Ontario Stroke Report
FY 2020-21

KFLA area – Local Performance Indicators
Examples of strengths and areas for improvement

RELEASE DATE: JUNE 2022

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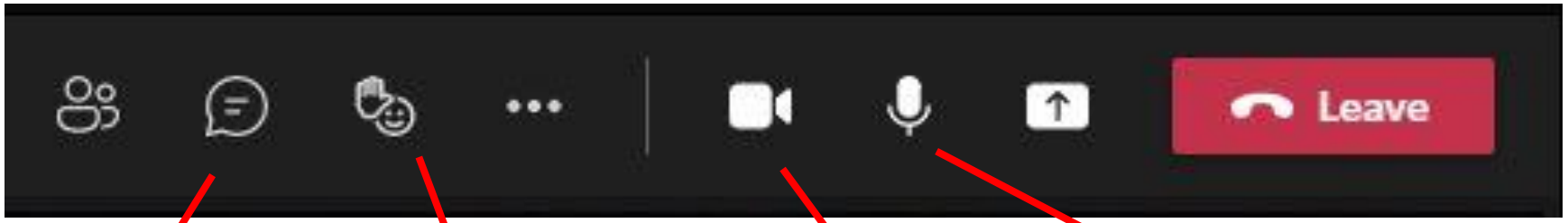
MS Teams reminders



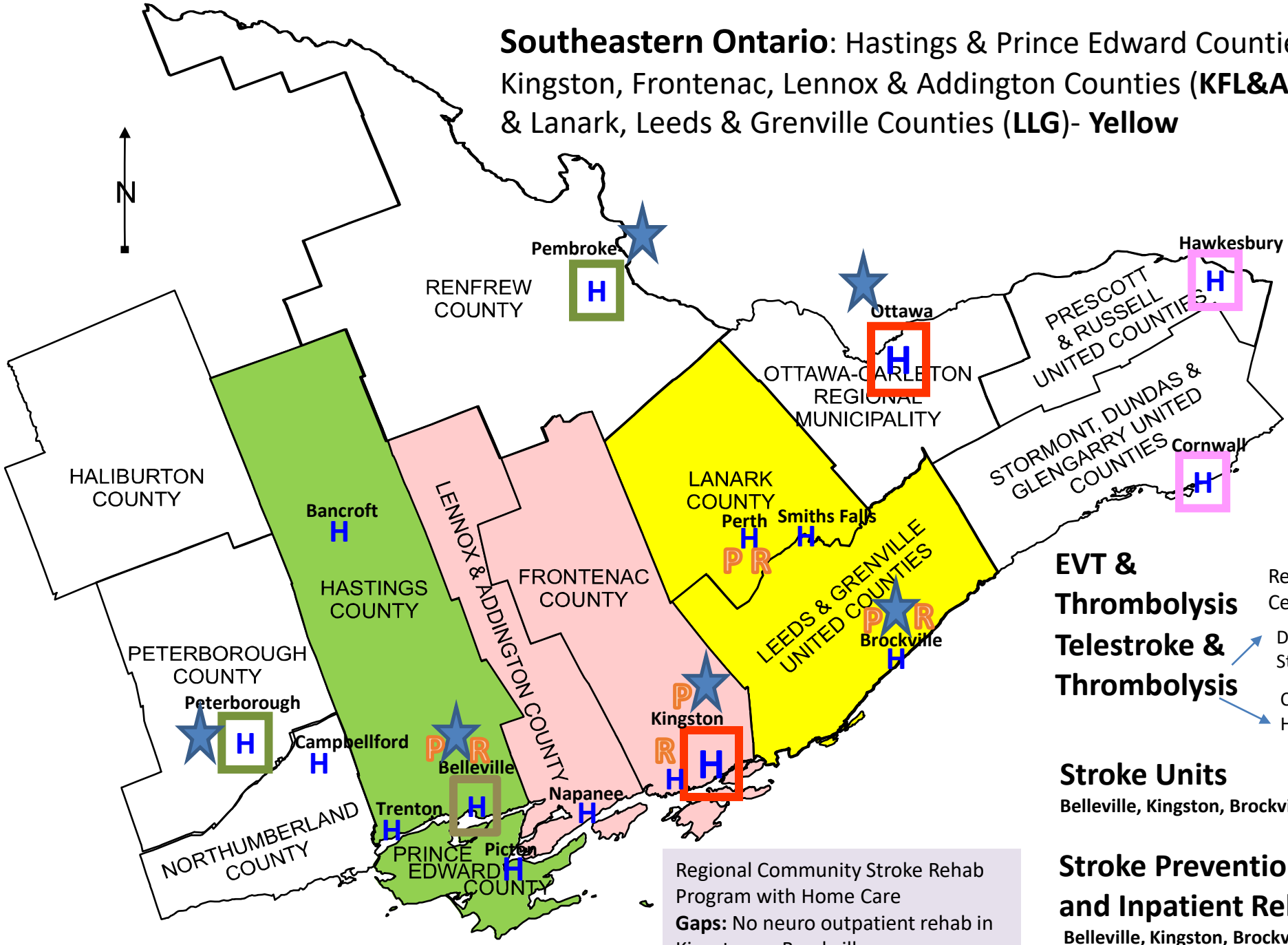
This will open the Chat box: you may enter questions or comments here, and they will be relayed to the moderator as appropriate.

Click here to access the 'Raise Hand' feature if you wish to speak during the meeting.

This button will turn your camera on/off

Microphone: Please remember to mute your mic when not speaking

Southeastern Ontario: Hastings & Prince Edward Counties (**HPE**)- **Green**; Kingston, Frontenac, Lennox & Addington Counties (**KFL&A**)- **Pink**; & Lanark, Leeds & Grenville Counties (**LLG**)- **Yellow**



Regional Community Stroke Rehab Program with Home Care
Gaps: No neuro outpatient rehab in Kingston or Brockville

EVT & Thrombolysis Telestroke & Thrombolysis

- Regional Stroke Centre → H
- District Stroke Centre → H
- Community Hospital → H

Stroke Units
Belleville, Kingston, Brockville →

Stroke Prevention Clinics and Inpatient Rehab → P & R
Belleville, Kingston, Brockville, Perth

Meeting Objectives

- Enhance knowledge of stroke care performance across care continuum against stroke best practice targets
- Consider alignment with current workplan (e.g., KFLA stroke workplan 2021-23)
- Consider future areas of opportunity and QI focus

Stroke Data Introduction

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FY 2020-21

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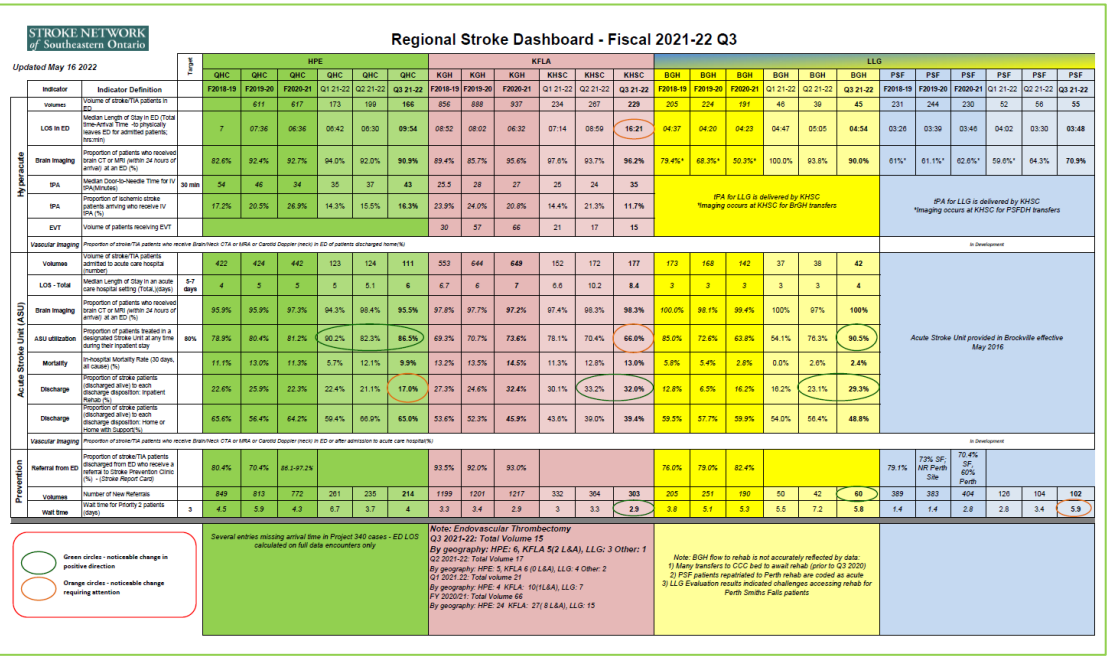

STROKE NETWORK of Southeastern Ontario

Regional Stroke Dashboard - Fiscal 2021-22 Q3

Updated May 16 2022

	Indicator	Indicator Definition	Target	HPE						KFLA						LLG											
				QHC	QHC	QHC	QHC	QHC	QHC	KGH	KGH	KGH	KHSC	KHSC	KHSC	BGH	BGH	BGH	BGH	BGH	BGH	PSF	PSF	PSF	PSF	PSF	PSF
				F2018-19	F2019-20	F2020-21	Q1 21-22	Q2 21-22	Q3 21-22	F2018-19	F2019-20	F2020-21	Q1 21-22	Q2 21-22	Q3 21-22	F2018-19	F2019-20	F2020-21	Q1 21-22	Q2 21-22	Q3 21-22	F2018-19	F2019-20	F2020-21	Q1 21-22	Q2 21-22	Q3 21-22
Hyperacute	Volumes	Volume of stroke/TIA patients in ED			611	617	173	199	166	856	888	937	234	267	229	205	224	191	46	39	45	231	244	230	52	56	55
	LOS in ED	Median Length of Stay in ED (Total time-Arrival Time -to physically leaves ED for admitted patients; hrs:min)		7	07:36	06:36	06:42	06:30	09:54	08:52	08:02	06:32	07:14	08:59	16:21	04:37	04:20	04:23	04:47	05:05	04:54	03:26	03:39	03:46	04:02	03:30	03:48
	Brain Imaging	Proportion of patients who received brain CT or MRI (within 24 hours of arrival) at an ED (%)		82.6%	92.4%	92.7%	94.0%	92.0%	90.9%	89.4%	85.7%	95.6%	97.6%	93.7%	96.2%	79.4%*	68.3%*	50.3%*	100.0%	93.8%	90.0%	61%*	61.1%*	62.6%*	59.6%*	64.3%	70.9%
	tPA	Median Door-to-Needle Time for IV tPA(Minutes)	30 min	54	46	34	35	37	43	25.5	28	27	25	24	35	IPA for LLG is delivered by KHSC *Imaging occurs at KHSC for BrGH transfers						IPA for LLG is delivered by KHSC *Imaging occurs at KHSC for PSFDH transfers					
	tPA	Proportion of ischemic stroke patients arriving who receive IV tPA (%)		17.2%	20.5%	26.9%	14.3%	15.5%	16.3%	23.9%	24.0%	20.8%	14.4%	21.3%	11.7%												
	EVT	Volume of patients receiving EVT								30	57	66	21	17	15												
	Vascular Imaging	Proportion of stroke/TIA patients who receive Brain/Head CTA or MRA or Carotid Doppler (neck) in ED of patients discharged home(%)																				In Development					
Acute Stroke Unit (ASU)	Volumes	Volume of stroke/TIA patients admitted to acute care hospital (number)		422	424	442	123	124	111	553	644	649	152	172	177	173	168	142	37	38	42	Acute Stroke Unit provided in Brockville effective May 2016					
	LOS - Total	Median Length of Stay in an acute care hospital setting (Total,(days)	5-7 days	4	5	5	5	5.1	6	6.7	6	7	8.6	10.2	8.4	3	3	3	3	3	4						
	Brain Imaging	Proportion of patients who received brain CT or MRI (within 24 hours of arrival) at an ED (%)		95.9%	95.9%	97.3%	94.3%	98.4%	95.5%	97.8%	97.7%	97.2%	97.4%	98.3%	98.3%	100.0%	98.1%	99.4%	100%	97%	100%						
	ASU utilization	Proportion of patients treated in a designated Stroke Unit at any time during their inpatient stay	80%	78.9%	80.4%	81.2%	90.2%	82.3%	86.5%	69.3%	70.7%	73.6%	78.1%	70.4%	66.0%	85.0%	72.6%	63.8%	54.1%	76.3%	90.5%						
	Mortality	In-hospital Mortality Rate (30 days, all cause) (%)		11.1%	13.0%	11.3%	5.7%	12.1%	9.9%	13.2%	13.5%	14.5%	11.3%	12.8%	13.0%	5.8%	5.4%	2.8%	0.0%	2.8%	2.4%						
	Discharge	Proportion of stroke patients (discharged alive) to each discharge disposition: Inpatient Rehab (%)		22.6%	25.9%	22.3%	22.4%	21.1%	17.0%	27.3%	24.6%	22.4%	30.1%	33.2%	32.0%	12.8%	6.5%	16.2%	16.2%	23.1%	29.3%						
	Discharge	Proportion of stroke patients (discharged alive) to each discharge disposition: Home or +Home with Supports(%).		65.6%	56.4%	64.2%	59.4%	66.9%	65.0%	53.6%	52.3%	45.9%	43.6%	39.0%	39.4%	59.5%	57.7%	59.9%	54.0%	56.4%	48.8%						
	Vascular Imaging	Proportion of stroke/TIA patients who receive Brain/Head CTA or MRA or Carotid Doppler (neck) in ED or after admission to acute care hospital(%)																				In Development					
Prevention	Referral from ED	Proportion of stroke/TIA patients discharged from ED who receive a referral to Stroke Prevention Clinic (%) - (Stroke Report Card)		80.4%	70.4%	86.1-97.2%				93.5%	92.0%	93.0%				76.0%	79.0%	82.4%				79.1%	73% SF, NR Perth Site	70.4% SF, 60% Perth			
	Volumes	Number of New Referrals		849	813	772	261	235	214	1199	1201	1217	332	364	303	205	251	190	50	42	60	389	383	404	126	104	102
	Wait time	Wait time for Priority 2 patients (days)	3	4.5	5.9	4.3	6.7	3.7	4	3.3	3.4	2.9	3	3.3	2.9	3.8	5.1	5.3	5.5	7.2	5.8	1.4	1.4	2.8	2.8	3.4	5.9

Green circles - noticeable change in positive direction

Orange circles - noticeable change requiring attention

Several entries missing arrival time in Project 340 cases - ED LOS calculated on full data encounters only

Note: Endovascular Thrombectomy
Q3 2021-22: Total Volume 15
By geography: HPE: 6, KFLA 5(2 L&A), LLG: 3 Other: 1
Q3 2021-22: Total Volume 17
By geography: HPE: 5, KFLA 6 (0 L&A), LLG: 4 Other: 2
Q1 2021.22: Total volume 21
By geography: HPE: 4 KFLA: 10(1L&A), LLG: 7
FY 2020/21: Total Volume 66
By geography: HPE: 24 KFLA: 27(8 L&A), LLG: 15

Note: BGH flow to rehab is not accurately reflected by data:
1) Many transfers to CCC bed to await rehab (prior to Q3 2020)
2) PSF patients repatriated to Perth rehab are coded as acute
3) LLG Evaluation results indicated challenges accessing rehab for Perth Smiths Falls patients

Stroke Care in Ontario 2020/21

STROKE IS A MEDICAL EMERGENCY

66%
of stroke/TIA patients arrived at the emergency department by ambulance

81% of patients were referred to secondary prevention services after discharge from the emergency department*

TIME IS BRAIN

14%
of ischemic stroke patients received hyperacute therapy

11% tPA (tissue plasminogen activator) (Target: >12%)
- **44 minutes** median door-to-needle time (Target: <30 minutes)

6% EVT (Endovascular therapy)

STROKE UNIT CARE IMPROVES OUTCOMES

1.46 per 1000 population
are admitted for acute stroke/TIA

41 hospitals in Ontario have a stroke unit

56% of stroke patients treated on a stroke unit (Target: >75%)

SECONDARY PREVENTION OF STROKE OCCURS ACROSS THE CARE CONTINUUM

8 days **
Median time from acute admission to inpatient rehabilitation

REHABILITATION OPTIMIZES RECOVERY

31%**
of patients accessed inpatient rehabilitation

- **69 minutes** per day of inpatient therapy was received per patient (Target: 180 minutes)

STROKE JOURNEY CONTINUES AFTER DISCHARGE

56 days **
Average number of days spent at home in the first 90 days after stroke

39%** received home-based rehabilitation*
- **9**** median number of visits

75% of patients aged 65 and older with atrial fibrillation filled a prescription for anticoagulant therapy within 90 days of acute care discharge*

PATIENT OUTCOMES

7% of stroke/TIA patients were readmitted within 30 days
12% of stroke/TIA patients died within 30 days
6%** of stroke patients were admitted to long-term care within 1-year post discharge

*There is currently no data available for outpatient rehabilitation and secondary prevention clinic.

Stroke Care in South East 2020/21

NOTE: Arrow indicates how SE is trending from last FY report – improvement indicated by upward green arrow; worsening by downward red arrow

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STROKE IS A MEDICAL EMERGENCY

68.6% ⬆ (ON 66.2%)
of stroke/TIA patients arrived at the emergency department by ambulance

84.0% ⬆ (ON 81.4%) of patients were referred to secondary prevention services after discharge from the emergency department*

TIME IS BRAIN

19.9% ⬆ (ON 14.1%)
of ischemic stroke patients received hyperacute therapy

14.8% tPA (tissue plasminogen activator) (Target: >12%) (ON 10.5%)
31 minutes median door-to-needle time (Target: <30 minutes) (ON 44.0)

6.9% EVT (Endovascular therapy) (ON5.8%)

STROKE UNIT CARE IMPROVES OUTCOMES

1.81 ⬆ **per 1000 population** (ON 1.46)
are admitted for acute stroke/TIA

41 hospitals in Ontario have a stroke unit

79.1% ⬆ (ON 56.1%) of stroke patients treated on a stroke unit (Target: >75%)

SECONDARY PREVENTION OF STROKE OCCURS ACROSS THE CARE CONTINUUM

⬆

REHABILITATION OPTIMIZES RECOVERY

9 days ** ⬆ (ON 8.0)
Median time from acute admission to inpatient rehabilitation

26.2%** ⬆ (ON 31.4%)
of patients accessed inpatient rehabilitation

75 minutes per day of inpatient therapy was received per patient (Target: 180 minutes) (ON 68.9%)

STROKE JOURNEY CONTINUES AFTER DISCHARGE

57.2 days ** ⬆ (ON 56.4)
Average number of days spent at home in the first 90 days after stroke

66.4%** received home-based rehabilitation* (ON 38.6%)
12** median number of visits (ON 9.0)

76.6% ⬆ (ON 74.9%) of patients aged 65 and older with atrial fibrillation filled a prescription for anticoagulant therapy within 90 days of acute care discharge*

PATIENT OUTCOMES – SE rates each similar or improved from last FY
6.2% of stroke/TIA patients were readmitted within 30 days (ON 6.6%)
11.3% of stroke/TIA patients died within 30 days (ON 12.1%)
8.2%** of stroke patients were admitted to long-term care within 1-year post discharge (ON 6.3%)

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*There is currently no data available for outpatient rehabilitation and secondary prevention clinic.
** 2020/21 Q2 (YTD)

Stroke Care in South East – KFL&A, 2020/21

NOTE: Arrow indicates how SE is trending from last FY report – improvement indicated by upward green arrow; worsening by downward red arrow

STROKE IS A MEDICAL EMERGENCY

Kingston: 67.7% ↑ (ON 66.2%)
Rural FL&A: 62.4 ↑ of stroke/TIA patients arrived at the emergency department by ambulance

KHSC KGH: 93.0% ↑;**KHSC HDH: 100.%** ↑ of (ON 81.4%) patients were referred to secondary prevention services after discharge from the emergency department*

TIME IS BRAIN

Kingston: 20.5% ↑ (ON 14.1%)
Rural FL&A: 24.7% ↑
of ischemic stroke patients received hyperacute therapy (ON 10.5%)
By Sub-regions: Kingston – 16.4%; Rural FL&A – 17.5%
tPA (tissue plasminogen activator) (Target: >12%)
KHSC :28 minutes median door-to-needle time (Target: <30 minutes) (ON 44.0)
By Sub-regions:
Kingston: 6.3%; Rural FL&A: 5.2% - 9.3% (ON 5.8%)
EVT (Endovascular therapy)

STROKE UNIT CARE IMPROVES OUTCOMES

1.81 per 1000 population ↑ (ON 1.46) are admitted for acute stroke/TIA

41 hospitals in Ontario have a stroke unit

KHSC: 80.0% ↑ of stroke patients treated (ON 56.1%) on a stroke unit (Target: >75%)
By Sub-regions: **Kingston: 82.5%** ↑;
Rural FL&A – 84.8% ↑

SECONDARY PREVENTION OF STROKE OCCURS ACROSS THE CARE CONTINUUM

KGH 11 days ↑** (ON 8.0)
Median time from acute admission to inpatient rehabilitation

REHABILITATION OPTIMIZES RECOVERY

Kingston: 32.9%** ↑ (ON 31.4%)
Rural FL&A: 33.7% ↑
of patients accessed inpatient rehabilitation

PCH: 74.9 minutes ↑ per day of (ON 68.9%) inpatient therapy was received per patient (Target: 180 minutes)

STROKE JOURNEY CONTINUES AFTER DISCHARGE

KHSC: 54.3 days ↑** (ON 56.4)
Average number of days spent at home in the first 90 days after stroke

Home - based Rehab
By Sub-regions: **By site : KHSC – 64.3%** ↑ (ON 38.6%)
Kingston: 63.1%** ↑;**Rural FL&A: 76.9%** ↑
received home-based rehabilitation*
KHSC:14** ↑ median number of visits (ON 9.0)
By Sub – regions: **Kingston – 13 ; Rural FL&A: 15**

KHSC: 75.4% ↑ of patients aged 65 and older (ON 74.9%) with atrial fibrillation filled a prescription for anticoagulant therapy within 90 days of acute care discharge*
By Sub-Regions: Kingston: 80.0%
Rural FL&A – 61.5-92.3%

PATIENT OUTCOMES

KHSC:6.1; L&ACGH:0.0% ↑ of stroke/TIA patients were readmitted within 30 days (ON 6.6%)
KHSC:13.3% ↓ of stroke/TIA patients died within 30 days (ON 12.1%)
By Sub-regions: **Kingston – 6.9%** ↑; **Rural FL&A – 9.7%**** ↓; **By Site: KHSC – 7.0%** ↑ of stroke patients were admitted to long-term care within 1-year post discharge (ON 6.3%)

*There is currently no data available for outpatient rehabilitation and secondary prevention clinic.
** 2020/21 Q2 (YTD)

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Common symbols and their meaning

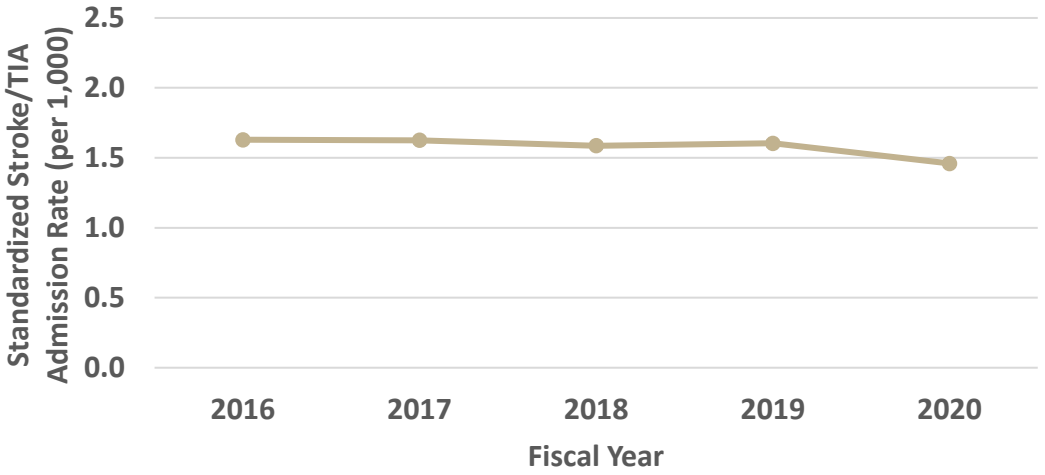
Symbols	Interpretation
West Central Toronto East North	The LHIN is a member of the LHIN cluster, aka Super-LHIN
▲	The region or provider is statistically above Ontario performance and high values are preferred
▲	The region or provider is statistically above Ontario performance and low values are preferred
▼	The region or provider is statistically below Ontario performance and high values are preferred
▼	The region or provider is statistically below Ontario performance and low values are preferred
●	The region or provider is within a 95% confidence interval of Ontario performance
△ ABC High ▽ ABC Low	High and low achievable benchmarks for indicators in which a large value is preferred
△ ABC High ▽ ABC Low	High and low achievable benchmarks for indicators in which a low value is preferred
☆ Ontario	Ontario performance in a given fiscal year
Rate	Unless specified otherwise, all rates are per 100 cohort patients
Fiscal Year	Calendar year of the beginning of a fiscal year (for example, 2018 is 2018/19)

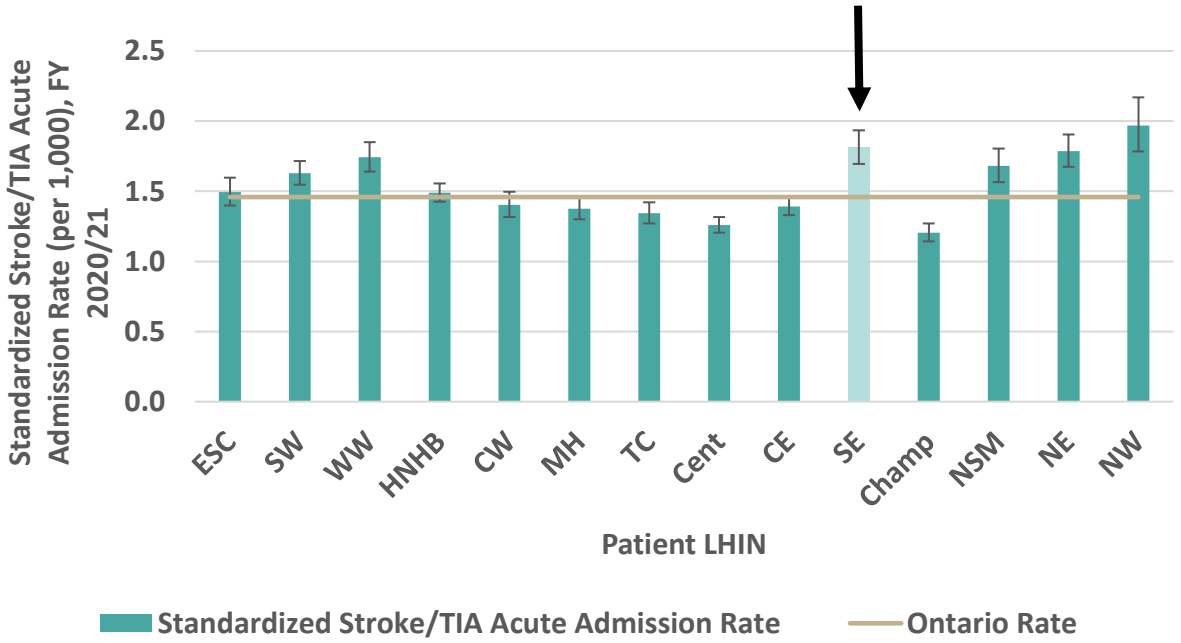
Stroke Prevention Data

Chapter 1: Prevention and Public Awareness of Stroke and TIA in Ontario
Indicator 1.1: Standardized Stroke and TIA Admission Rate to Acute Inpatient Care (per 1,000), FY 2020/21

Indicator Description:

The population rate of admission to hospital for stroke & transient ischemic attack (TIA) reflects several factors including the effectiveness of primary and secondary prevention efforts such as control of hypertension and smoking cessation programs. The cohort for this indicator is the Ontario adult population in the Registered Persons Database (RPDB). Ontario and LHIN performance are directly standardized to the 2020 RPDB population age and sex profile.





Interpretation Consideration:

Desired directionality is lower. There was very little movement in the Ontario rate between fiscal years 2016 to 2019, however in fiscal year 2020, there was a noticeable decrease. During the early stages in the pandemic, the number of ED visits for stroke decreased[4], which may account for some of the decrease in admissions for stroke. Only the first (index) stroke in each fiscal year is included. Factors that may contribute to the LHIN variation observed may be reflective of geographic nuances with respect to social determinants health and health resource equity.

Chapter 1: Prevention and Public Awareness of Stroke and TIA in Ontario
Indicator 1.2: Secondary Prevention Referral Rate of Stroke & TIA Patients Discharged from the Emergency Department, FY 2020/21 – *Hospital Level*

Indicator Description:

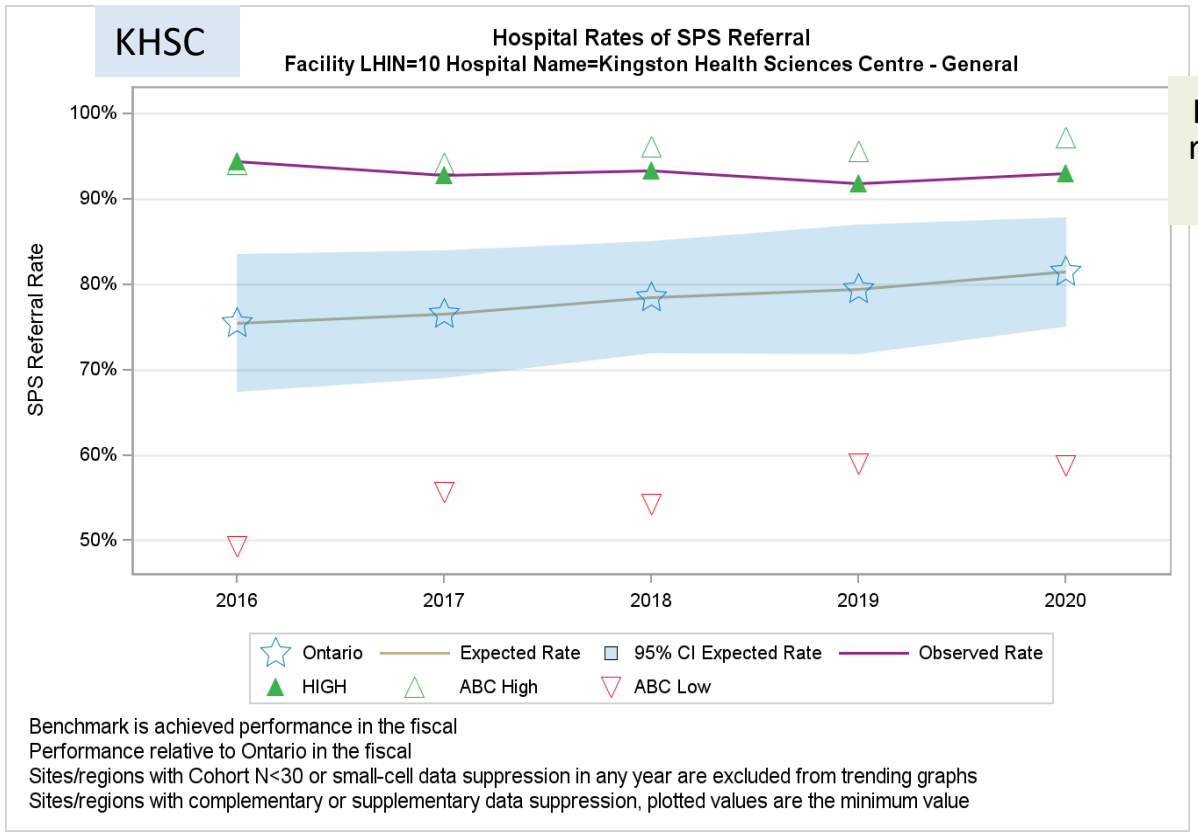
Proportion of ischemic stroke and transient ischemic attack (TIA) patients discharged from the emergency department (ED) who were referred to secondary prevention services (query stroke/query TIA are excluded).

** Hatched bars indicate sites with complementary/supplementary data suppression (min values plotted)*

Interpretation Consideration:

Desired directionality is higher. Most of the sites have a rate of 80% or greater for referral to secondary prevention services. The limitation with this metric is, although a patient is referred to a secondary prevention clinic, it is not known whether the patient received services due to a lack of standardized data availability. Additionally, patients discharged from the ED with an unknown diagnosis, may not be captured in the data, and may not be referred yet and still be at risk of stroke. Refer to Appendix B for hospital abbreviations.

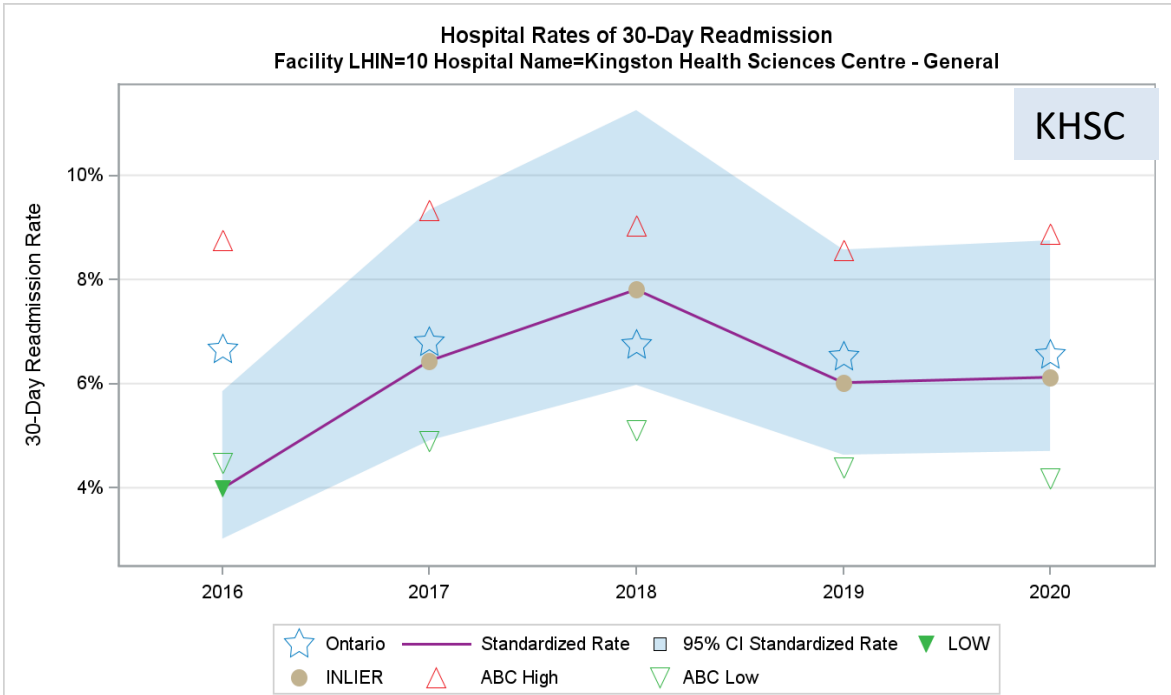
1-2 Secondary Prevention Referral Rate of Stroke & TIA Patients Discharged from the Emergency Department Stroke Report FY 2020-21



Benchmark is achieved performance in the fiscal
Performance relative to Ontario in the fiscal
Sites/regions with Cohort N<30 or small-cell data suppression in any year are excluded from trending graphs
Sites/regions with complementary or supplementary data suppression, plotted values are the minimum value

KHSC - high referral rate to SPC

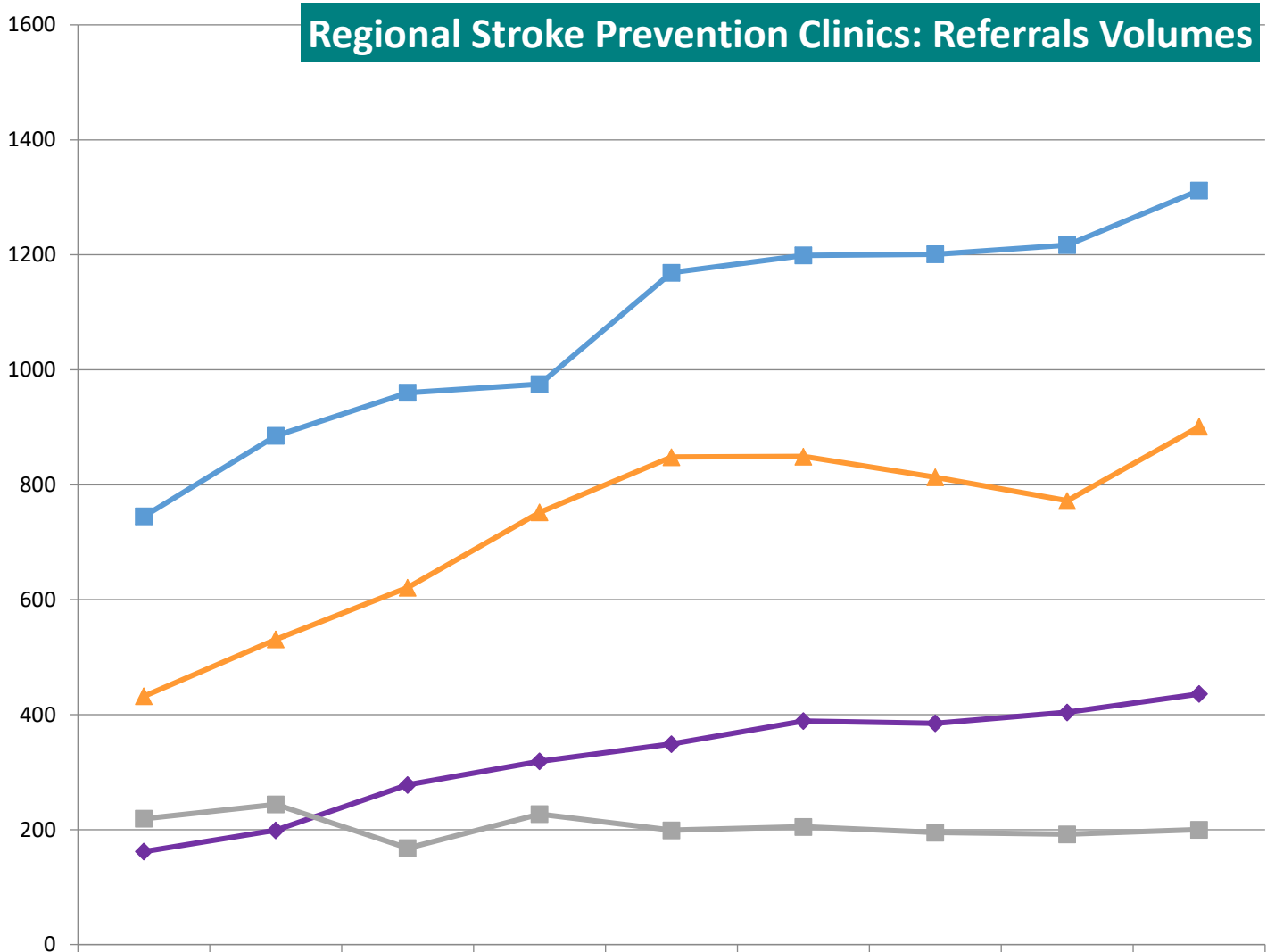
3-4 Hospital Rates of 30-Day Readmission Stroke Report FY 2020-21



Benchmark is achieved performance in the fiscal
Performance relative to Ontario in the fiscal
Sites/regions with Cohort N<30 or small-cell data suppression in any year are excluded from trending graphs
Sites/regions with complementary or supplementary data suppression, plotted values are the minimum value

Readmission rate was climbing but has now stabilized

Regional Stroke Prevention Clinics: Referrals Volumes



KHSC:
↑ Referral Volumes

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
PSFDH total referrals	162	199	278	319	349	389	385	404	436
BrGH total referrals	219	244	168	227	199	205	195	192	200
QHC total referrals	432	531	621	752	848	849	813	772	901
KHSC total referrals	745	885	960	975	1169	1199	1201	1217	1312

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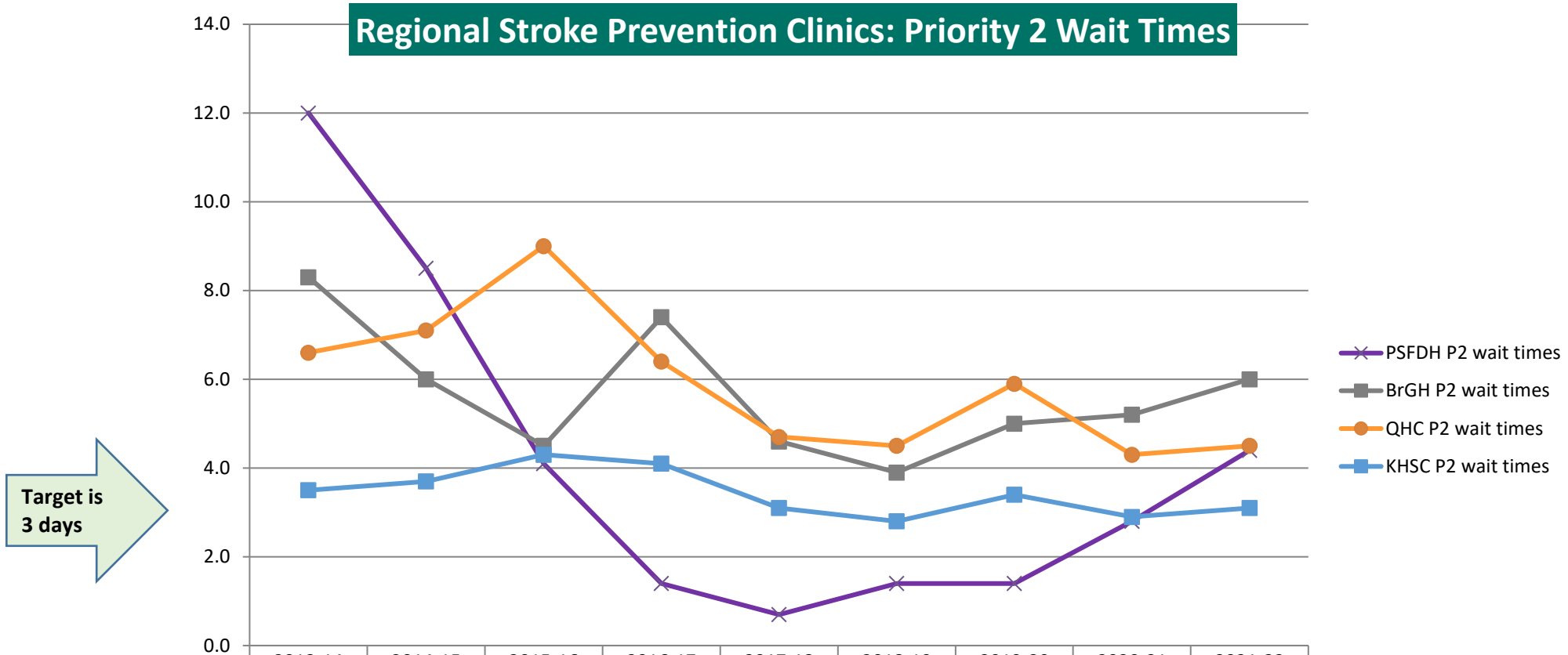
Regional Stroke Prevention Clinics: Priority 2 Wait Times



Target is 3 days

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
PSFDH P2 wait times	12.0	8.5	4.1	1.4	0.7	1.4	1.4	2.8	4.4
BrGH P2 wait times	8.3	6.0	4.5	7.4	4.6	3.9	5.0	5.2	6
QHC P2 wait times	6.6	7.1	9.0	6.4	4.7	4.5	5.9	4.3	4.5
KHSC P2 wait times	3.5	3.7	4.3	4.1	3.1	2.8	3.4	2.9	3.1

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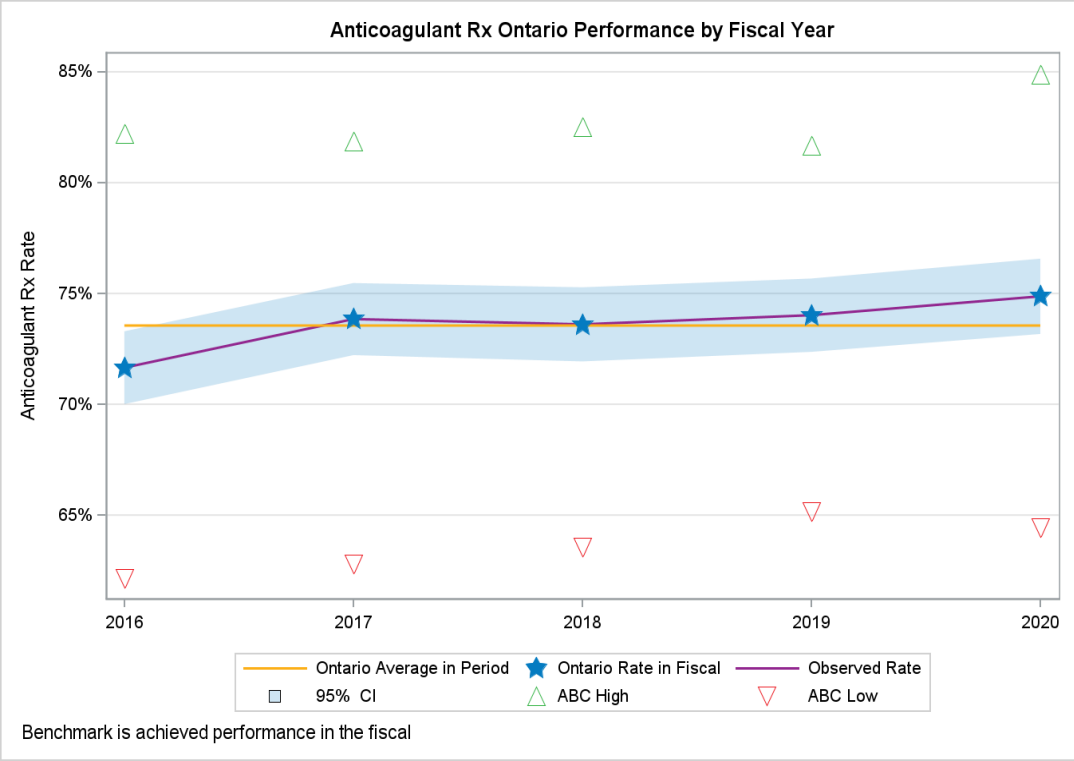
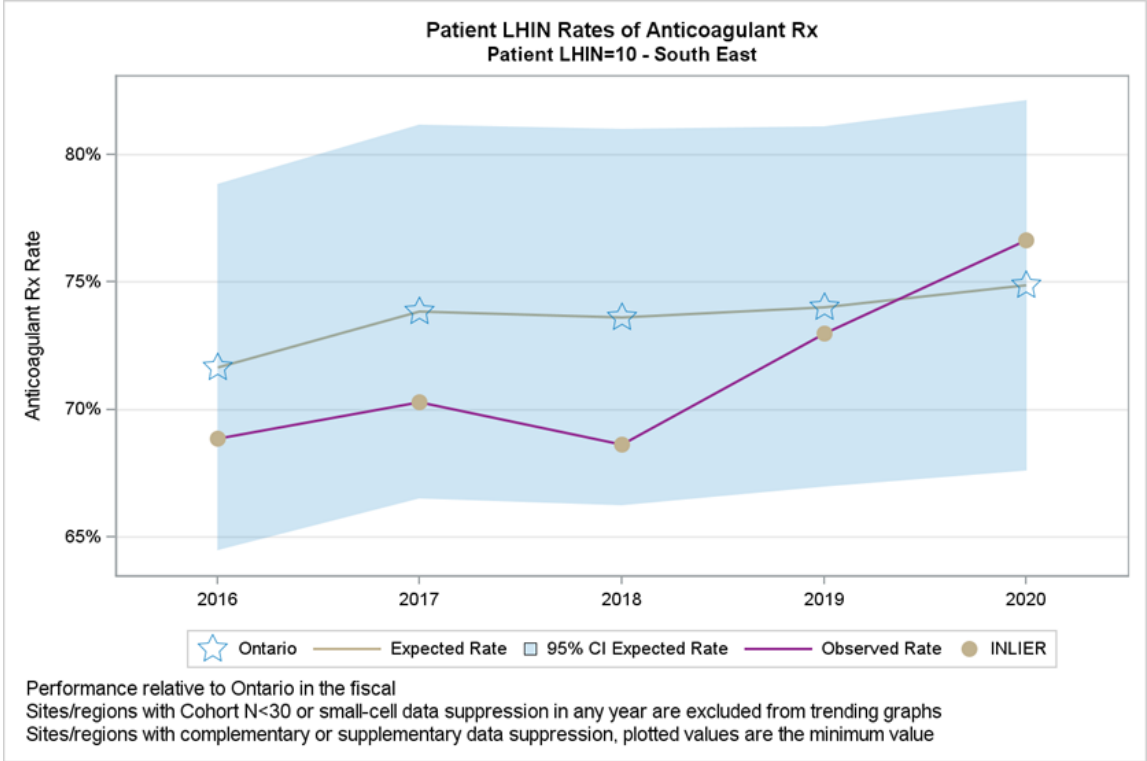
1-3 Anticoagulant Rx within 90 days: Rate for ischemic stroke/TIA patients age 65+ with Hx of Atrial Fibrillation – Stroke Report FY 2020-21





Rates hospital current year (last year)

- **KHSC-General 75.4% (73.4%)**
- QHC – Belleville – 83.1% (80.4%)
- Brockville General – 68.8 to 93.8% (54.5%)
- PSFDH – Not reportable (suppressed)

Rates for sub-region current year (last year)

- **Kingston sub-region 80.0% (84.4 to 96.9%)**
- **Rural FLA – 61.5 to 92.3% (57.1%)**
- Quinte sub-region 84.0% (78.8%)
- Rural Hastings sub-region 44.9 to 88.9% (58.3 to 91.7%)
- LLG sub-region – 62.9 to 74.3% (58.5%)

Stroke Prevention (SPC) Discussion

- **Accomplishments**
  - Expansion of **capacity** with increased physician coverage and virtual care
  - **Well-established Referral processes** with EDs & Primary Care
  - Efficient **triage**
- **Ongoing**
  - QI initiative re **anticoagulation adherence:** health literacy
  - **Indigenous Health** – Blood Pressure Screening
- **FUTURE**
  - Apply new provincial **triage algorithms**
  - **Other?**

Refer to SEO Regional Stroke Best Practice Workplan 2021-23

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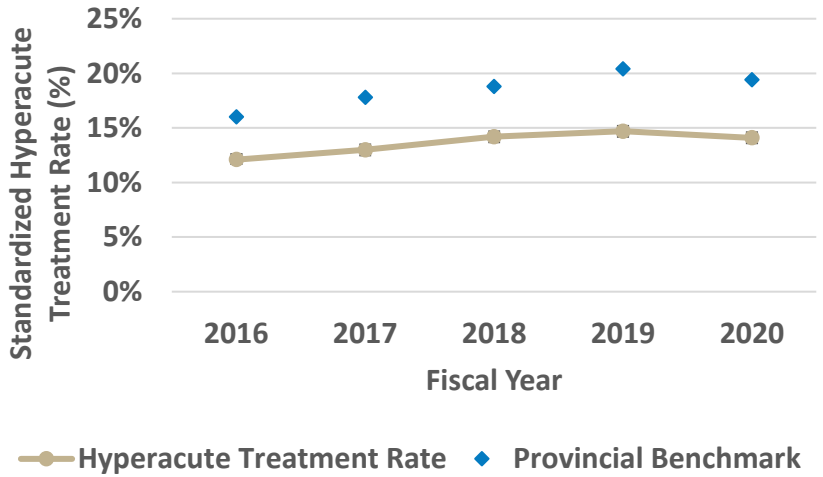
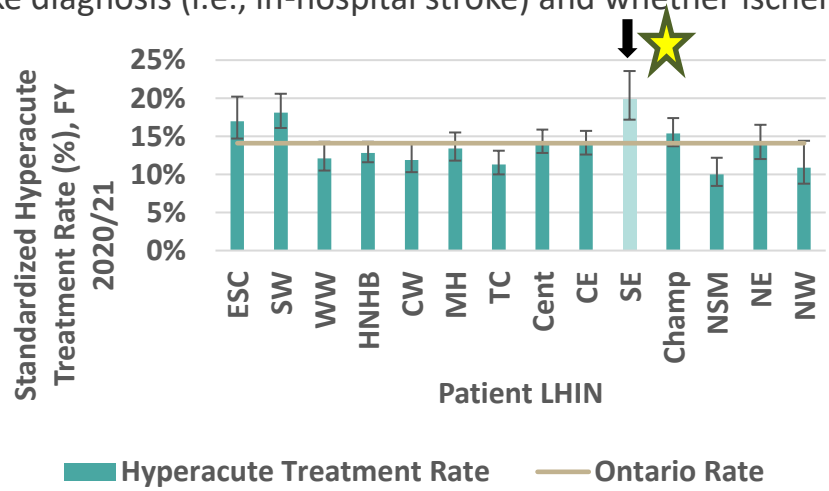
Hyperacute Stroke Data

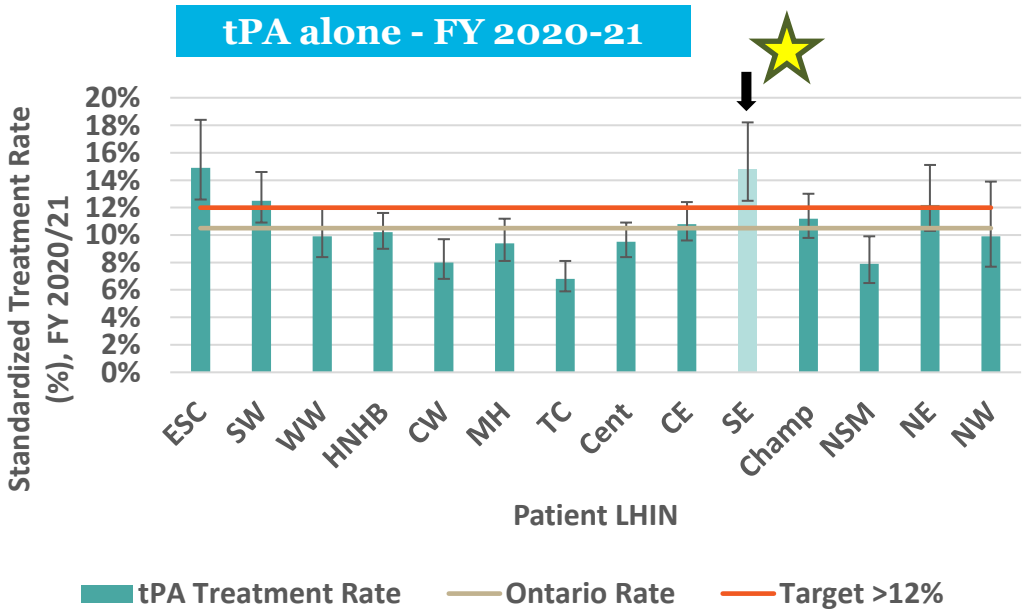
Chapter 2: Hyperacute Care Access and Outcomes for Ischemic Stroke
Indicator 2.1.1: Standardized Hyperacute Treatment Rate (tPA and/or EVT), FY 2020/21

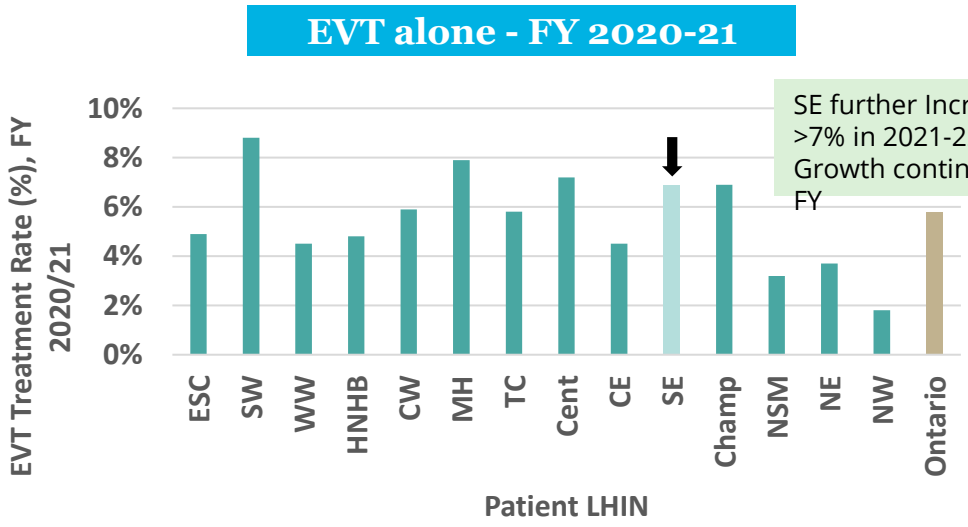
Indicator Description:

This indicator measures the rate of ischemic stroke patients who received hyperacute therapy which includes endovascular thrombectomy (EVT) and/or tissue plasminogen activator (tPA). The indicator is standardized for type II stroke diagnosis (i.e., in-hospital stroke) and whether ischemic stroke was the MRDx.





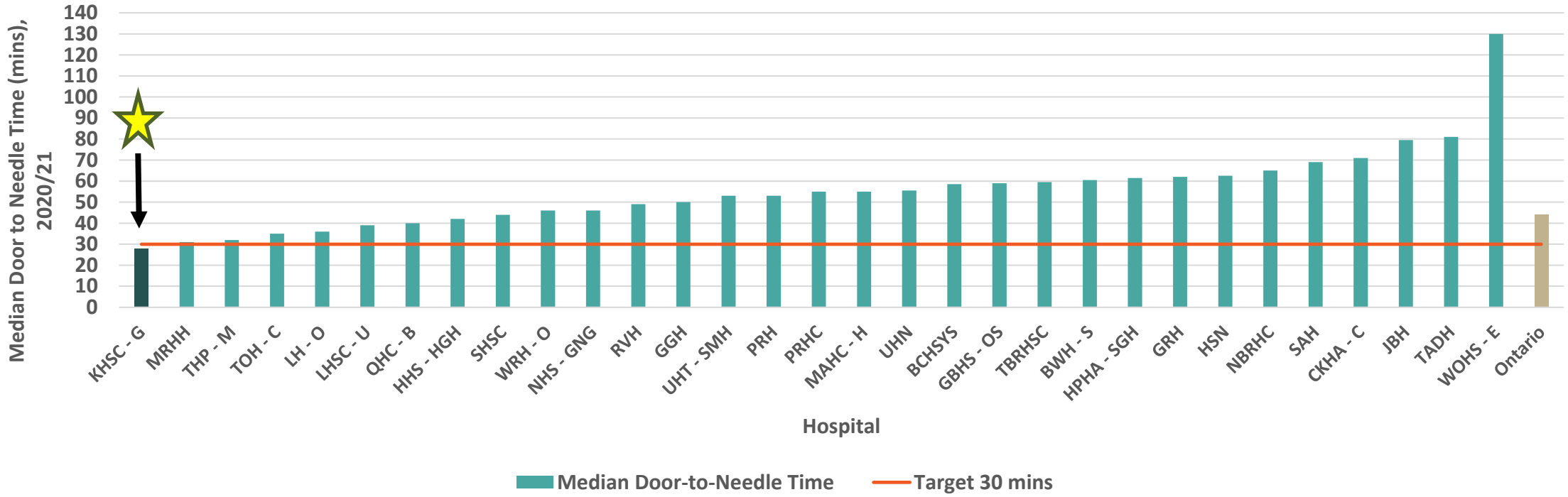




Chapter 2: Hyperacute Care Access and Outcomes for Ischemic Stroke
Indicator 2.2: Median Door-to-Needle Time for tPA Treatment (mins), FY 2020/21 – *Hospital Level*

Indicator Description:

The time, in minutes, between a stroke patient's emergency department (ED) door time and the time thrombolysis with tissue plasminogen activator (tPA) was administered is referred to as door-to-needle (DTN) time. The target median door to needle time is 30 minutes.[3]

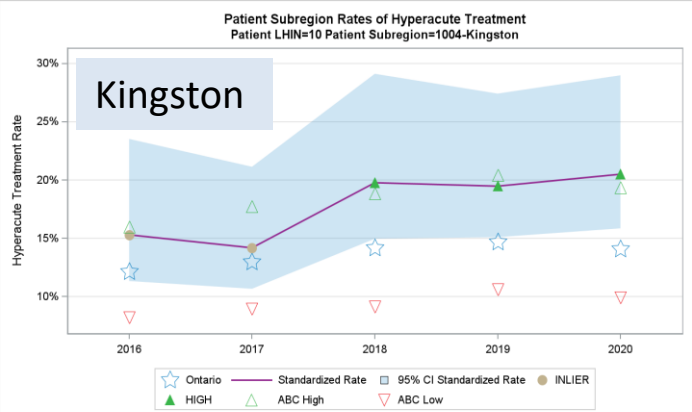


Interpretation Consideration:

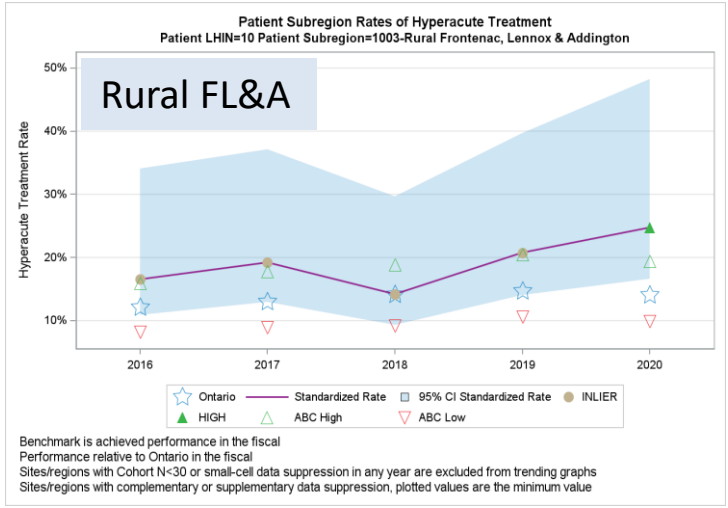
Desired directionality is lower. Start of the ED door time is defined as ED triage or ED registration time (which ever comes first). **KHSC-G was the only hospital that achieved target time.** Median door-to-needle time ranges from 28 minutes (KHSC–G) to 130 minutes (WOHS-E). Hospitals should be reviewing their processes of care to drive quality improvement on access to this time dependent treatment. Refer to Appendix B for hospital abbreviations.

2-1 Hyperacute Treatment rates and Door-to-Needle Times
Stroke Report FY 2020-21

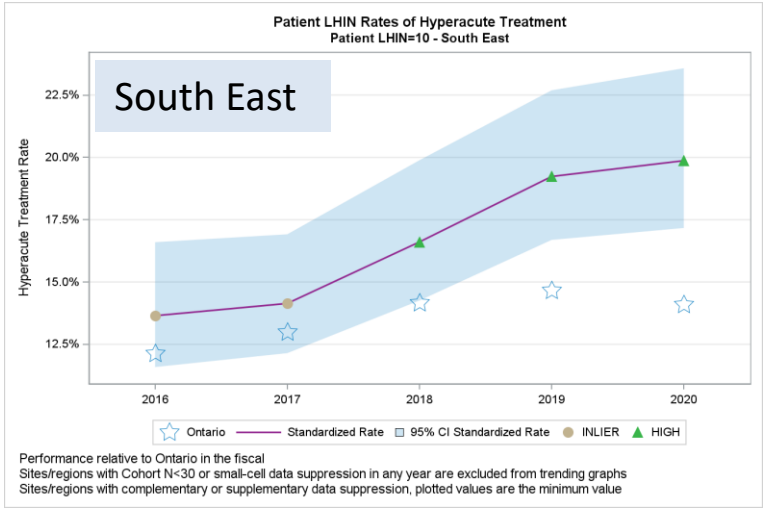
Kingston



Rural FL&A

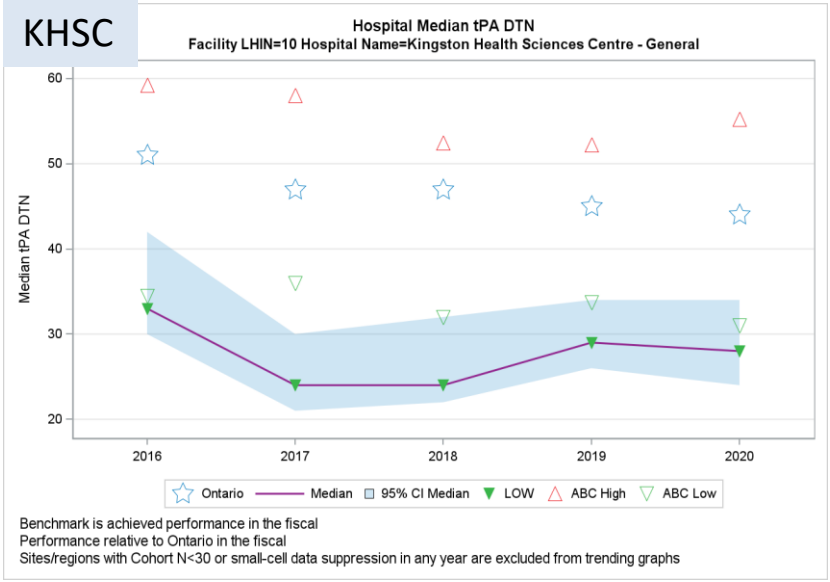


South East



Excellent rates of hyperacute Rx Kingston, Rural FLA and SE

KHSC



KHSC noted to have sustained best Median DTN time in province

Hyperacute (ED) Discussion

- **Accomplishments:**
  - Access: Established protocols for 24 hour window – using ACT-FAST
  - Established EVT and Coiling services
  - Timeliness: DTN times and reperfusion times best in province
- **Ongoing:**
  - ED LOS, flow from ED to inpatient care
  - Sustaining thrombolysis and EVT process times
- **FUTURE:** TNK versus tPA

Refer to SEO Regional Stroke Best Practice Workplan 2021-23

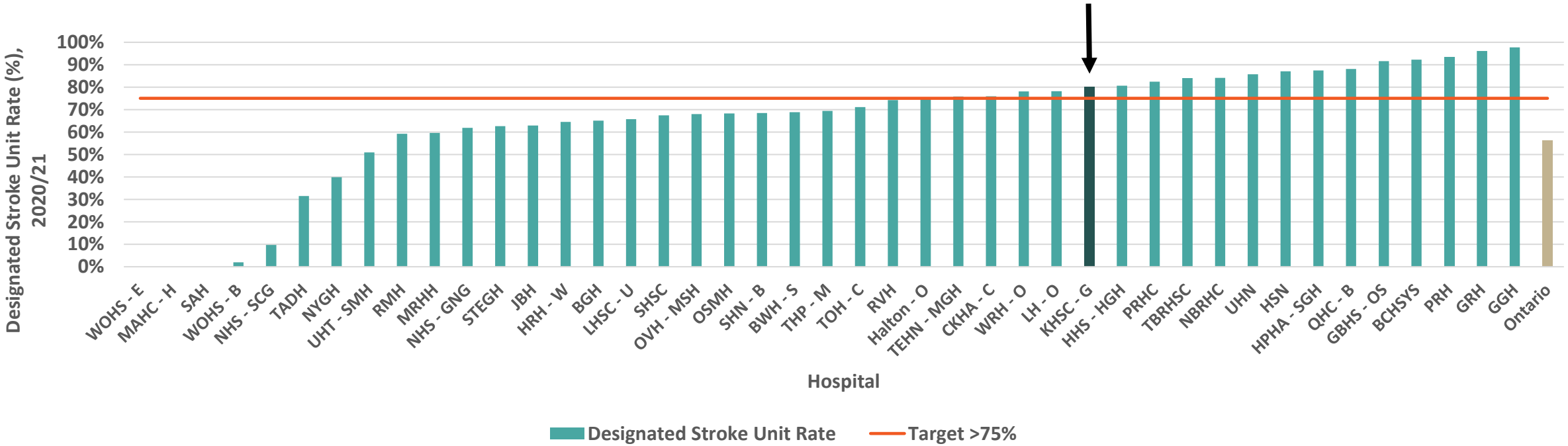
strokenetwork
SOUTHEASTERN ONTARIO

Acute and Rehab Stroke Data
Acute Stroke Unit

Chapter 3: Acute Care Access and Outcomes for Stroke and TIA
Indicator 3.1: Designated Stroke Unit Rate for Stroke/TIA Acute Patients, FY 2020/21 – *Hospital Level*

Indicator Description:

This indicator measures the proportion of stroke/TIA patients treated in a designated stroke unit for any part of their index (first) admission. Target is >75%[3]



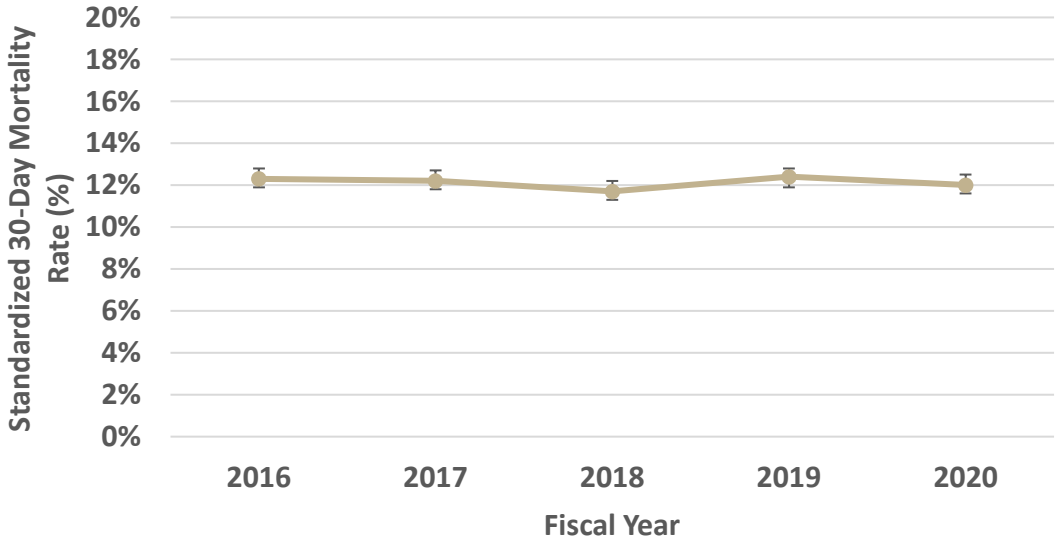
Interpretation Consideration:

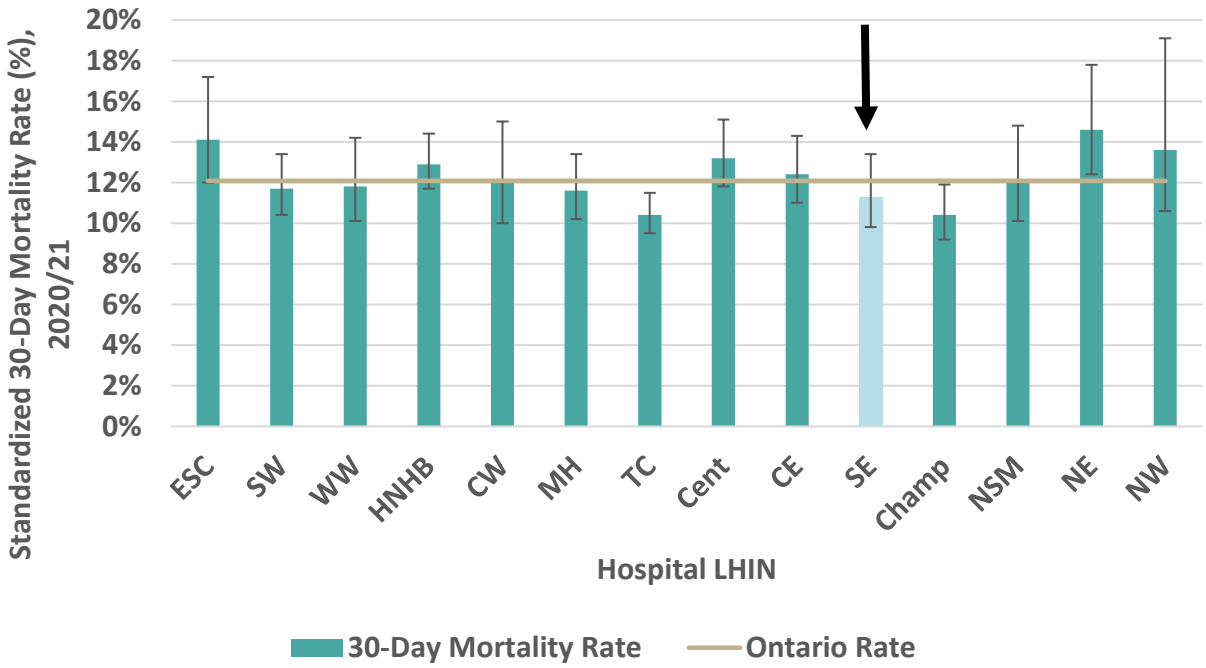
Desired directionality is high. Patients who receive stroke unit care are more likely to survive, return home and regain independence compared to patients who receive generalized care.[2] To optimize access and improve outcomes to this specialized care, consideration will need to be given to hospital (local) and regional level barriers and enablers. In addition, review and update of the indicator methodology may be helpful to ensure that measurement is reflective of the true performance within the system (e.g., patients not treated in a stroke unit at the index hospital, but are transferred and treated in a stroke unit at the receiving hospital are currently not counted). Refer to Appendix B for hospital abbreviations.

Chapter 3: Acute Care Access and Outcomes for Stroke and TIA
Indicator 3.3: Standardized 30-Day All-Cause Mortality Rate of Stroke and TIA Admissions to Acute Care, FY 2020/21

Indicator Description:

This indicator measures the all-cause mortality rate in the 30-days following admission for stroke or TIA. This indicator is adjusted for patient age, stroke type, ambulance arrival and medical history factors including hypertension, atrial fibrillation, and a Charlson Comorbidity Index Score of 7+.





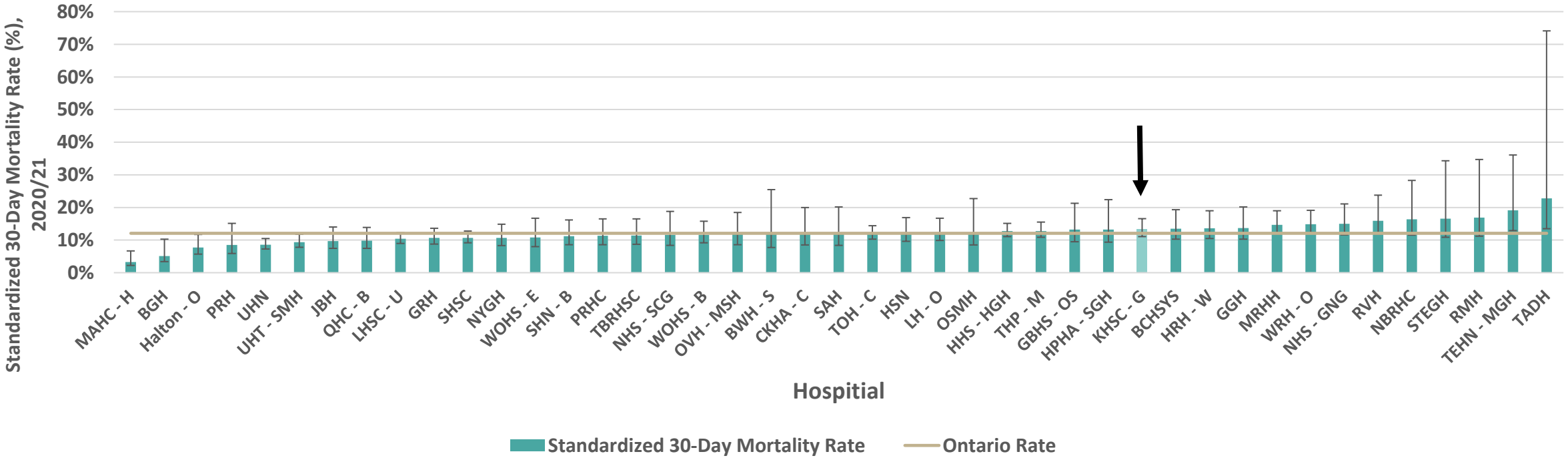
Interpretation Consideration:

Desired directionality is low. The standardized mortality rate for Ontario has remained relatively flat for the past five years (including the first year of the pandemic) around 12%. There is variation amongst the LHINs, with TC and Champlain LHIN being significantly lower than the Ontario rate. This indicator measures all-cause mortality; therefore, death may not be related to the stroke event.

Chapter 3: Acute Care Access and Outcomes for Stroke and TIA
Indicator 3.3: Standardized 30-Day All-Cause Mortality Rate of Stroke and TIA Admissions to Acute Care, FY 2020/21 – *Hospital Level*

Indicator Description:

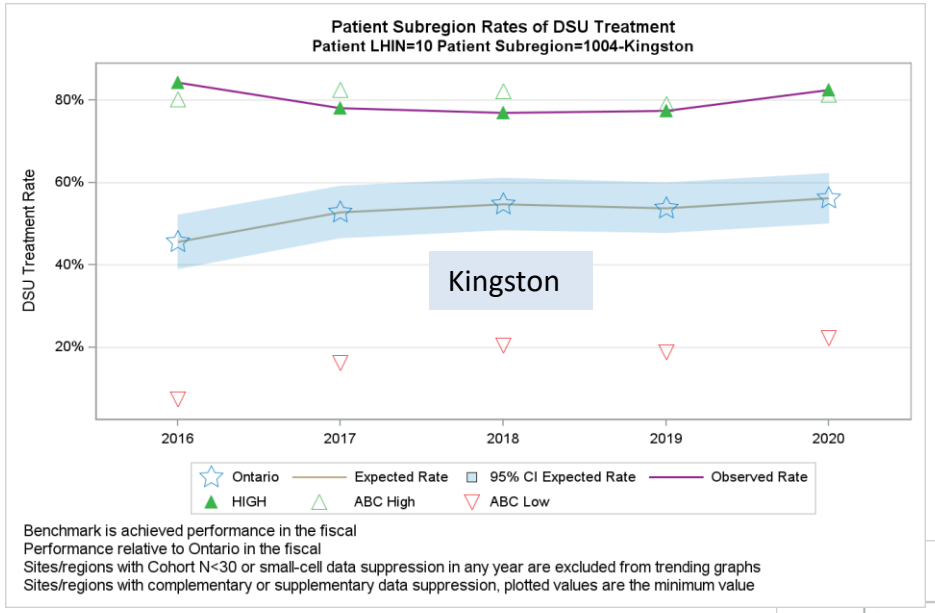
This indicator measures the all-cause mortality rate in the 30-days following admission for stroke or TIA. This indicator is adjusted for patient age, stroke type, ambulance arrival and medical history factors including hypertension, atrial fibrillation, and a Charlson Comorbidity Index Score of 7+.



Interpretation Consideration:

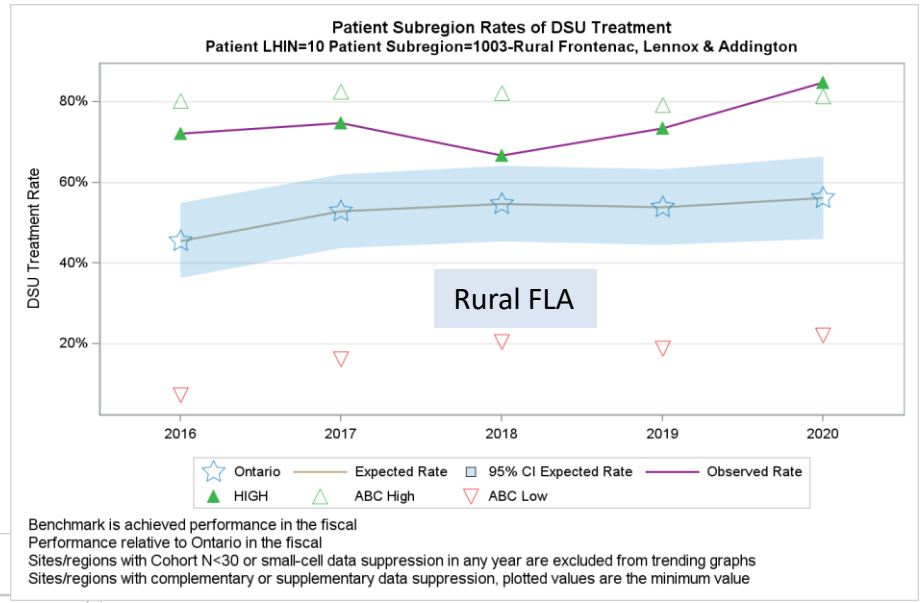
Desired directionality is low. In 2020, most of the hospitals were not statistically different than the Ontario rate, though some show more variance than others. There may be opportunity to improve consistency of outcomes within or across centres. This indicator measures all-cause mortality; therefore, death may not be related to the stroke event. Refer to Appendix B for hospital abbreviations.

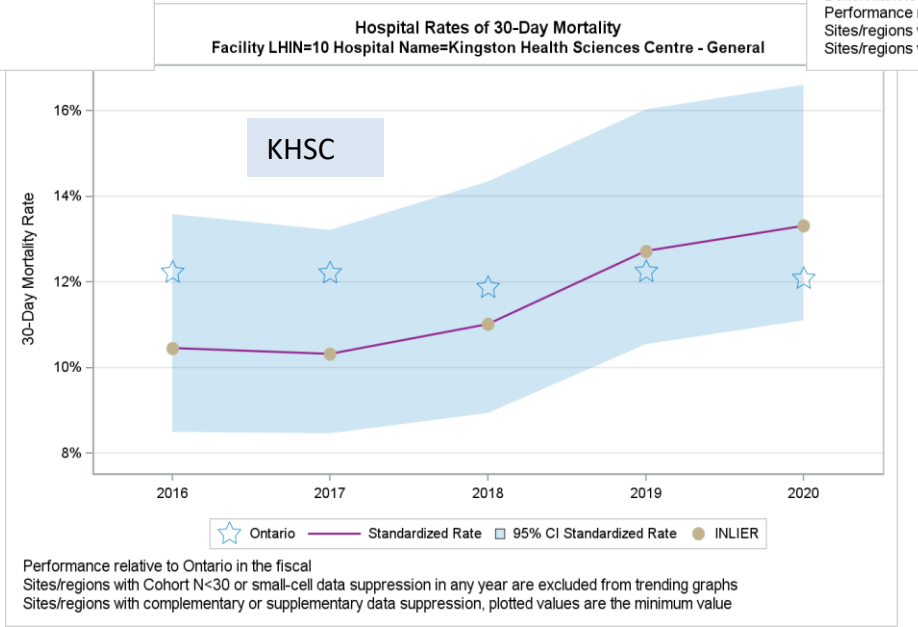
3.1 Designated Stroke Unit Rate for Stroke/TIA Acute Patients and 3.3 – 30-day Stroke Mortality Stroke Report FY 2020-2021



Efforts have focused on **sustaining** positive rates of over 75% ASU utilization.

ON Report uses Most Responsible Dx



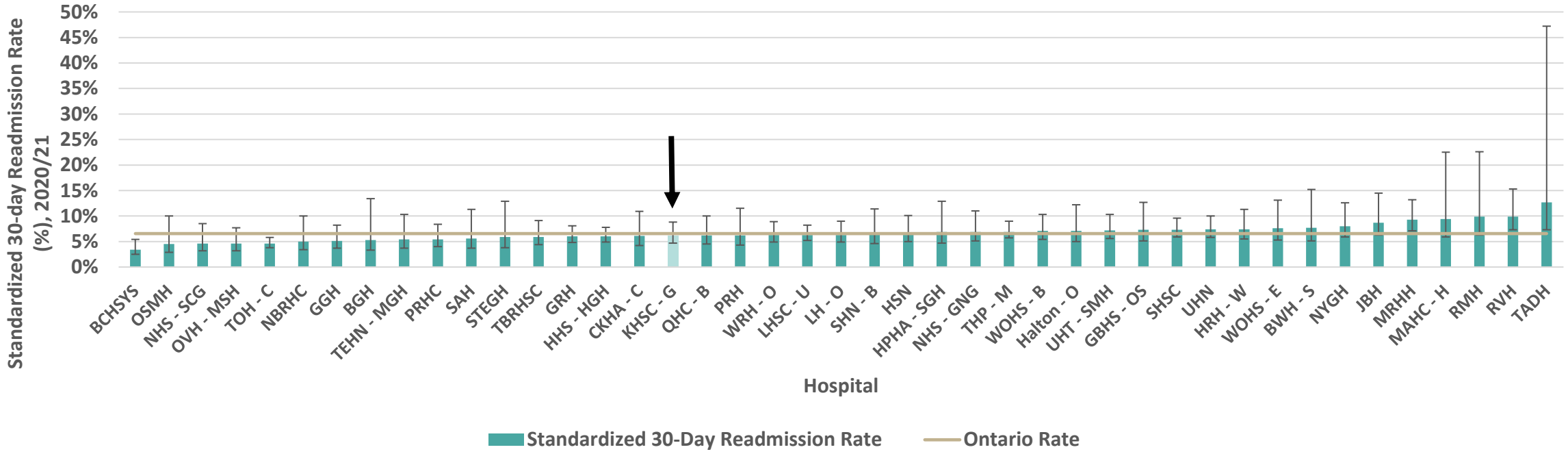


Mortality is known to be related to ASU rate

Chapter 3: Acute Care Access and Outcomes for Stroke and TIA
Indicator 3.4: Standardized 30-Day All-Cause Readmission Rate, FY 2020/21 – *Hospital Level*

Indicator Description:

This indicator measures the rate at which TIA and stroke patients are readmitted for any cause in the 30-days following discharge from acute care or the emergency department. This indicator is adjusted for patient age and stroke type.



Interpretation Consideration:

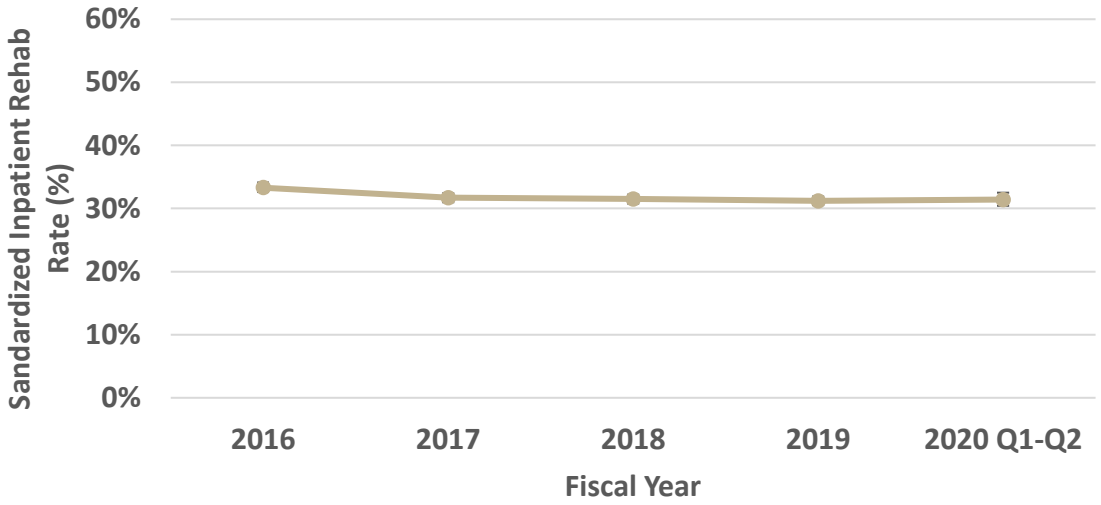
Desired directionality is low. This indicator is for all-cause readmission; therefore, a patient can be readmitted due to non-stroke related causes. In 2020, BCHSYS and TOH-C were the only two hospitals that were statistically lower than the Ontario rate. Some show more variance than others. There may be opportunity to improve consistency of outcomes within or across centres. Refer to Appendix B for hospital abbreviations.

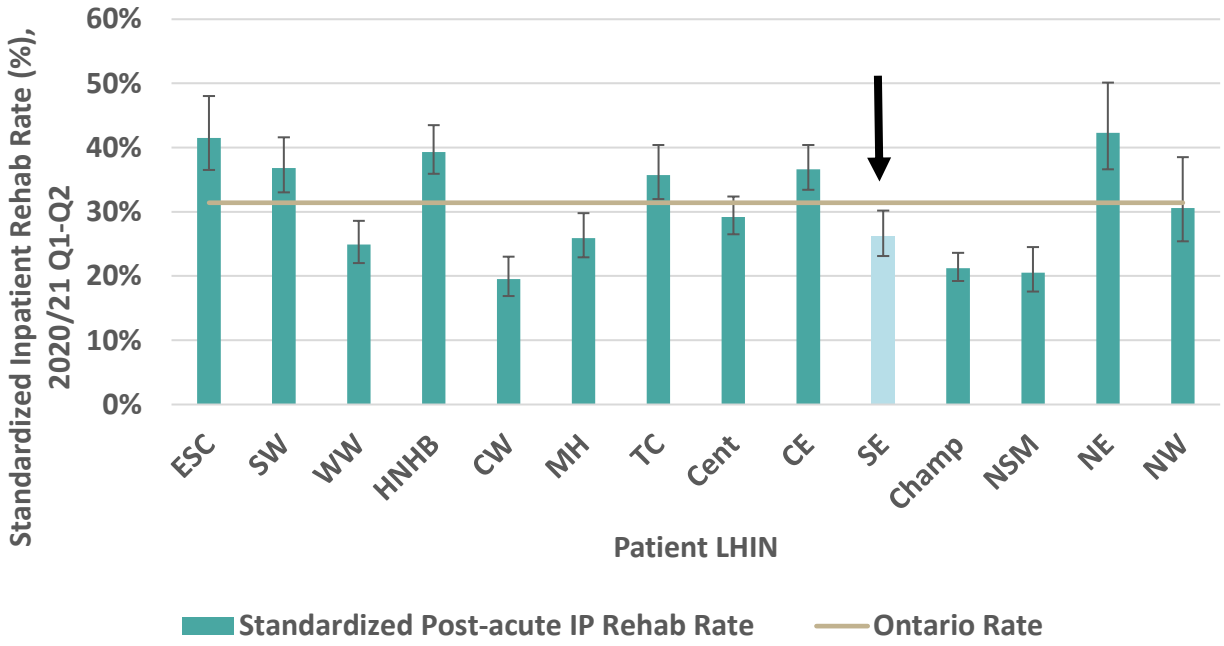
Acute and Rehab Stroke Data
Inpatient Rehab

Chapter 4: Post-Acute Stroke Rehabilitation Access and Timeliness
Indicator 4.1.2: Standardized Rate of Access to Post-Acute Inpatient Rehabilitation, FY 2020/21 Q1-Q2

Indicator Description:

Proportion of stroke patients discharged alive from acute care who went into inpatient rehabilitation. The indicator is standardized for stroke type and AlphaFIM® instrument (AlphaFIM®) score which provides insight into the stroke severity (level of functional status and disability).





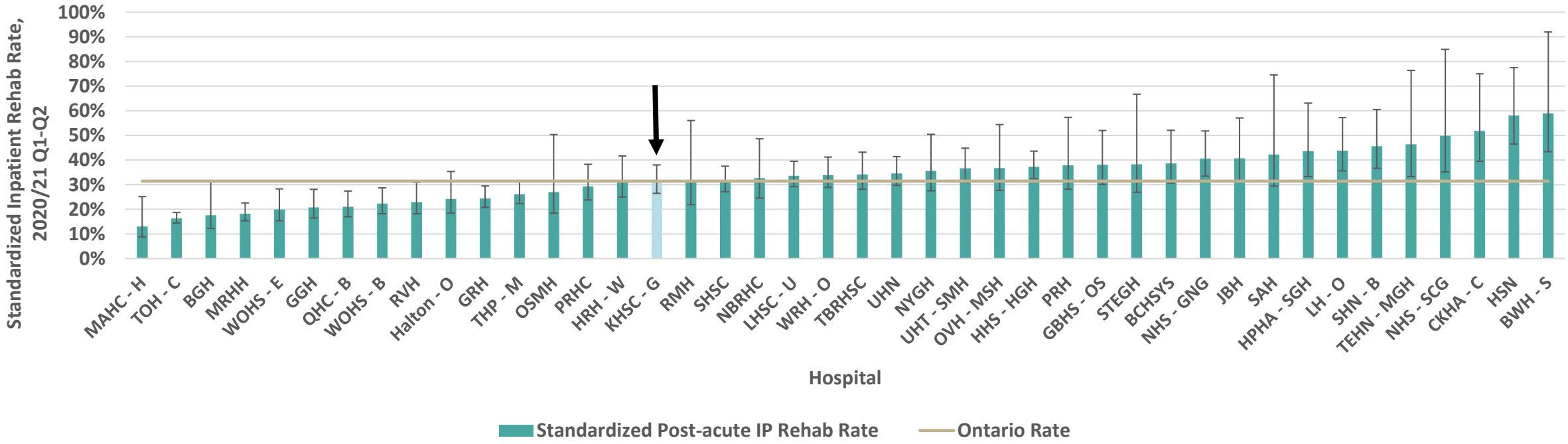
Interpretation Considerations:

Inpatient rehab is most appropriate for stroke patients with moderate to severe disability. For the last four fiscal years (2017-2020), access to inpatient stroke rehabilitation has been relatively steady at around 31%. Interesting to note, in the early stages of the pandemic, access to inpatient stroke rehabilitation did not change. There is high variability of access to inpatient stroke rehabilitation across the LHINs. High rates may reflect lack of access to community-based rehabilitation, necessitating admission of stroke patients with milder disability to inpatient rehab programs. Regional context and availability of all rehabilitation services should be considered when interpreting this indicator.

Chapter 4: Post-Acute Stroke Rehabilitation Access and Timeliness
Indicator 4.1.2: Standardized Rate of Access to Post-Acute Inpatient Rehabilitation, FY 2020/21 Q1-Q2 – *Hospital Level*

Indicator Description:

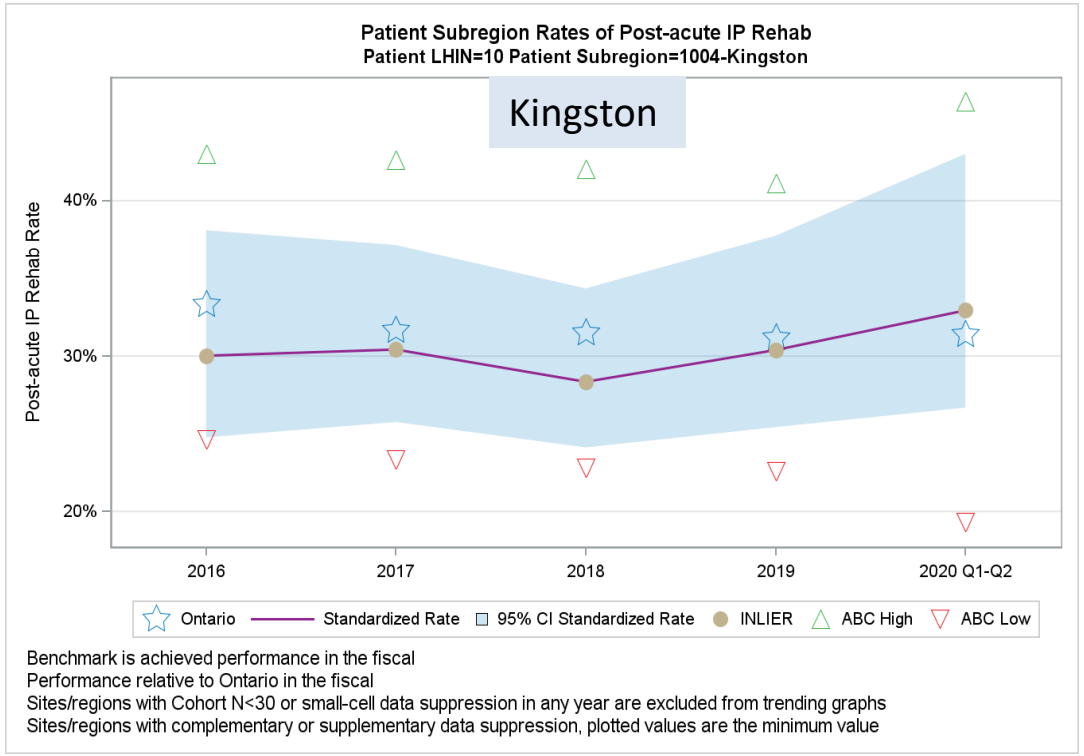
Proportion of stroke patients discharged alive from acute care who went into inpatient (IP) rehabilitation. The indicator is standardized for stroke type and AlphaFIM® instrument (AlphaFIM®) score which provides insight into the stroke severity (level of functional status and disability).



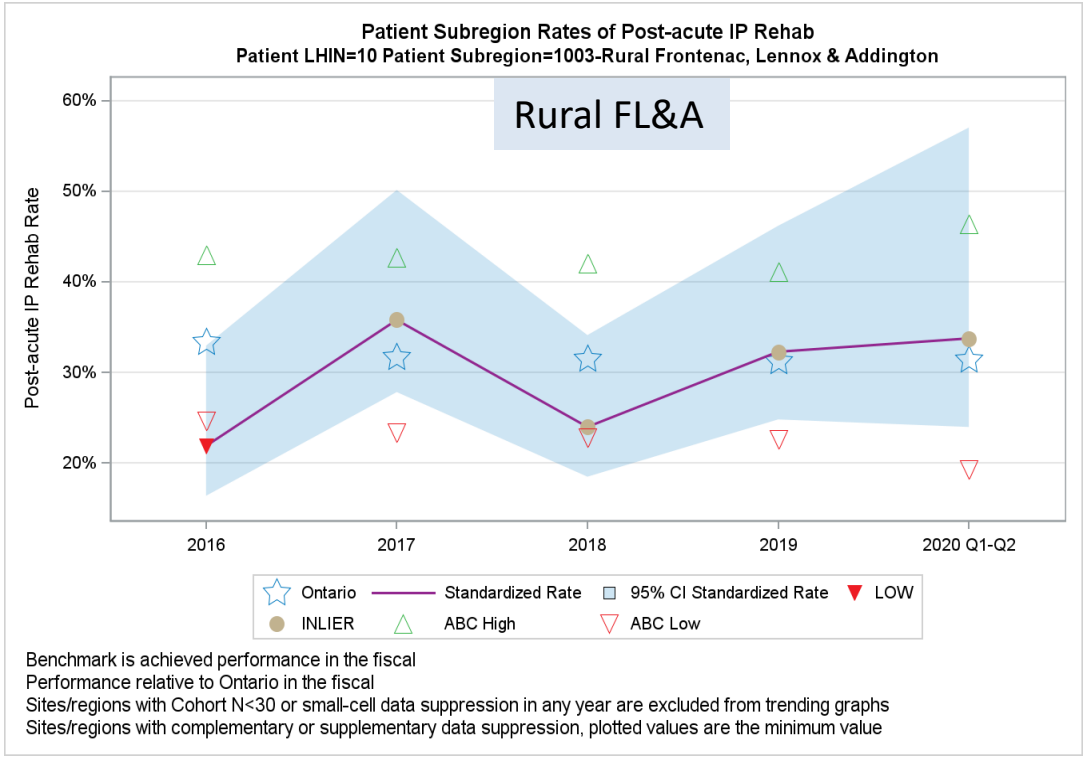
Interpretation Considerations:

This indicator is reported by index (first) acute hospital i.e., if a patient is transferred from hospital A to hospital B, and is subsequently discharged to inpatient rehabilitation, that patient is attributed to hospital A. Across these acute hospitals there is high variability of access to inpatient rehabilitation beds for stroke patients. To optimize access to inpatient stroke rehabilitation care, all hospitals should continue to work with their system partners to ensure services, capacity, resources and pathways are adequate to meet patients' needs across all rehabilitation settings. Refer to Appendix B for hospital abbreviations.

Standardized Rate of Access to Post-Acute Inpatient Rehabilitation Stroke Report FY 2020/21 Q1-Q2 - **Percent Admitted**



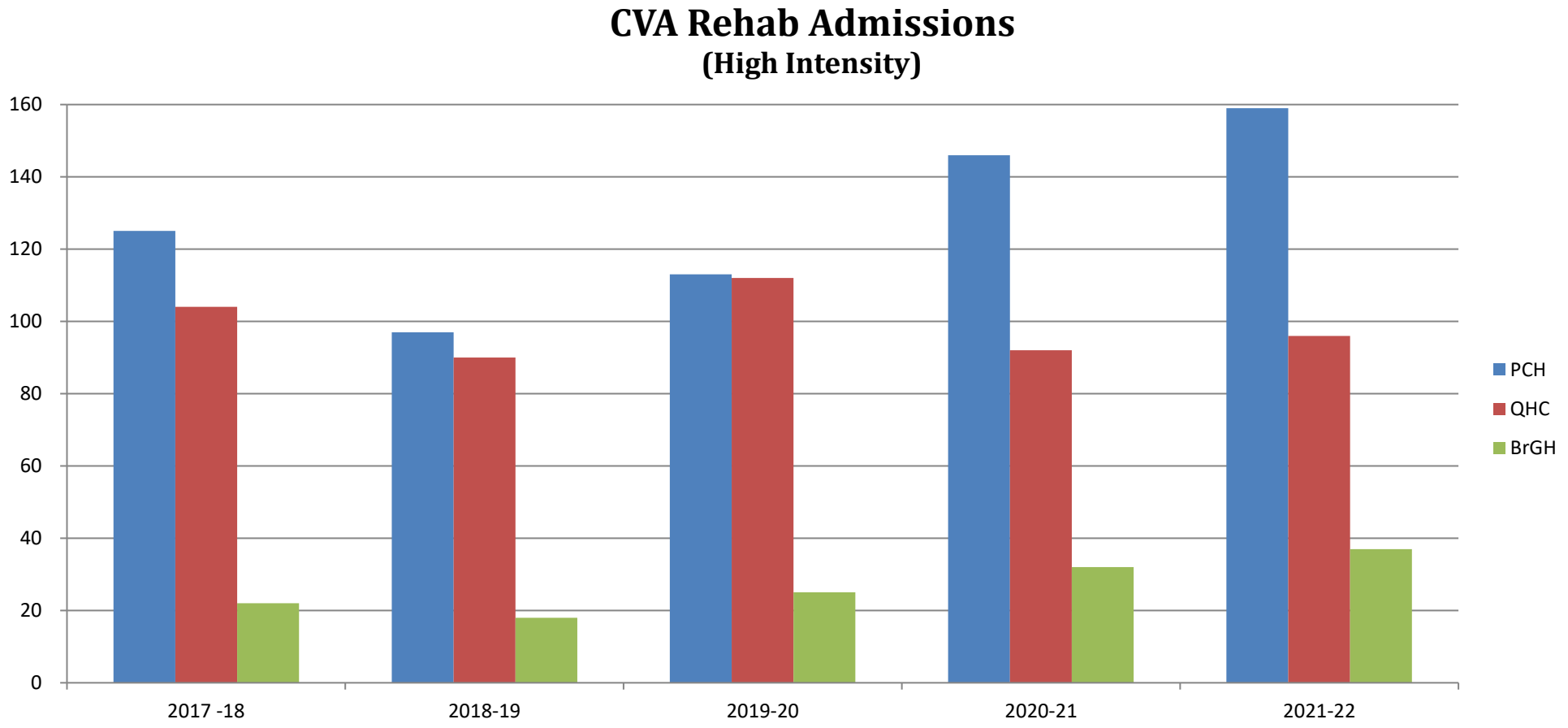
Benchmark is achieved performance in the fiscal
Performance relative to Ontario in the fiscal
Sites/regions with Cohort N<30 or small-cell data suppression in any year are excluded from trending graphs
Sites/regions with complementary or supplementary data suppression, plotted values are the minimum value



Benchmark is achieved performance in the fiscal
Performance relative to Ontario in the fiscal
Sites/regions with Cohort N<30 or small-cell data suppression in any year are excluded from trending graphs
Sites/regions with complementary or supplementary data suppression, plotted values are the minimum value

Increasing rates of access to inpatient rehabilitation

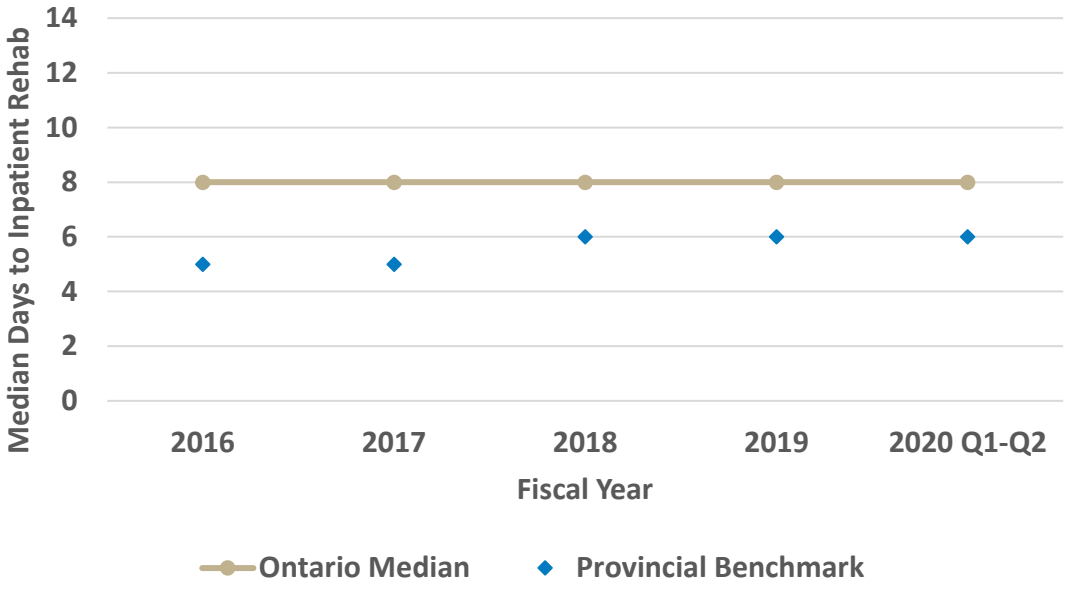
Regional Stroke Dashboard: Stroke Rehab Volumes

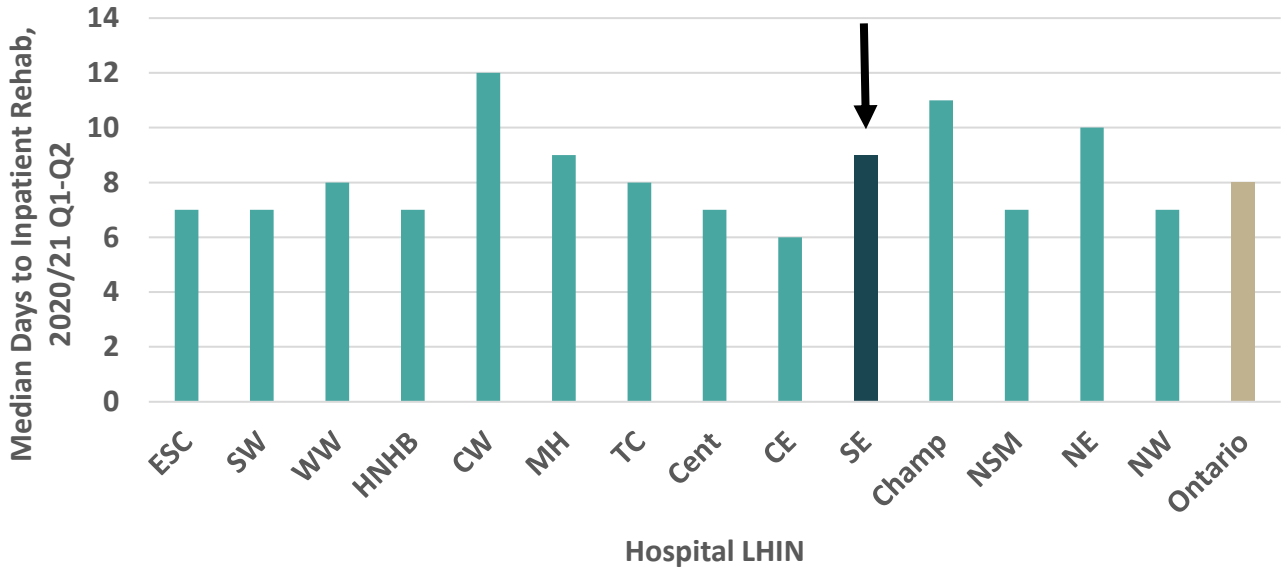


Chapter 4: Post-Acute Stroke Rehabilitation Access and Timeliness
Indicator 4.2.1: Median Days to First Post-Acute Inpatient Rehabilitation, FY 2020/21 Q1-Q2

Indicator Description:

Median time (days) from acute admission to post-acute inpatient rehabilitation admission. Metric includes stroke patients that were admitted to inpatient rehabilitation within one calendar day following discharge from acute care.

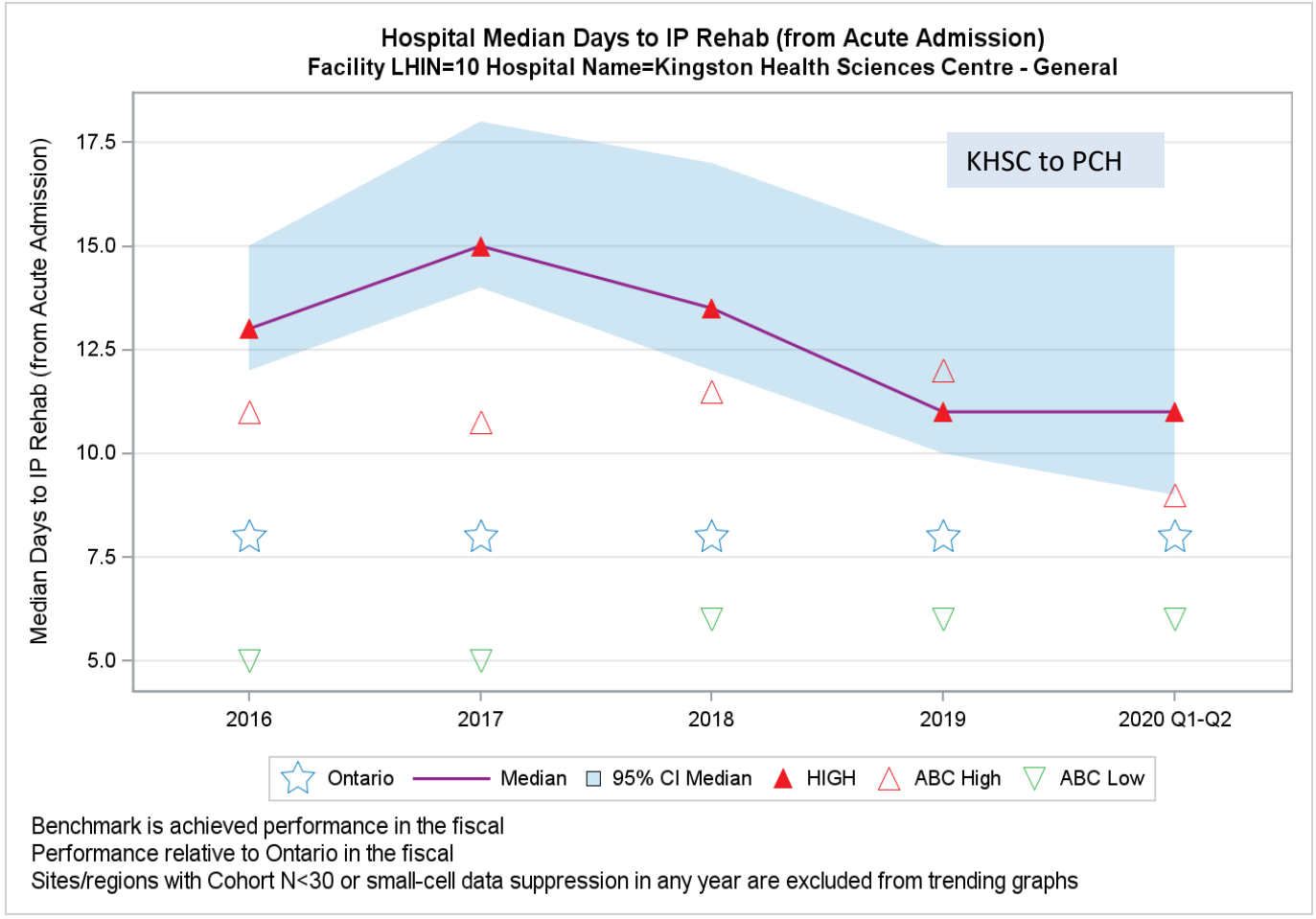




Interpretation Considerations:

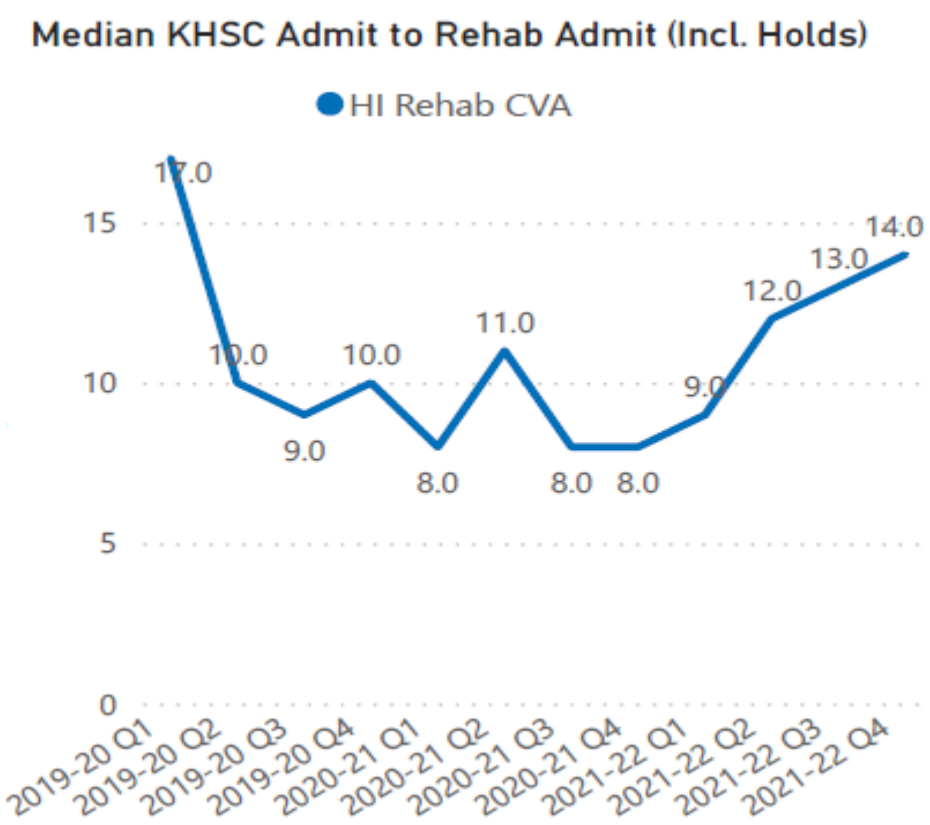
Best practice recommends that ischemic stroke patients should access inpatient rehabilitation by day 6 of acute admission, and hemorrhagic stroke patients should access inpatient rehabilitation by day 8 of their acute admission.[5] Provincially, median days to inpatient rehabilitation was 8 days for the entire reporting period, and the early stages of the pandemic did not delay access to inpatient rehabilitation. There is regional variability which may reflect various factors e.g., inpatient and community-based rehabilitation capacity, referral processes, stroke type and medical complexities.

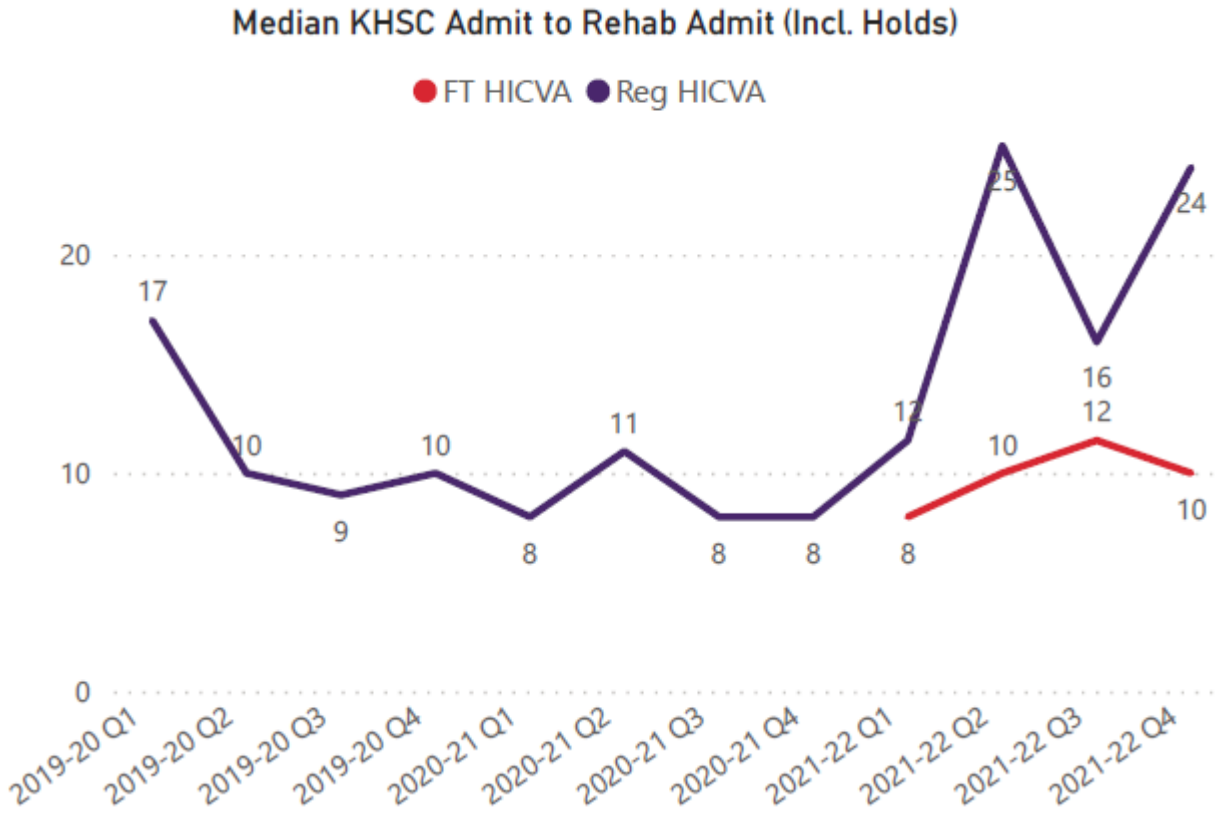
Median Days to First Post-Acute Inpatient Rehabilitation, Stroke Report FY 2020/21 Q1-Q2



Timeliness has improved over past few years but remains a challenge!

Local KFLA Data: Median Time to Inpatient Rehabilitation

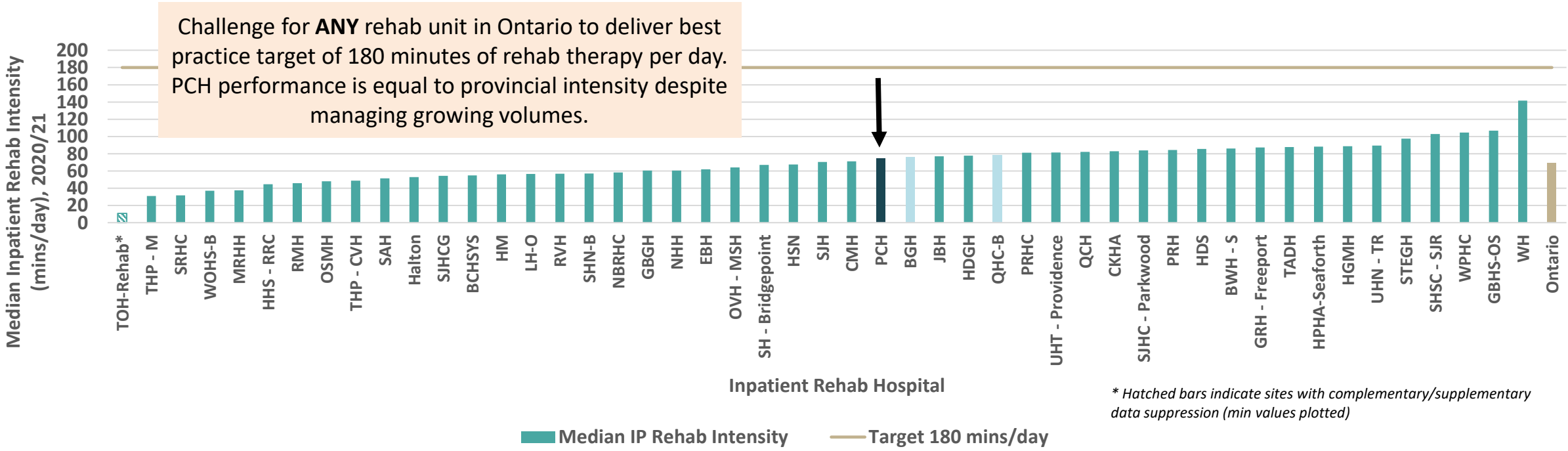




Chapter 4: Post-Acute Stroke Rehabilitation Access and Timeliness
Indicator 4.5: Median Minutes per Day of Direct Inpatient Rehabilitation Therapy, FY 2020/21 – *Hospital Level*

Indicator Description:

This indicator measures number of minutes per day of direct therapy (OT, PT, SLP) received by stroke patients during their active inpatient rehab stay. Target is 180 minutes/day[5]

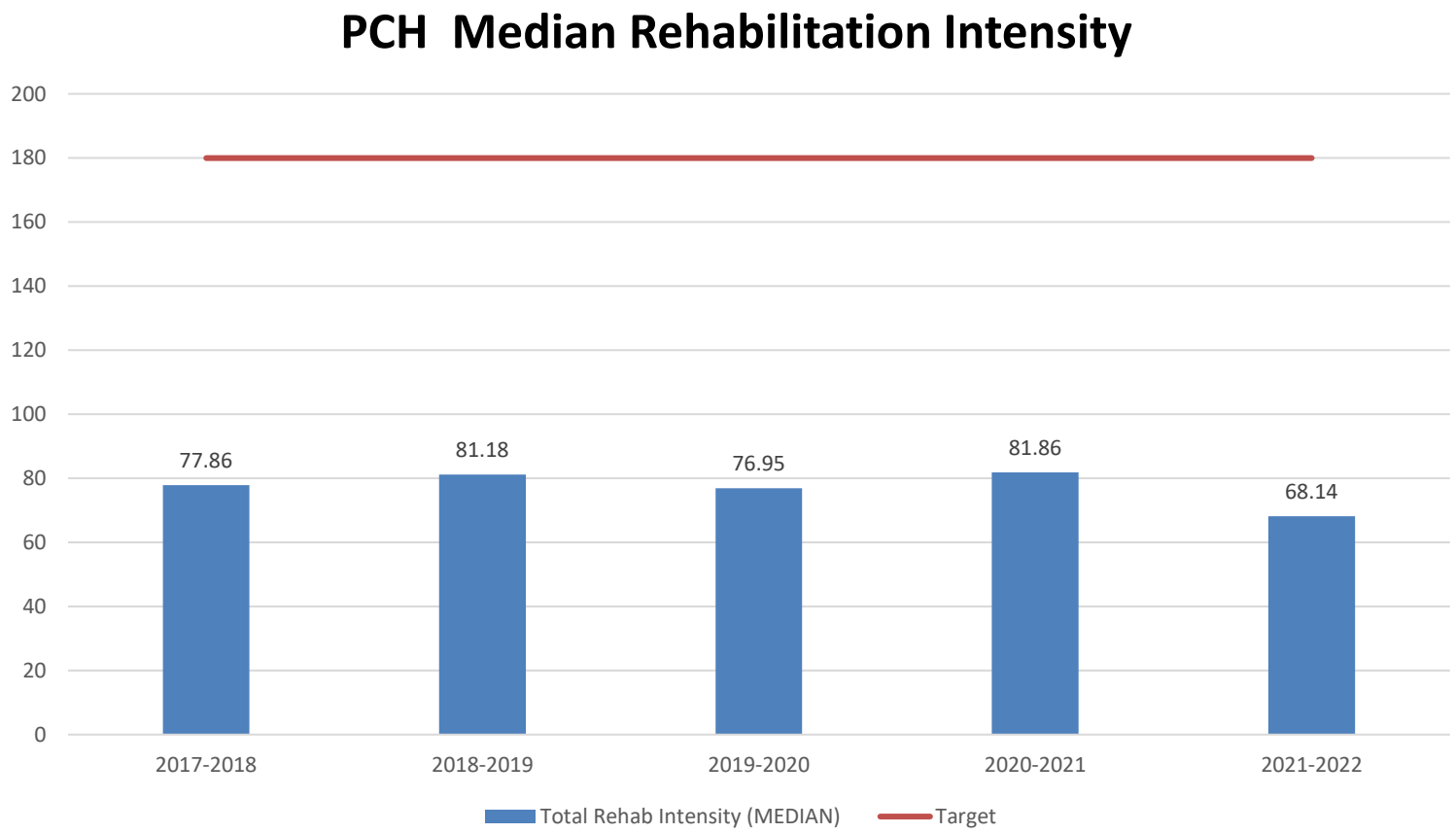


** Hatched bars indicate sites with complementary/supplementary data suppression (min values plotted)*

Interpretation Considerations:

Desired directionality is high. There is wide variation in hospital performance in 2020 from 10.9 minutes per day for TOH-Rehab to 141.7 minutes per day for WH. All inpatient rehabilitation hospitals are below the target of 180 minutes per day of direct inpatient rehabilitation therapy.[5] Factors influencing rehabilitation time require further investigation. This metric excludes group therapy, and any rehabilitation assistant time that accounts for more than 33% of the total rehabilitation time. Refer to Appendix B for hospital abbreviations.

Regional Stroke Dashboard: PCH Rehabilitation Intensity



Last fiscal it was harder to sustain rehabilitation intensity due to growing volumes and staffing challenges

Acute and Rehab Stroke Discussion "ONE TEAM"

- **Accomplishments**
  - FAST track flow KHSC to PCH
  - Decreased complication rates and hemorrhagic mortality rates
  - Enhanced transitions to the community setting
- **Ongoing**
  - Stroke unit utilization rate
  - Preparing for and sustaining acute stroke distinction
  - Spread of FAST Track to regular rehab referrals
  - Maximizing Inpatient Rehab Intensity: use of Rehab Assistants, scheduling
  - Building stroke expertise
- **FUTURE:**
  - ??Critical Care Enhancements??
  - Collaboration with outpatient rehab (see community rehab section)

Refer to SEO Regional Stroke Best Practice Workplan 2021-23

Community Stroke Data

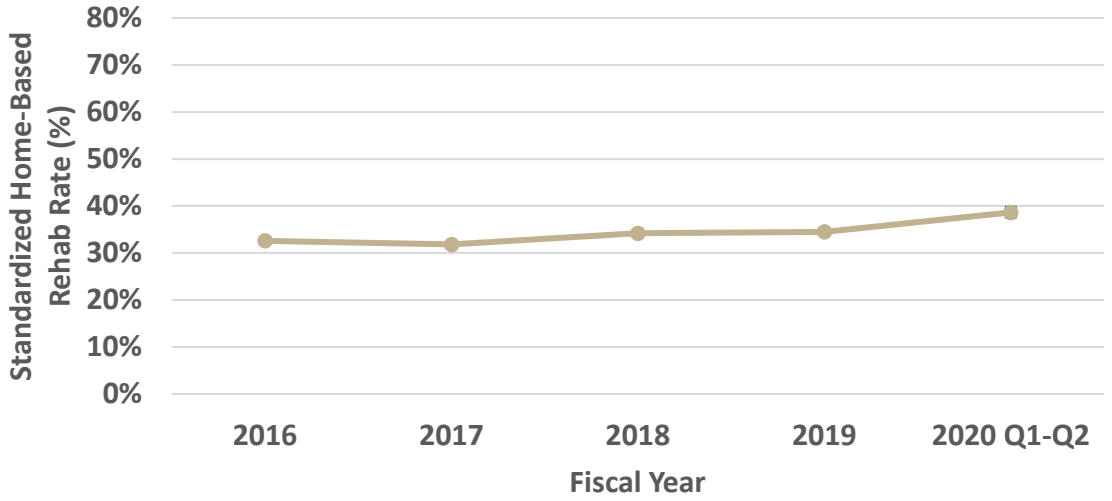
Community Rehab

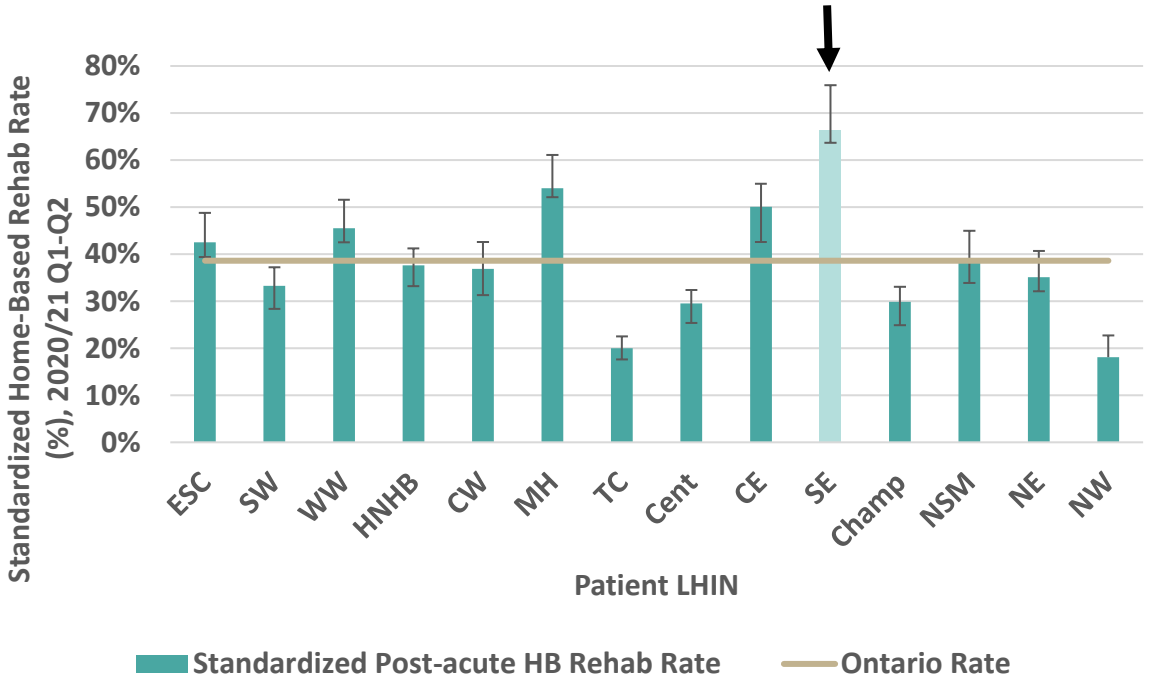
Community Supports

Chapter 4: Post-Acute Stroke Rehabilitation Access and Timeliness
Indicator 4.1.3: Standardized Rate of Access to Post-Acute Home-Based Rehabilitation, FY 2020/21 Q1-Q2

Indicator Description:

Proportion of stroke patients discharged alive from acute care who received at least 3 home-based rehabilitation visits. The indicator is standardized for stroke type and AlphaFIM® instrument (AlphaFIM®) score which provides insight into the stroke severity (level of functional status and disability).

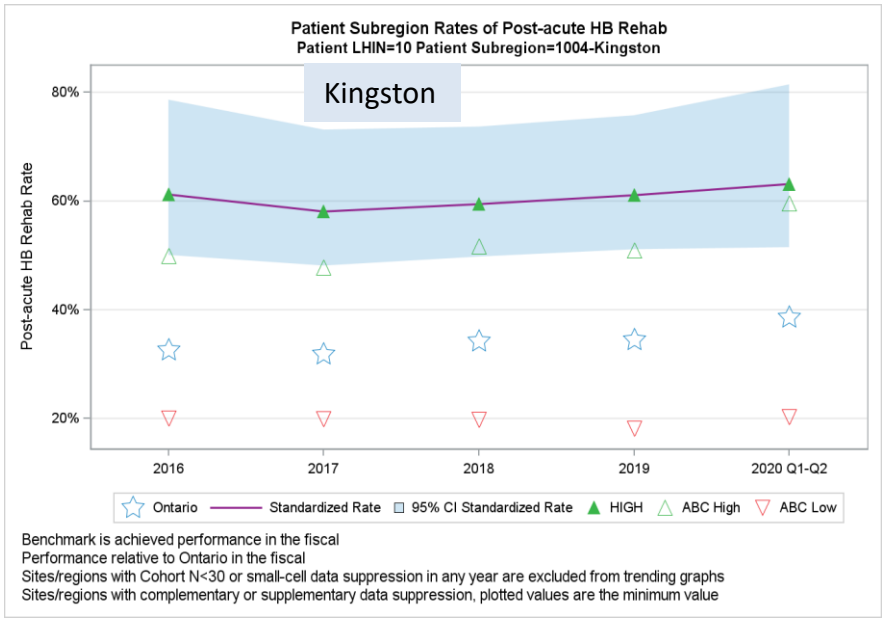




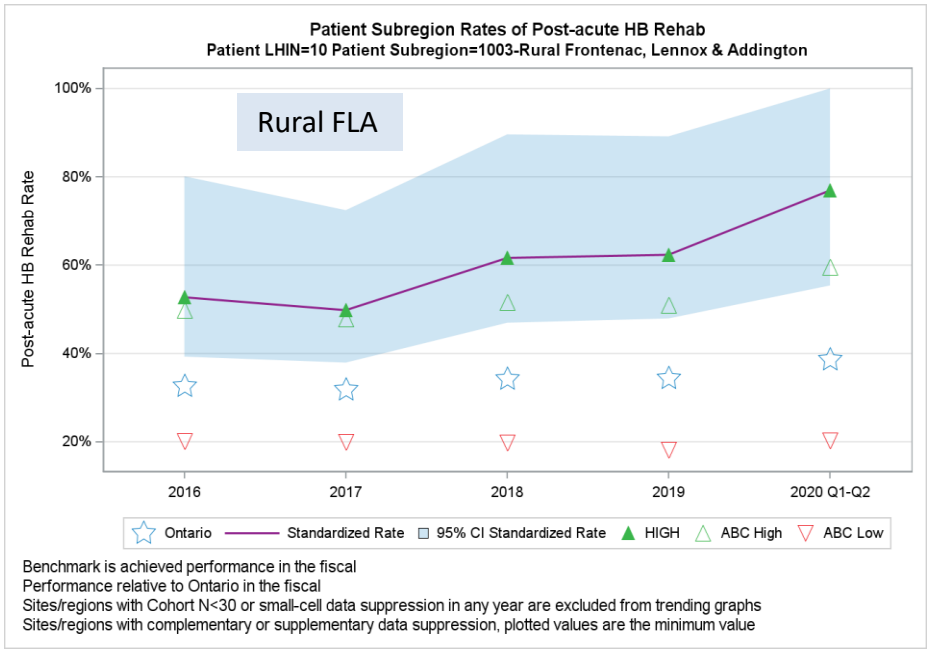
Interpretation Considerations:

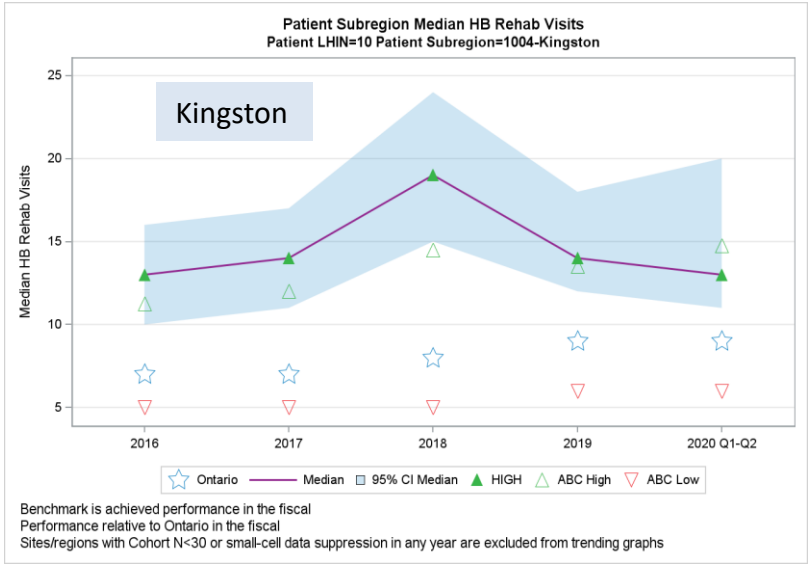
Provincial access to home-based rehabilitation increased from 33% in 2016 to 39% in 2020 Q1-Q2. Access to home-based rehabilitation increased in the first two quarters of the pandemic, and this is likely associated with the pandemic related outpatient rehabilitation closures.[11] When data are available for the last two quarters of 2020, it will be interesting to see if this increase is sustained. There is variability within the LHINs which may reflect availability of both inpatient and outpatient rehabilitation services; however, there is no standardized provincial system to capture outpatient rehabilitation data. Furthermore, home-based rehabilitation provided by hospitals, are not captured in the HCD (homecare database). For a listing of in-home Community Stroke Rehabilitation Programs across Ontario, see Appendix E.

4.1 Standardized Rate of Access to Home-Based Rehabilitation, FY 2020/21 Q1-Q2



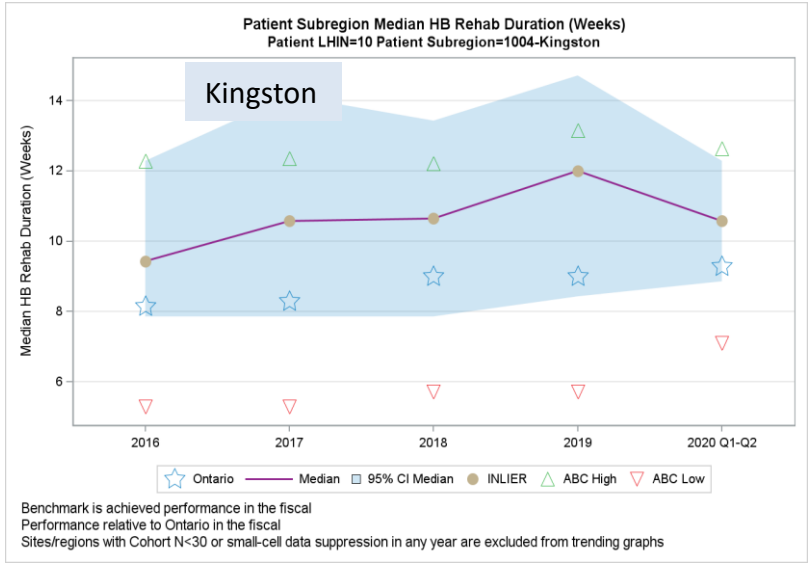
High rates of admission to home based rehab services in Kingston and Rural FLA compared to Ontario – partly explained by lack of OP programs during start of COVID



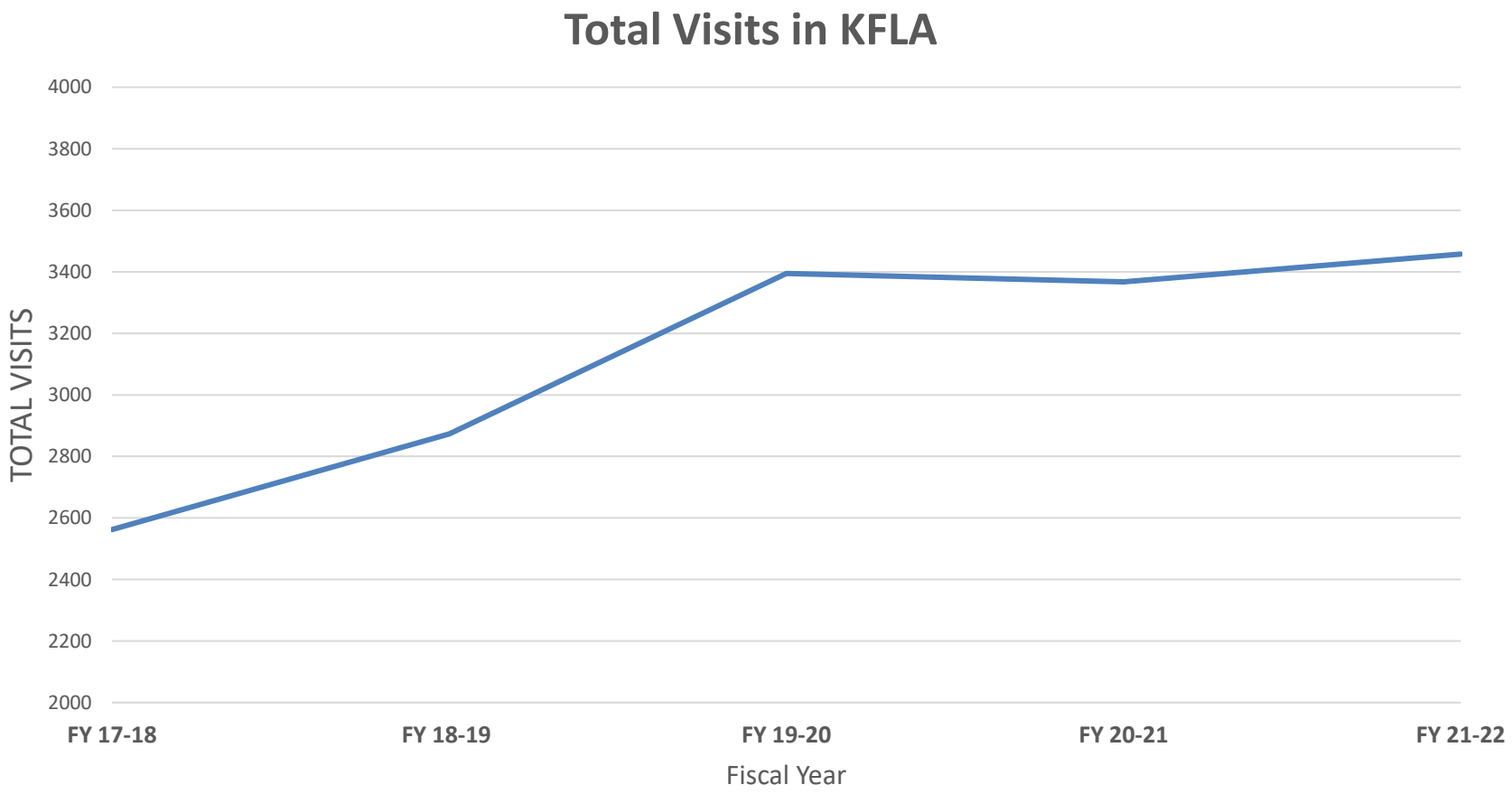


Decreasing rates of Home-based Rehab visit intensity

Decreasing duration of Rx – losing gains made?

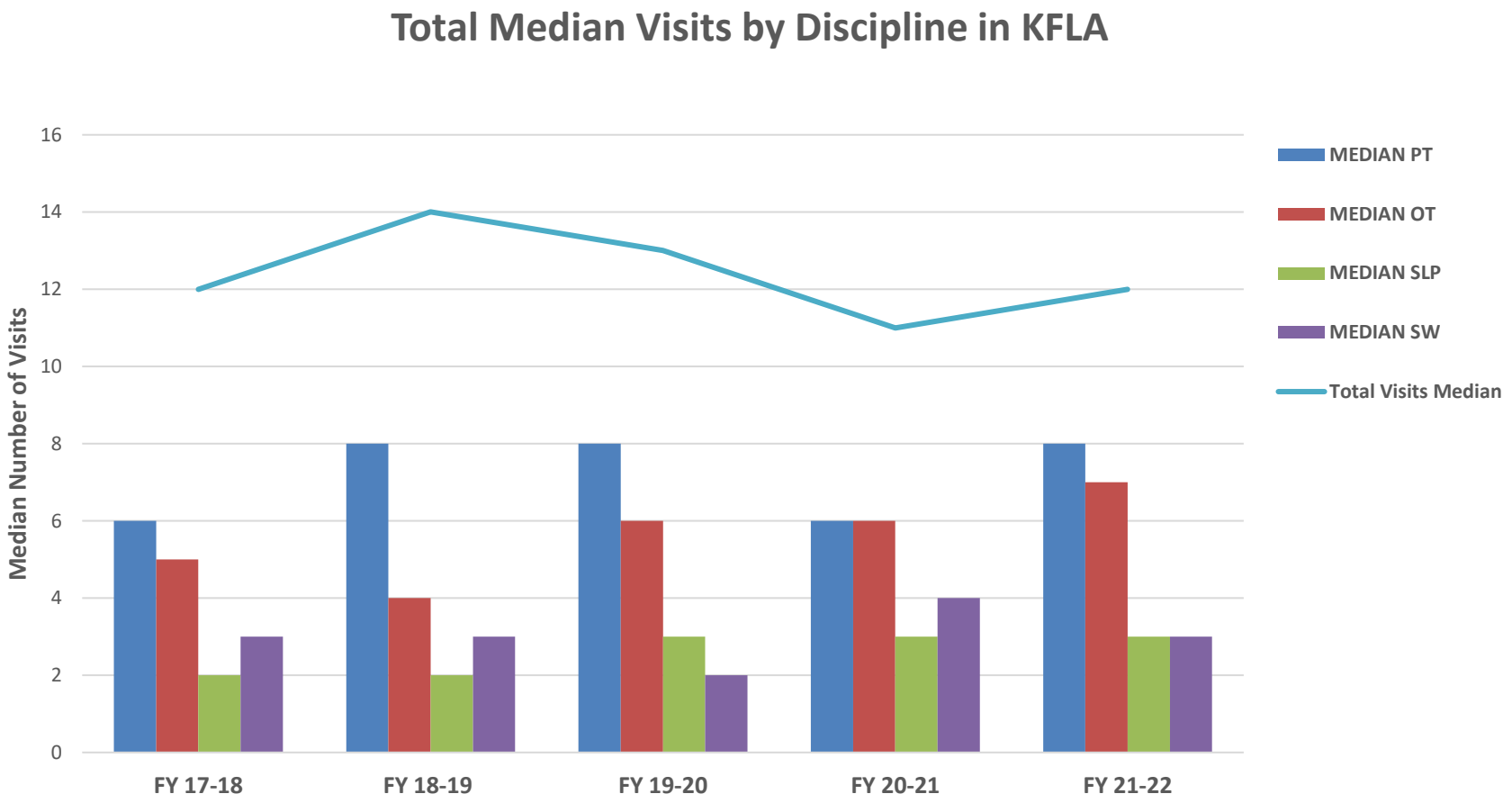


Regional Stroke Dashboard : Community Stroke Rehabilitation Total Therapy Visits KFLA – 2021-22



strokenetwork
SOUTHEASTERN ONTARIO

Regional Stroke Dashboard: Community Stroke Rehabilitation Median Visit Intensity per Patient – 2021-22



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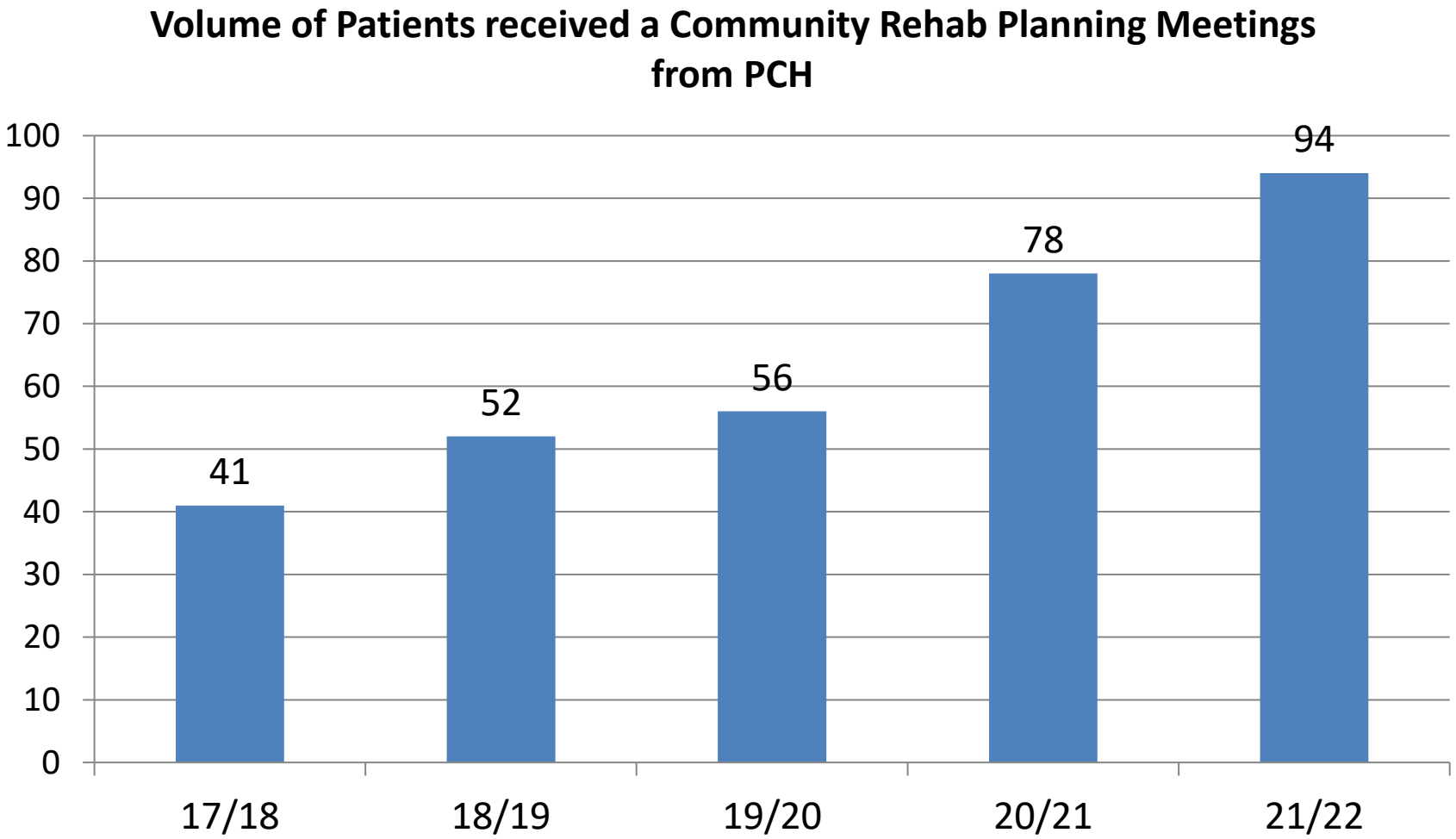
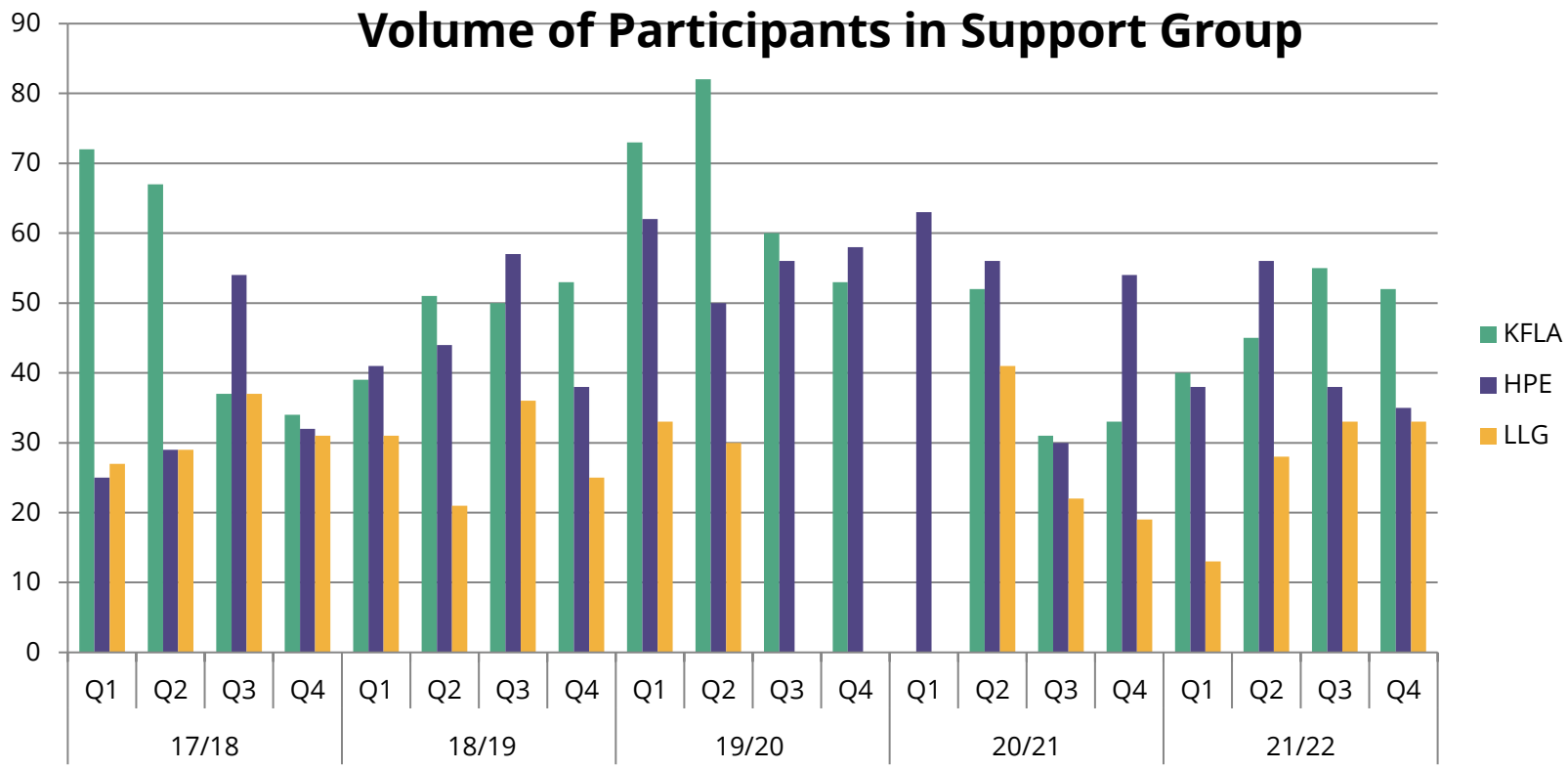
Regional Stroke Dashboard: Number of Community Rehab Planning Meetings– 2020-21



Regional Stroke Dashboard
Community Stroke Support Group Participation



Hospital Community Collaboration has contributed to improved referral rates and participation; virtual connections have strengthened transitions.

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Community Stroke Discussion

- **Accomplishments**
  - Largely, sustained Community Stroke Rehab Program despite COVID
  - Enhanced Stroke Survivor Support Groups with virtual models and connections
  - Growth of Aphasia Conversation Groups
- **Ongoing**
  - Maximizing Home-based Community Stroke Rehab Capacity
    - Rehabilitation Assistants; expertise
    - Sustaining and building best practices in CSRP
  - Community Supports: Consultation 2022-23
- **FUTURE:**
  - Comprehensive neuro outpatient program in KFLA
  - Growth in capacity for community rehabilitation
  - Community Supports: Consultation Report and Recommendations 2023-24

Refer to SEO Regional Stroke Best Practice Workplan 2021-23

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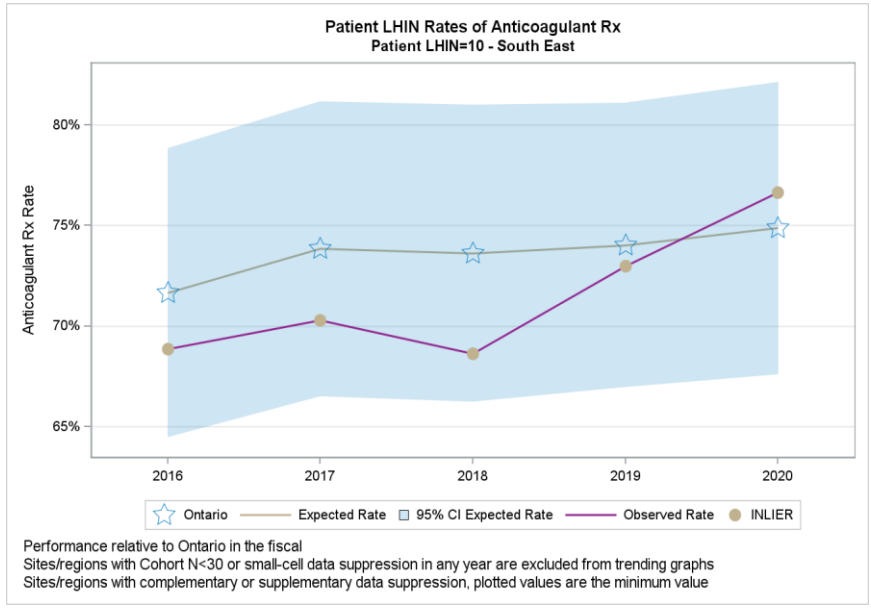
KFLA Stroke Report
Persisting Areas of Concern

PREVENTION



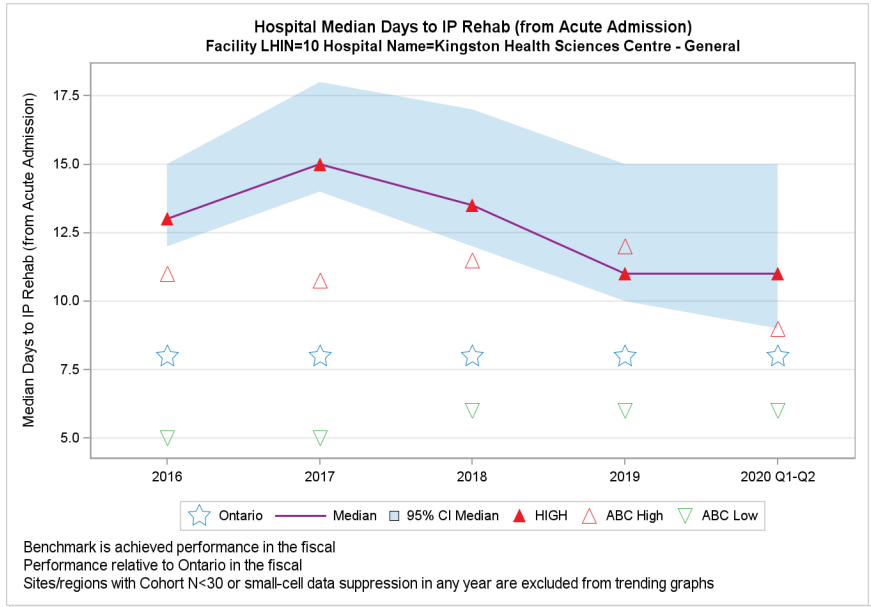
Anticoagulant Rx rate an ongoing area of prevention focus: KHSC Rate in 2020-21 was up to 75.4% from 73.4% in previous report.
Rural areas have lower rates.

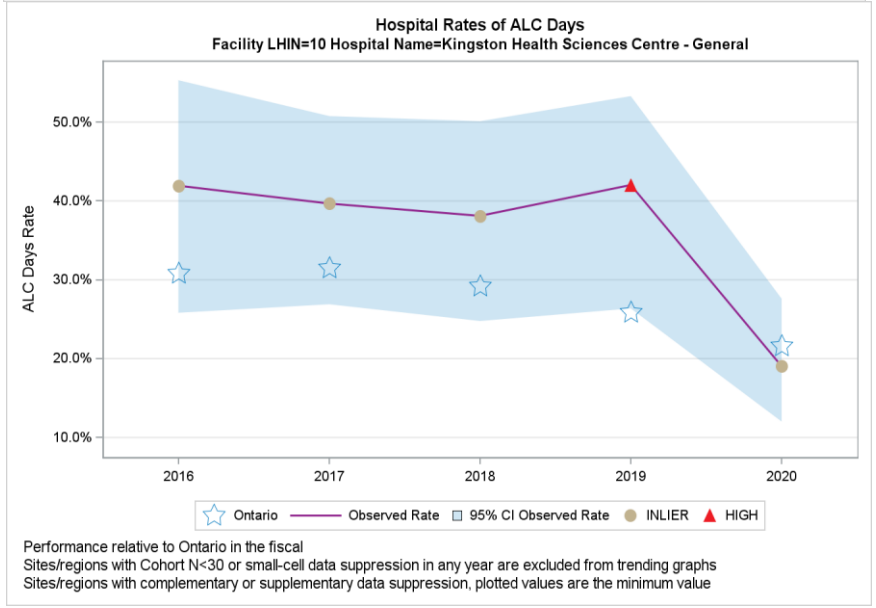
FLOW

Time to rehab *improving* with Fast Track work; regular rehab referrals are an ongoing challenge.

These indicators have a system relationship with **Acute Stroke Unit rates** noted earlier.

Future comprehensive community based rehab programs will assist with system flow and patient outcomes.





ALC days (to LTC and rehab) *improved* but this is likely due to COVID effect; the ALC concern was transferred to PCH during COVID

SE Region EVALUATION SUMMARY

- All measures improved this report over last- CONGRATS!
- Strengths to sustain!!
  - Stroke Prevention Clinic referral rates
  - Ambulance use and Hyperacute treatment access
  - Care in Designated/Acute Stroke Unit
  - Community Home-based Rehab and links to community services
  - Stable outcomes – mortality, readmission, rate of LTC admission
- Challenges – improving; need continued emphasis on *ONE TEAM*
  - Stroke Prevention (admission rates/volumes; anticoagulation - rural areas)
  - Flow to rehab (stroke onset to rehab admission)
  - Access to designated rehab beds
  - Persisting ALC rates
- Known system gaps
  - No outpatient rehab in Kingston and Brockville; no data
  - Delayed access to thrombolysis in LLG
  - Health Human Resources

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KFLA STROKE EVALUATION SUMMARY

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