANK YOU!



Recovery can be
expected after a **stroke**.
People who experience
a stroke can **survive**
and **recover**.



www.strokenetworkseo.ca