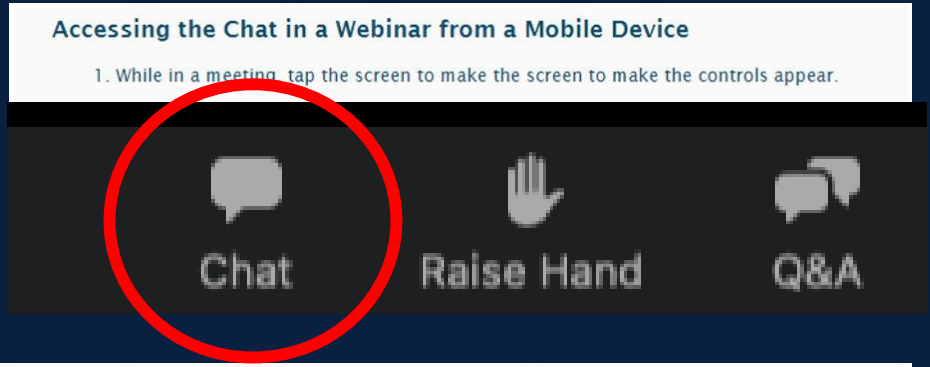
OHT Improvement Measures from Health Administrative data – Where are OHTs starting from?

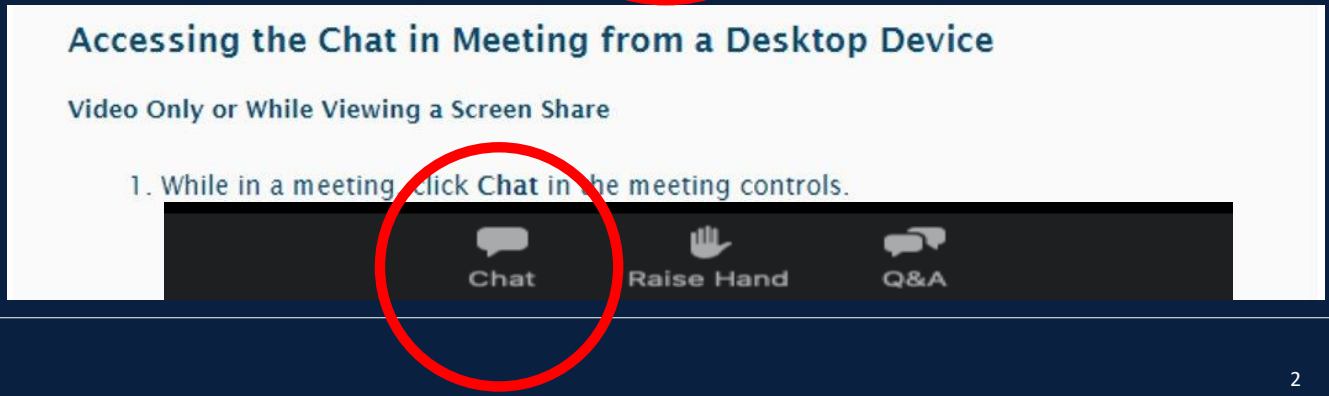
HSPN OHT Webinar

March 23rd, 2021

Welcome & thank you for joining us!

Please let us know who you are by introducing yourself (name & OHT or other org) to all panelists and attendees in the chat box



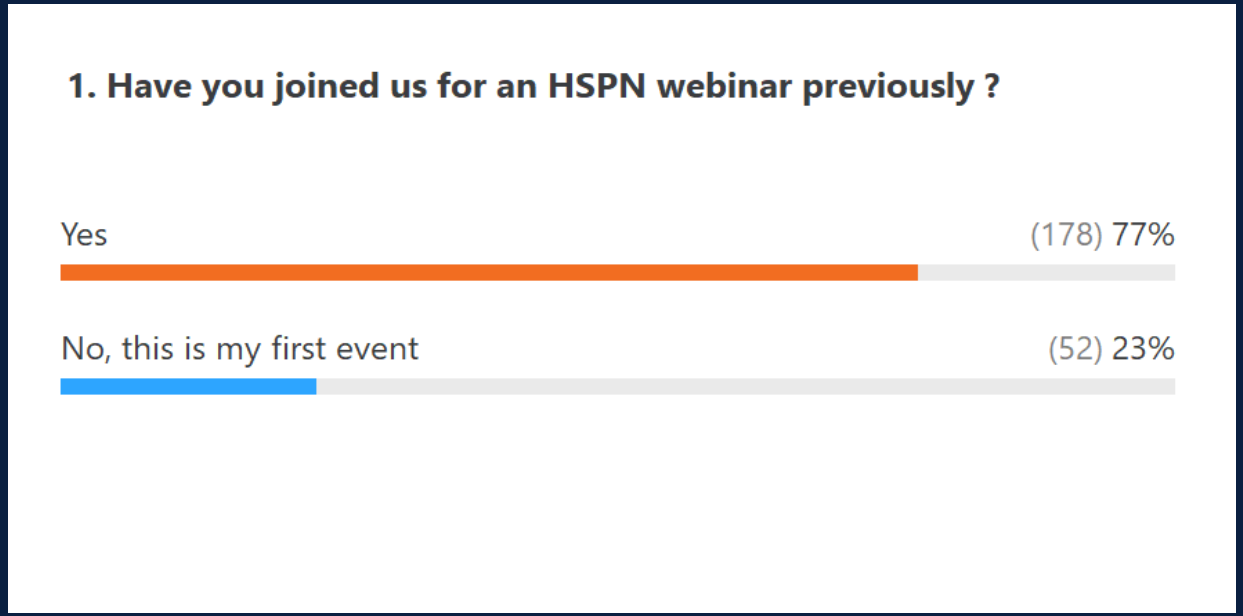


Land acknowledgement

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years it has been the traditional land of many nations including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples and is now home to many diverse First Nations, Inuit and Métis peoples. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.

We acknowledge that Canada is home to many diverse First Nations, Inuit and Métis peoples, and that many of you are joining us from one of those many traditional and treaty territories.

Poll 1


1. Have you joined us for an HSPN webinar previously ?
Yes
(178) 77%
No, this is my first event
(52) 23%

You Asked !

Questions from the Chat:

1. *How can we access surveys ?*
2. *Why don’t we measure leading indicators ?*

Central OHT Evaluation Team

Co-Leads

Dr. Walter Wodchis

Dr. Ruth Hall

Team Members

Dr. Gaya Embuldeniya

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Today's event

OHT Improvement Measures 2017-2020

Host

Dr. Walter Wodchis
Principal Investigator
HSPN

Presenters

Dr Ruth Hall
Co-lead OHT Evaluation
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Luke Mondor
HSPN Epidemiologist

Dr. Kaileah McKellar
HSPN OHT Evaluator

Webinar Overview

A. Reveal OHT attributable population baseline (2017/18 to 2019/20) indicator performance.

B. Introduce an Equity Lens to reporting on population health and improvement indicators

Key takeaways of baseline reporting

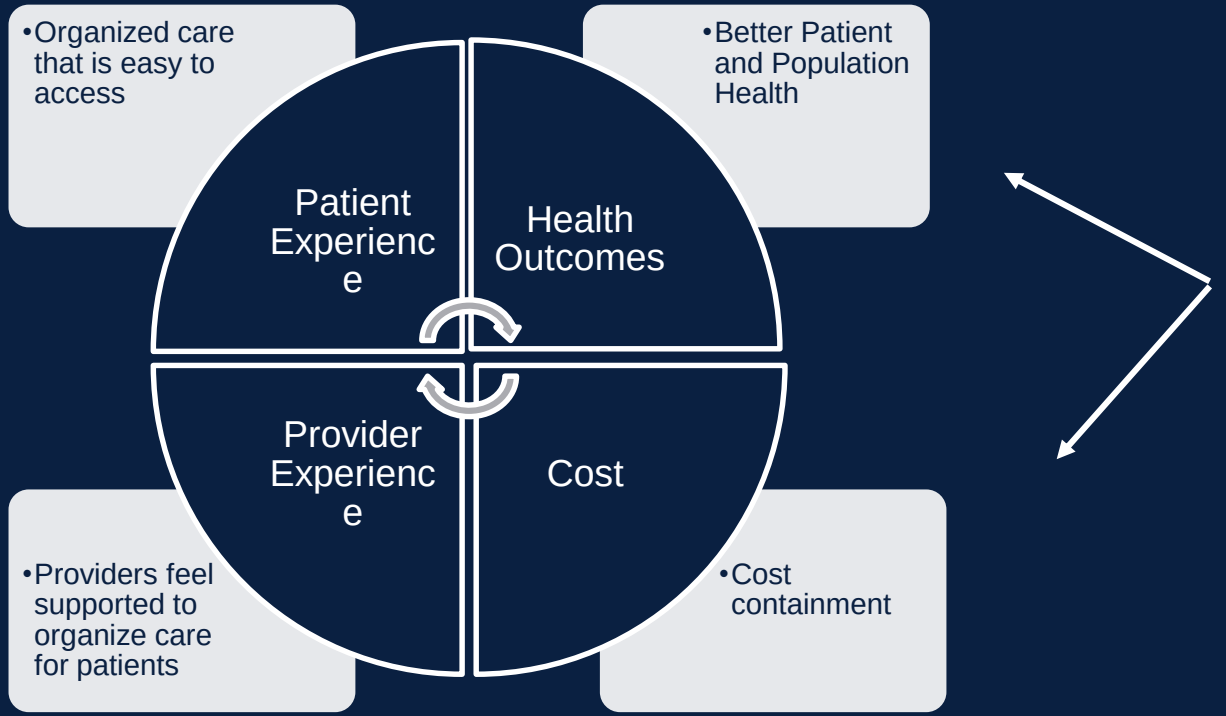
- Considerable variation across OHTs in the distribution of their attributable population residing in areas of low to high material deprivation.
- Considerable variability across total population indicators suggest that some OHT's attributable populations are of higher need.
- Higher rates of premature mortality, costs, ED visits better managed elsewhere, ACSC hospitalizations among OHTs with higher proportions of their population residing in areas with high material deprivation.

Goals of OHT quantitative evaluation

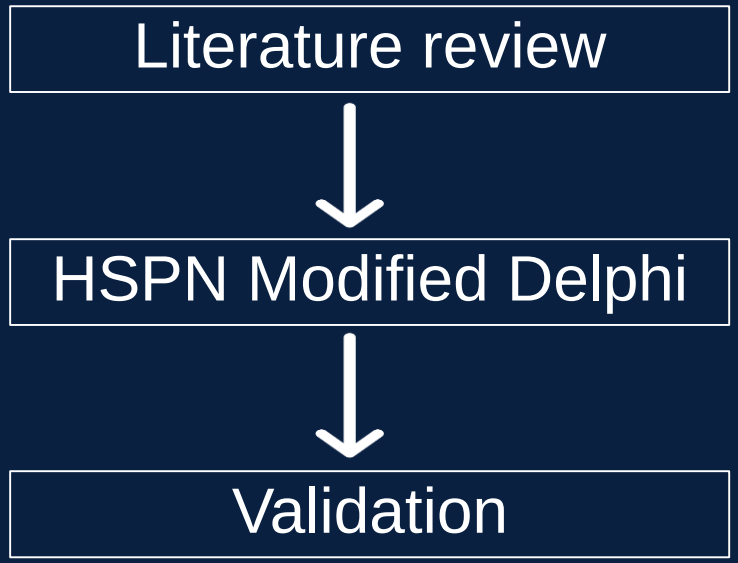
Measure and evaluate health outcomes and direct healthcare costs across OHT attributable populations using routinely collected health administrative data.

Aim to 1) describe variation, and 2) identify where opportunities and challenges exist to better integrate care

Quadruple Aim Framework



Selection of evaluation measures



Total population measures to be evaluated:

- Premature mortality**
- Cost per month alive

- Days in acute inpatient care
- ALC days
- ACSC hospitalizations
- Readmissions within 30 days for selected HIG conditions
- ED visits best managed elsewhere

- Continuity of Care: UPC Index
- Physician visits after discharge from hospital
- Virtual physician care

Health Equity

- Equal opportunity to attain their full potential for health or for the use of health care regardless of demographic, social, economic or geographic strata. (1,2)
  - **Age , Sex**
  - **Race/Ethnicity**
  - **Income, Education**
  - **Rurality**
  - **Health needs**

1. Roberts T. What is the difference between? J Health Serv Res 1997;2:129.

2. **https://www.who.int/gender-equity-rights/understandi**equity and equality**ng/equity-definition/en/**

Evaluation through a health equity lens

Limited administrative data on SES at the individual level

Area-level (from census): Ontario Marginalization Index (ONMARG)

Residential Instability

- Focus on family or housing instability
- Related to neighbourhood cohesiveness and support

Dependency

- A measure of adults who are unemployed, unable to work and in unpaid professions (income from employment)

Ethnic Concentration

- Focus on residents who are recent immigrants and/or visible minorities

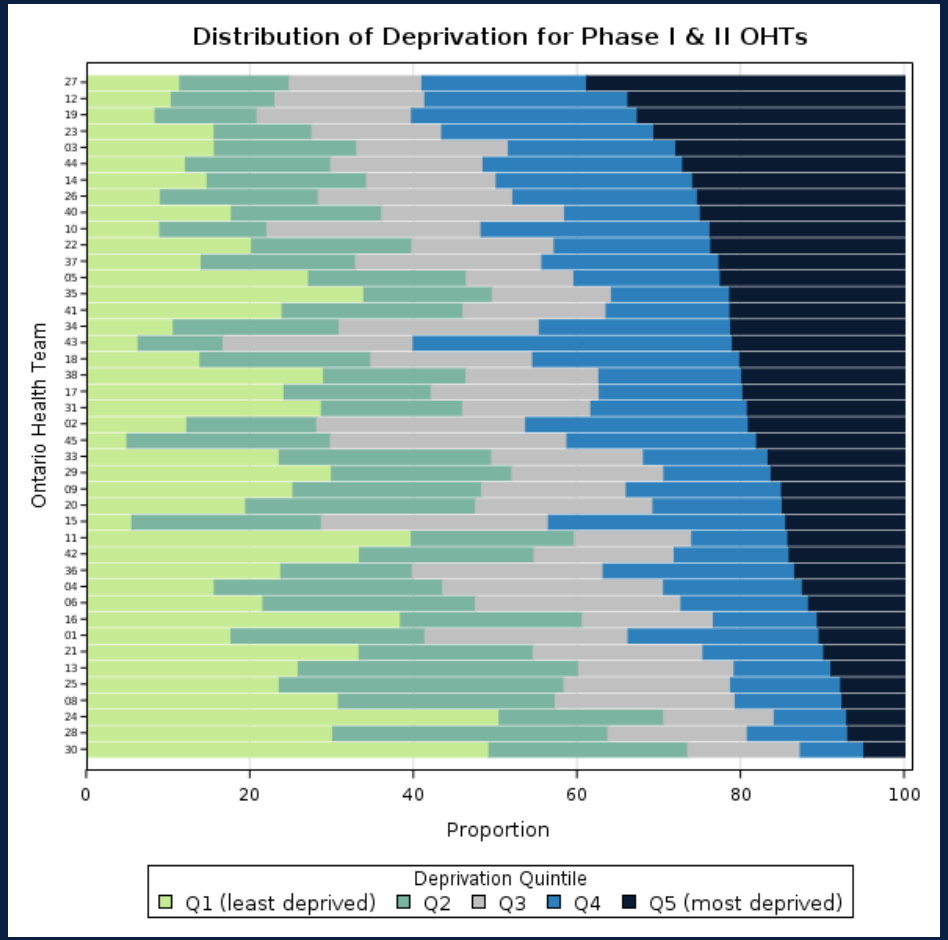
Material Deprivation

- Focus on income, education, family structure and housing quality
- Measures the inability to access and attain basic material needs
- Closely connected to poverty
- Linked to poor health outcomes

For information on ON-Marg, see: Matheson FI and van Ingen T. *2016 Ontario Marginalization Index User Guide*. Toronto, ON. St. Michael's Hospital; 2018. Joint publication with Public Health Ontario.

Material deprivation varies across OHTs

Quintile data: a score of 5 means it is in the most deprived 20% of Ontario



For information on ON-Marg, see: Matheson FI and van Ingen T. *2016 Ontario Marginalization Index User Guide*. Toronto, ON. St. Michael's Hospital; 2018. Joint publication with Public Health Ontario.

Data Source: OHT Attribution Model database

Ontario residents are linked to primary care providers through formal enrolment or through virtual rostering

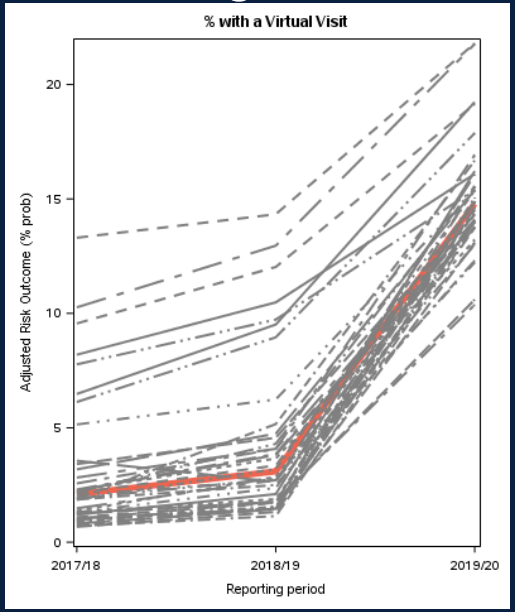
Physicians (and their patients) are linked to the hospital where most of their patients were admitted. Specialists are linked to the hospital where they provided the most services, creating the network (i.e., OHT)

A closed (fixed) cohort, based on administrative data from 2017

See Stukel, TA., et al. Multispecialty physician networks in Ontario. Open Med (2013): e40-55

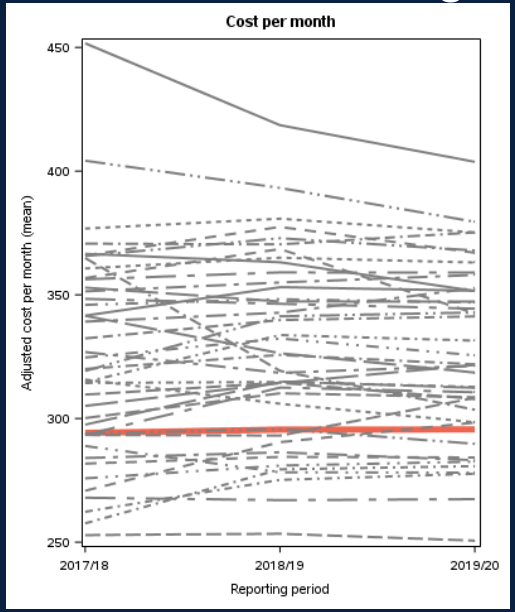
OHT Indicator trends

Some get better



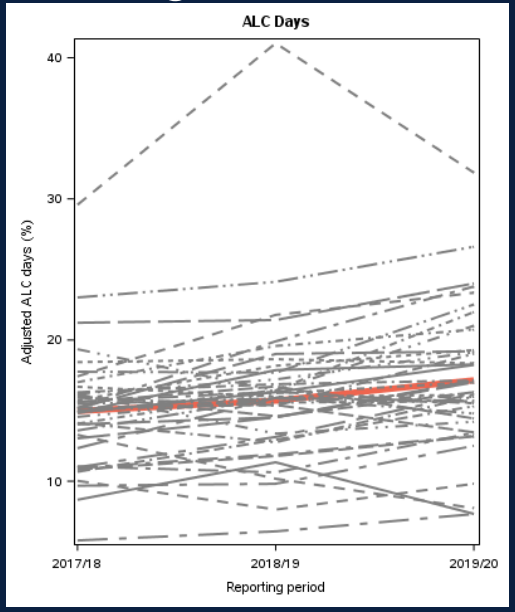
- ACSC hospitalizations*
- ED visits best managed elsewhere*

Some don't change



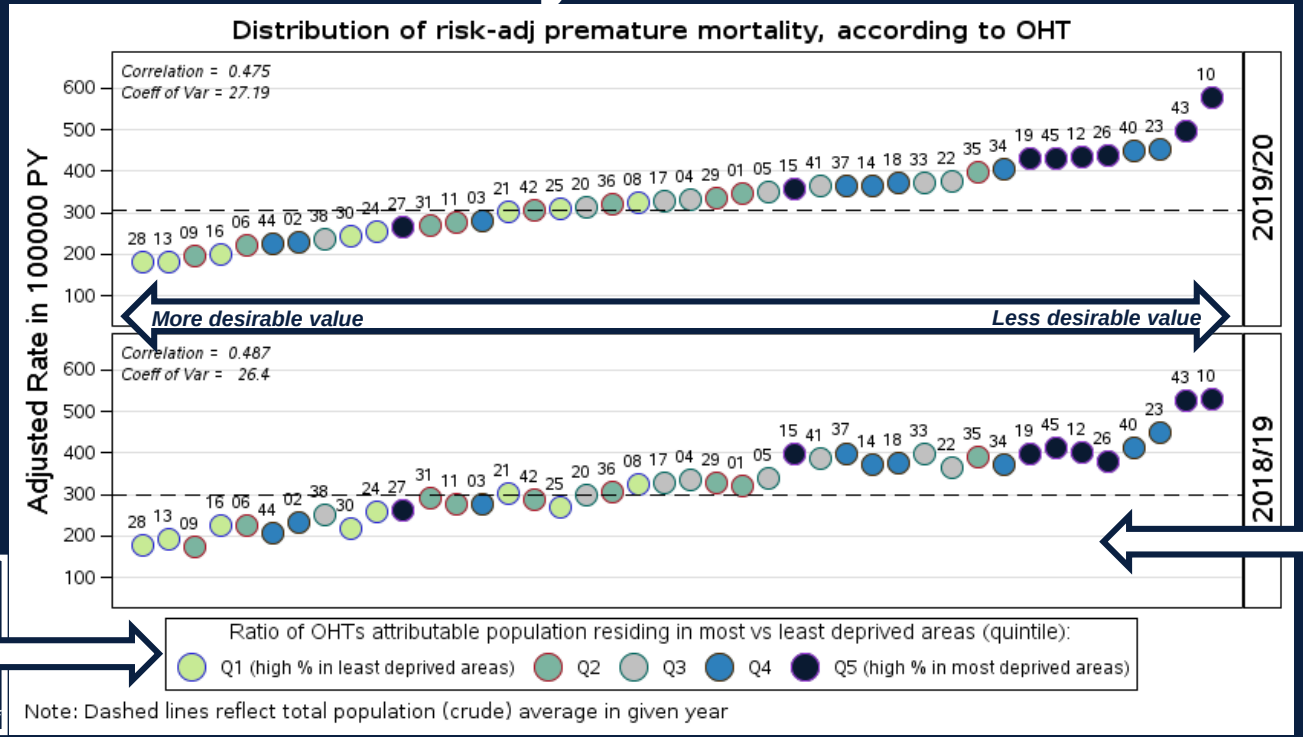
- Premature mortality
- Readmissions
- Continuity of care

Some get a bit worse



- Inpatient days
- Physician visits after discharge

Premature mortality



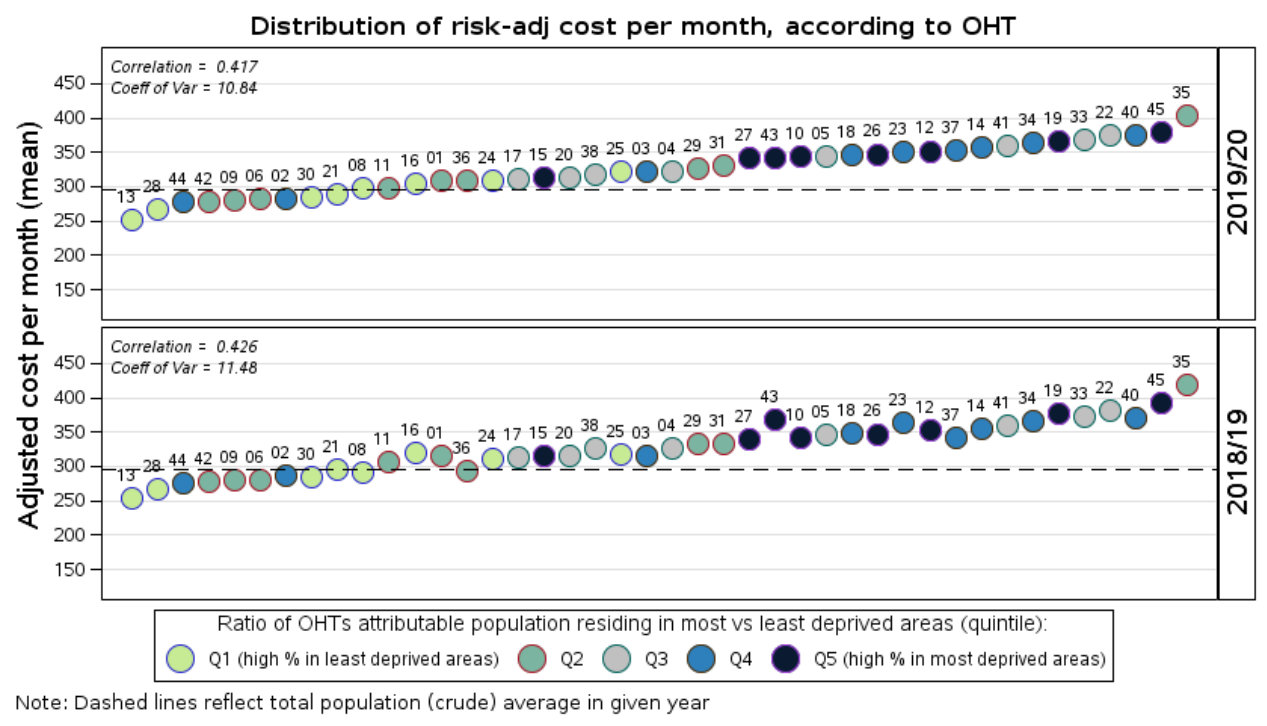
Mean: 305 (stable)
Range: 181 - 577

Data points (OHTs) are coloured according to the proportion of their attributable population living in the most vs least deprived neighbourhoods

Data points (OHTs) are ranked/ordered according to their performance in **2019/20**

Correlation with deprivation	Variability across OHTs (same year)
Moderate ($tau_{2019/20}$=0.475)	High ($CV_{2019/20}$=27.2)

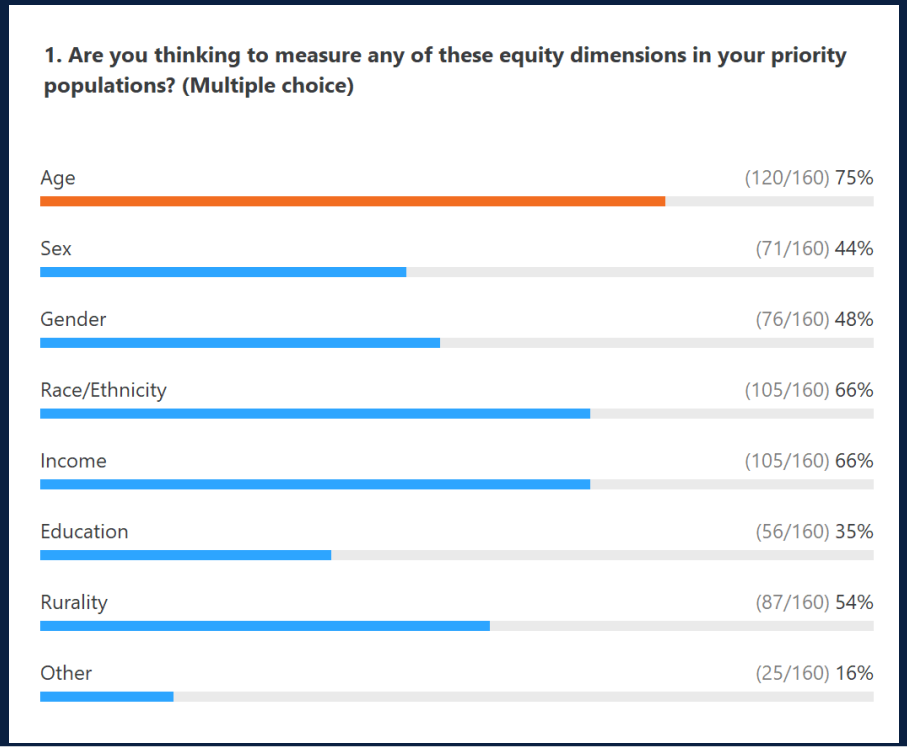
Cost per month alive



Mean: $296 (stable)
Range: 251 - 404

Correlation with deprivation	Variability across OHTs (same year)
Moderate ($tau_{2018/19}$=0.417)	Modest ($CV_{2018/19}$=10.8)

Poll 2

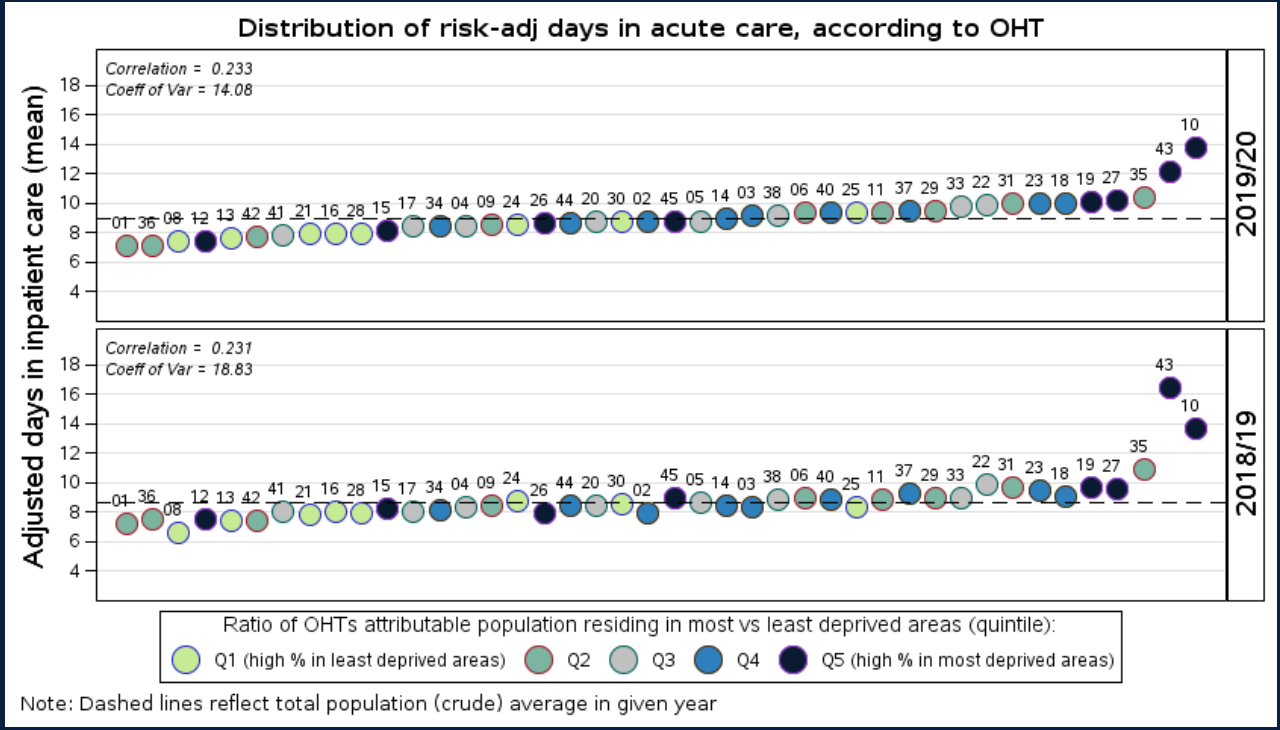

1. Are you thinking to measure any of these equity dimensions in your priority populations? (Multiple choice)
Age (120/160) 75%
Sex (71/160) 44%
Gender (76/160) 48%
Race/Ethnicity (105/160) 66%
Income (105/160) 66%
Education (56/160) 35%
Rurality (87/160) 54%
Other (25/160) 16%

Discussion.

In what ways are you thinking about equity as it relates to your OHT work?

Use the chat !

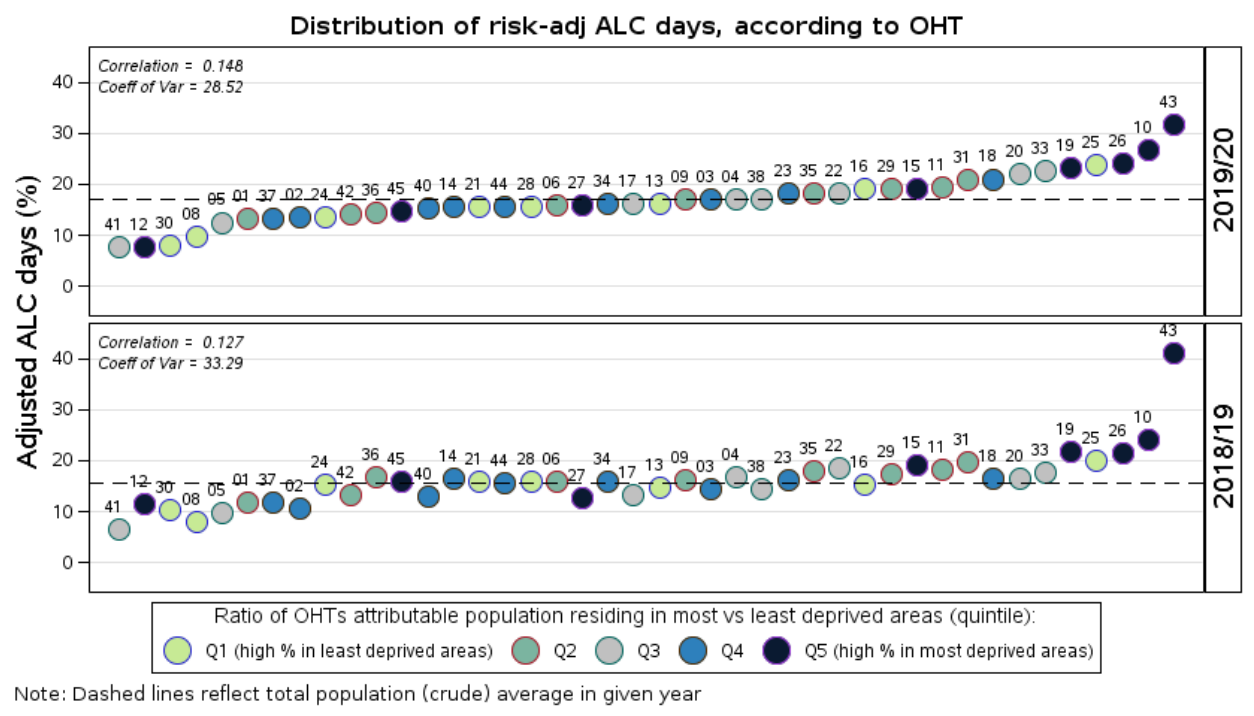
Days in acute inpatient care



Mean: 9.0days (was 8.6)
Range: 7.1 - 13.8

Correlation with deprivation	Variability across OHTs (same year)
Weak ($tau_{2019/20}$=0.233)	High ($CV_{2019/20}$=14.1)

ALC days

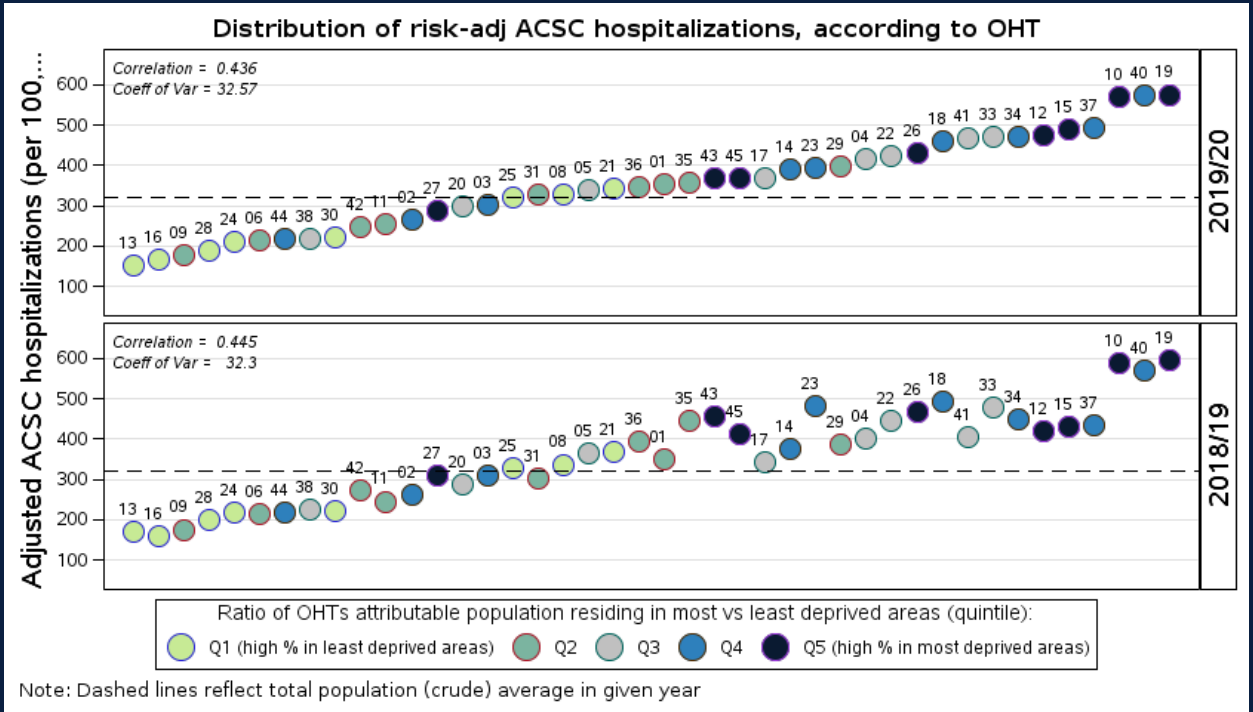


Mean: 17.2% (was 15.7)
Range: 7.7 - 31.9

Correlation with deprivation	Variability across OHTs (same year)
Weak ($tau_{2019/20}$=0.148)	High ($CV_{2019/20}$=28.5)

*Indicator based on MOH definition**

Hospitalizations for ambulatory care sensitive conditions



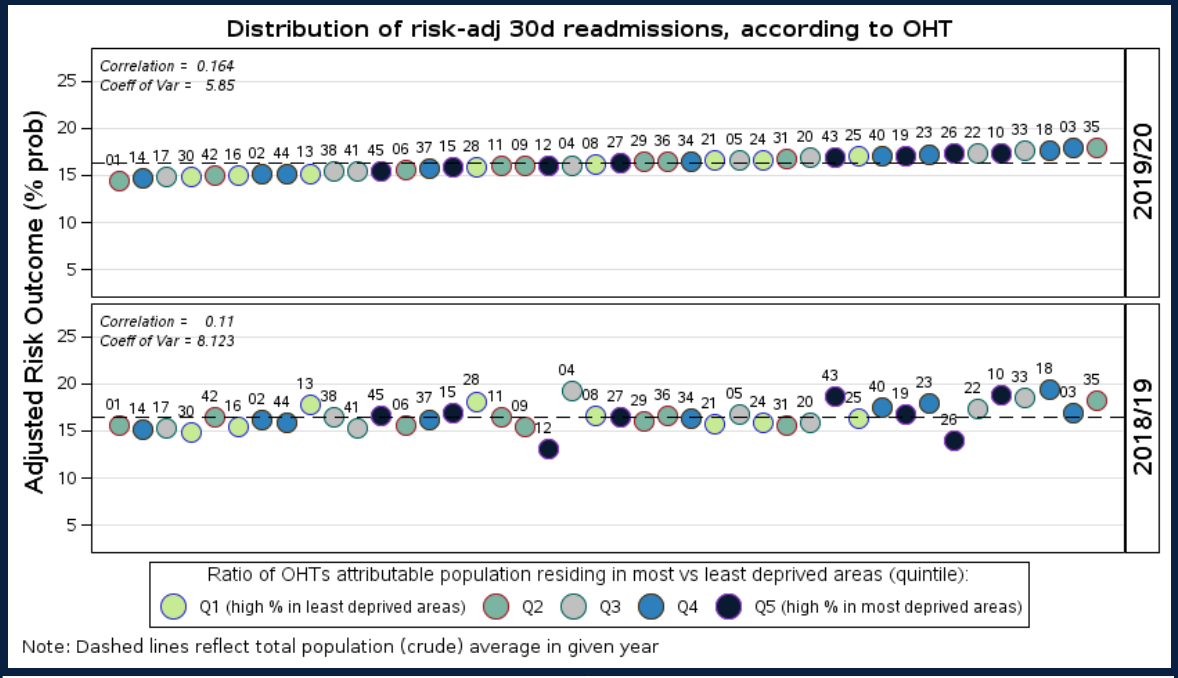
Mean: 319 (was 321)
Range: 153 - 576

Correlation with deprivation	Variability across OHTs (same year)
Moderate ($tau_{2019/20}$=0.436)	High ($CV_{2019/20}$=32.6)

*Indicator based on MOH definition**

ACSCs include COPD, asthma, grand mal status and other epileptic convulsions, heart failure, hypertension, angina, and diabetes

Readmissions within 30 days for selected HIG conditions

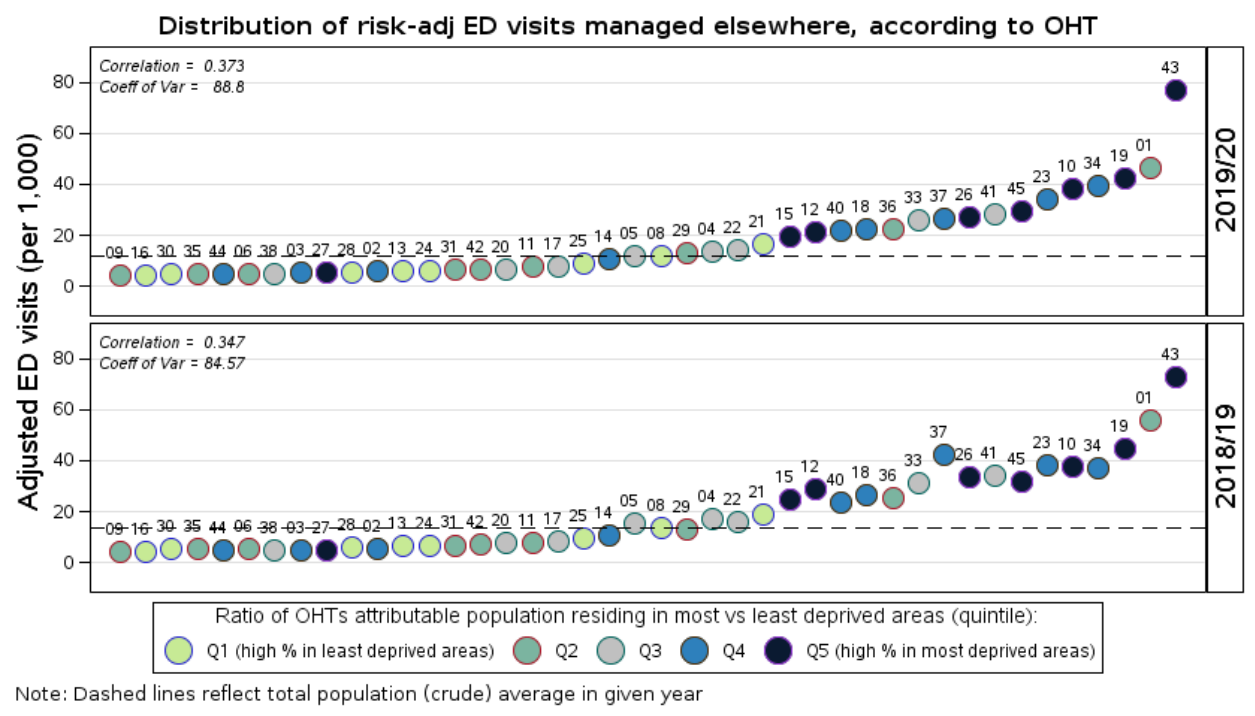


Mean: 16.3% (stable)
Range: 14.5 - 17.9

Correlation with deprivation	Variability across OHTs (same year)
Weak ($tau_{2019/20}$=0.164)	Modest ($CV_{2019/20}$=5.9)

*Indicator based on MOH definition**

ED visits best managed elsewhere

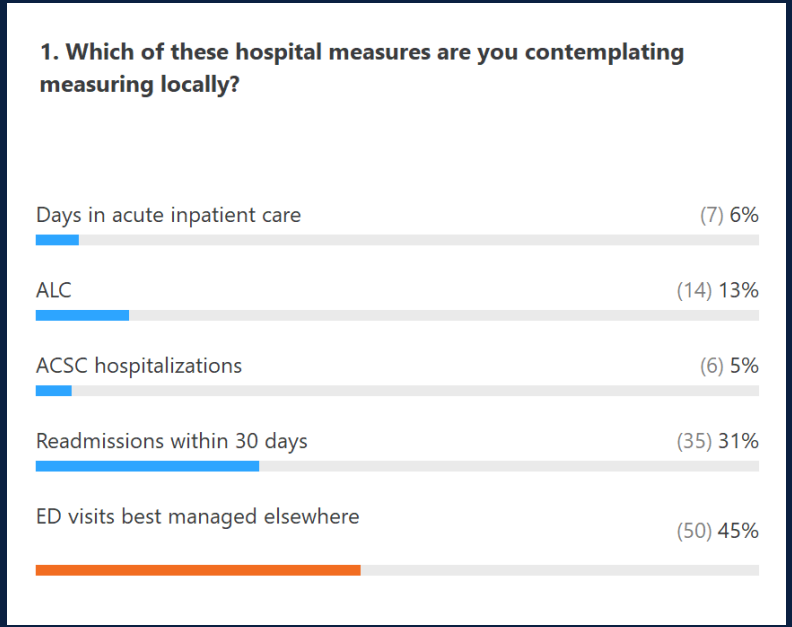


Mean: 12.0 (was 13.6)
Range: 4.1 - 77.2

Correlation with deprivation	Variability across OHTs (same year)
Fair/Moderate ($tau_{2019/20}$=0.373)	Very high ($CV_{2019/20}$=88.8)

*Indicator based on MOH definition**

Poll 3

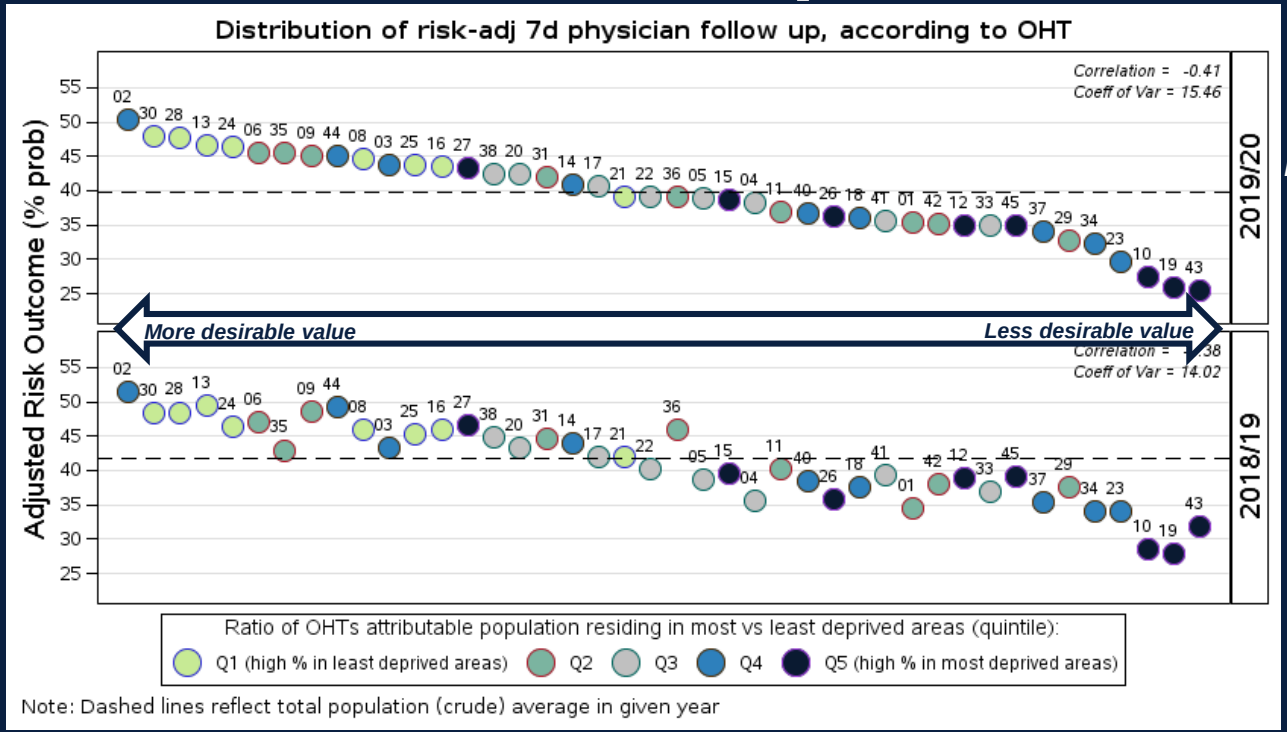

1. Which of these hospital measures are you contemplating measuring locally?
Days in acute inpatient care
(7) 6%
ALC
(14) 13%
ACSC hospitalizations
(6) 5%
Readmissions within 30 days
(35) 31%
ED visits best managed elsewhere
(50) 45%

Discussion.

Webinar participants have criticized hospital-based measurement. What else are you measuring that is closer to the ways that you will improve care?

Use the chat !

Physician visits after hospital discharge

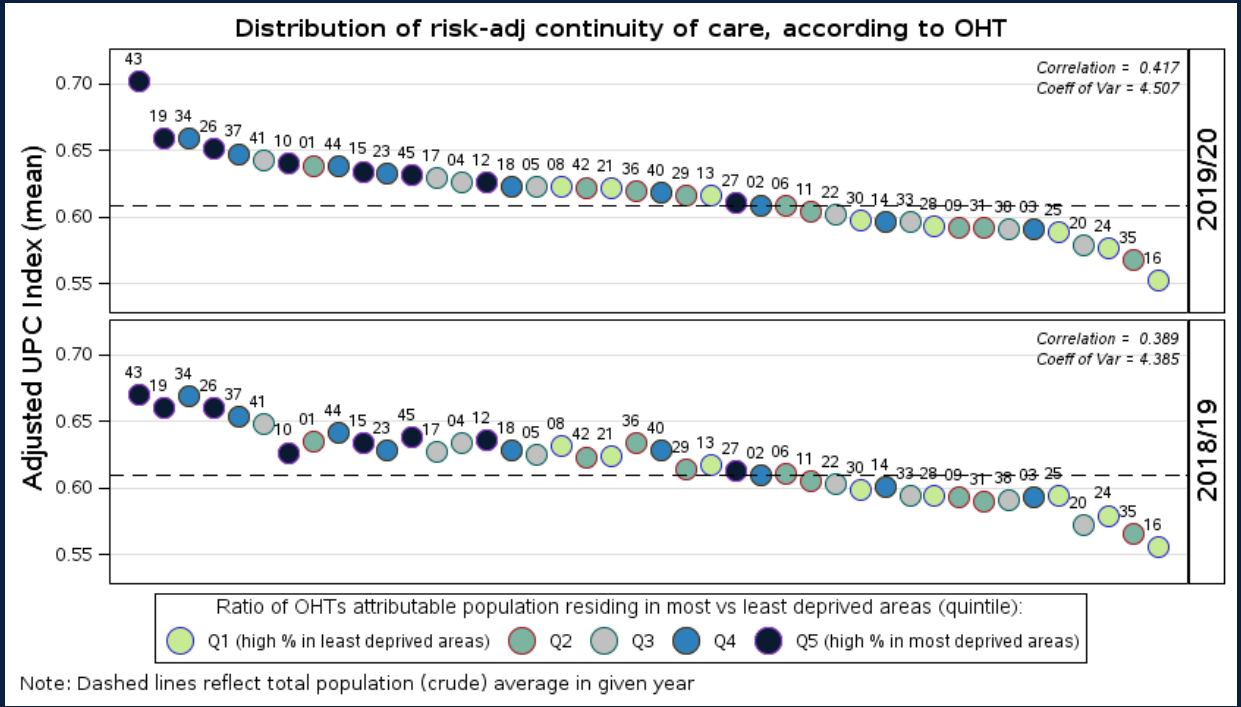


Mean: 39.7% (was 41.7)
Range: 25.5 - 50.3

Correlation with deprivation	Variability across OHTs (same year)
Moderate ($tau_{2019/20}$=-0.410)	High ($CV_{2019/20}$=15.5)

*A high value is desirable for this measure***
**Indicator based on MOH definition*

Continuity of care: UPC Index

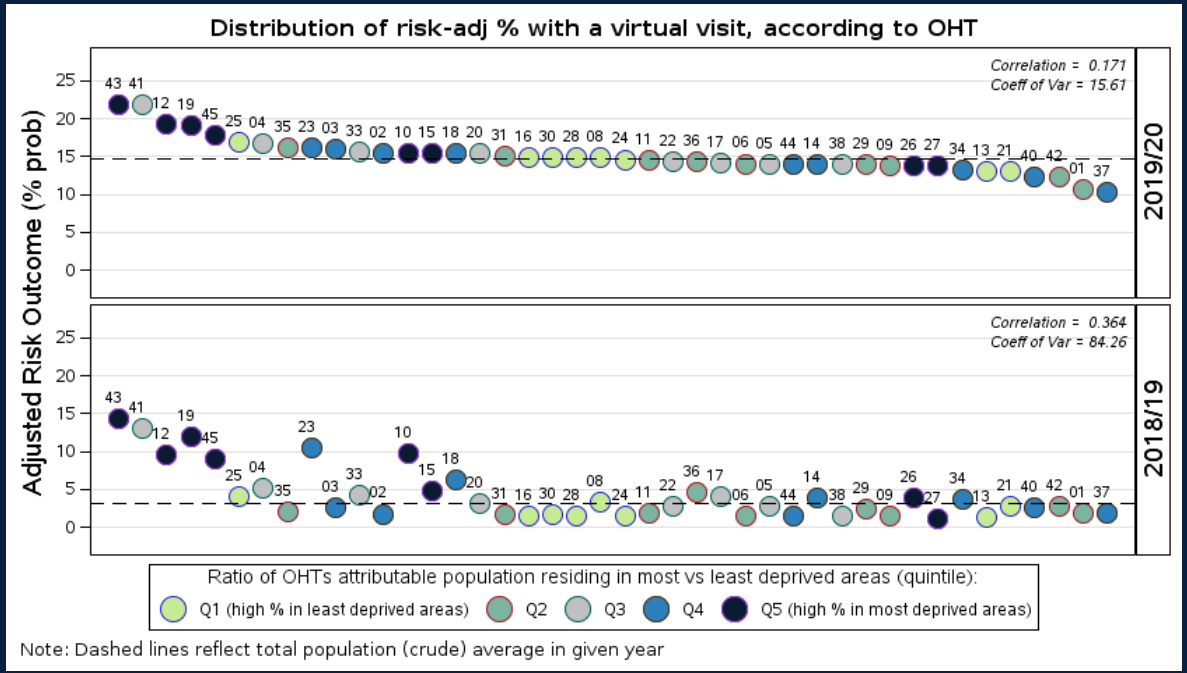


Mean: 0.61 (stable)
Range: 0.55 - 0.77

Correlation with deprivation	Variability across OHTs (same year)
Moderate ($tau_{2019/20}$=0.417)	Modest ($CV_{2019/20}$=4.5)

*A high value is desirable for this measure***

% of OHT attributed patients with a virtual physician encounter

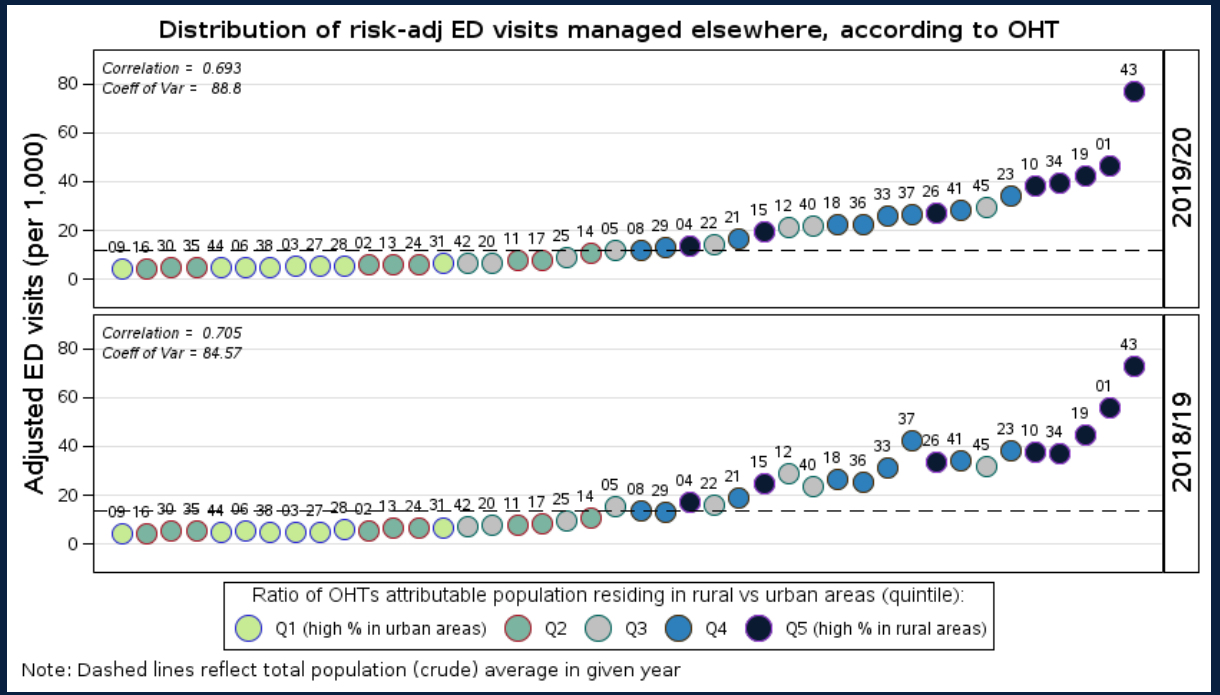


Mean: 14.8% (was 3.1%)
Range: 11.4 - 21.8

Correlation with deprivation	Variability across OHTs (same year)
Weak ($tau_{2019/20}$=0.171*)	High ($CV_{2019/20}$=15.6)

*A high value is desirable for this measure***

Performance correlates with other factors: rurality



Correlation with rurality
Strong ($tau_{2019/20}$=0.693)

*Indicator based on MOH definition**

Some limitations

Outcomes are limited to those measurable with available data

Area-level SES is not the same as individual-level SES

Closed/ fixed cohort may result in some bias

Correlations of attributable population (vs causality)

So what does this mean?

- Deprivation has a fair/moderate association with

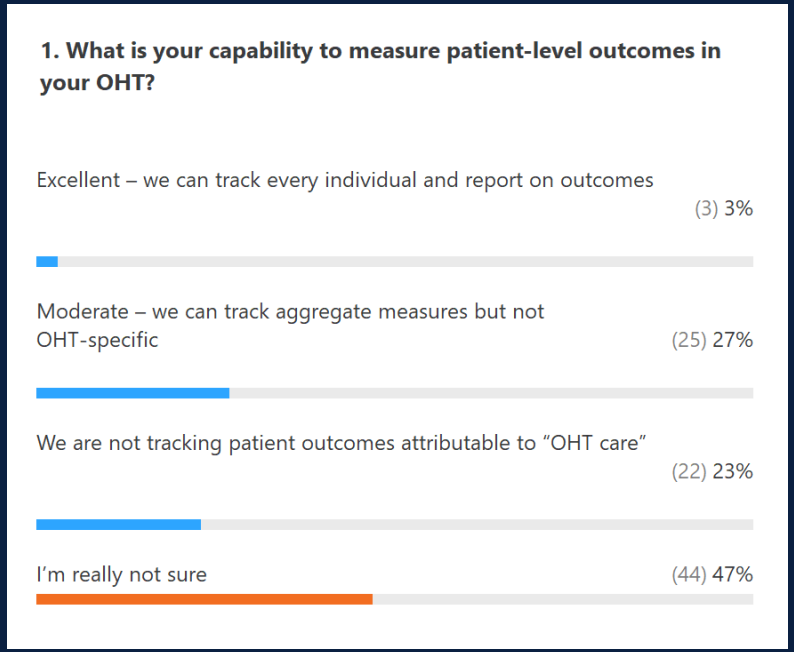
1. Premature mortality
2. Being hospitalized for conditions that could be treated outside of hospital
3. Cost
4. Follow-up visits with care provider within 7-days of being discharged from hospital
5. ED visits best managed elsewhere

So what does this mean?

- Most indicators for the **attributable population** are not likely to move in the coming year except for virtual visits

- Some indicators are expected to improve for **priority populations**, in the first year of implementation.
- OHTs need to build capacity to measure and monitor most of these indicators.

Poll 4


1. What is your capability to measure patient-level outcomes in your OHT?
Excellent – we can track every individual and report on outcomes
(3) 3%
Moderate – we can track aggregate measures but not OHT-specific
(25) 27%
We are not tracking patient outcomes attributable to "OHT care"
(22) 23%
I'm really not sure
(44) 47%

Discussion.

What are some of the accomplishments and challenges to measuring outcomes of “OHT care”?

Use the chat !

Fun Facts !

1. High (better than median) Physician continuity of care is associated with fewer hospitalizations … amongst people with multimorbidity … it's equivalent to curing one disease !
   (Gruneir et al. BMC Health Serv Res. 2016;16:154. doi: 10.1186/s12913-016-1415-5.)

2. High (better than median) Physician continuity of care in this year is associated with ~ 10% reduced risk of incurring a new chronic condition next year.
   (Chau et al., PLoS One. 2021;16(3):e0245193. doi: 10.1371/journal.pone.0245193.)

OHT-specific indicator reports from HSPN

74	MY OHT	VARIABLE	VALUE	2017/18	2018/19	2019/20
				N=364,893	N=369,078	N=366,539
		Male Sex		49.8%	49.7%	49.6%
		Age (years)	Mean ± SD	39.3 ± 21.6	39.6 ± 21.7	40.4 ± 21.6
		Age Grp	00-19y	20.6%	20.5%	19.6%
			20-34y	22.1%	21.5%	20.8%
			35-49y	24.0%	24.1%	24.4%
			50-64y	19.7%	19.9%	20.4%
			65-74y	7.9%	8.2%	8.6%
			75y+	5.7%	5.9%	6.2%
		Residence	Urban	98.7%	98.6%	98.5%
			Rural	1.0%	1.1%	1.2%
		Material Deprivation	Q1 (least deprived)	15.6%	15.7%	16.0%
			Q2	17.3%	17.4%	17.5%
			Q3	18.5%	18.5%	18.5%
			Q4	20.4%	20.3%	20.3%
			Q5 (most deprived)	27.9%	27.7%	27.4%
		Primary Care Model	FHG	32.7%	33.2%	32.9%
			FHO	30.6%	31.1%	31.0%
			FHT	9.3%	9.0%	9.5%
			Not enrolled	27.2%	26.1%	25.5%
			Other Model	0.3%	0.6%	1.1%
		Deaths		0.5%	0.6%	0.6%

Simple Longitudinal characteristics of OHT attributable population (example table)

Longitudinal risk-adjusted indicator, with comparison to total population data

Longitudinal risk-adjusted outcomes for each quintile of material deprivation

Next steps

April: Reporting to OHTs

May: Reporting to MOH and public release

Attributable population indicators updated annually

April webinar – Baseline reporting target population indicators

Population	Indicator
Older Adults	*% with medication review within 7 days of hospital discharge
	Caregiver distress
	Cognitive performance scale
	Minimum dataset health status index (MDSHSI)
	Activities of daily living – long form
	Repeat fall-related emergency visits
	Proportion of older adults with frailty
Mental Health	Repeat unscheduled emergency visits within 30 days
	7-day follow-up with a physician after hospitalization for MHA
	First contact in the emergency department for MHA
	Frequent emergency department visits for MHA
	Rate of emergency department visits for deliberate self harm
	*Rate of MHA-related emergency department visits
	*Rate of MHA-related hospitalizations
	*Rate of MHA-related outpatient physician visits
Palliative/ End-of-Life	Deaths in hospital
	Days spent at home in the last 6 months (180 days) of life
	% with 1+ ED visits in the last 30 days of life
	% with palliative home care in the last 90 days of life
	% with palliative physician home visits in the last 90 days of life

NEW!

Community of Practice

Evaluation and Performance Improvement for OHTs

Who is it for?

- People working on evaluation and performance improvement in OHTs

What can members do?

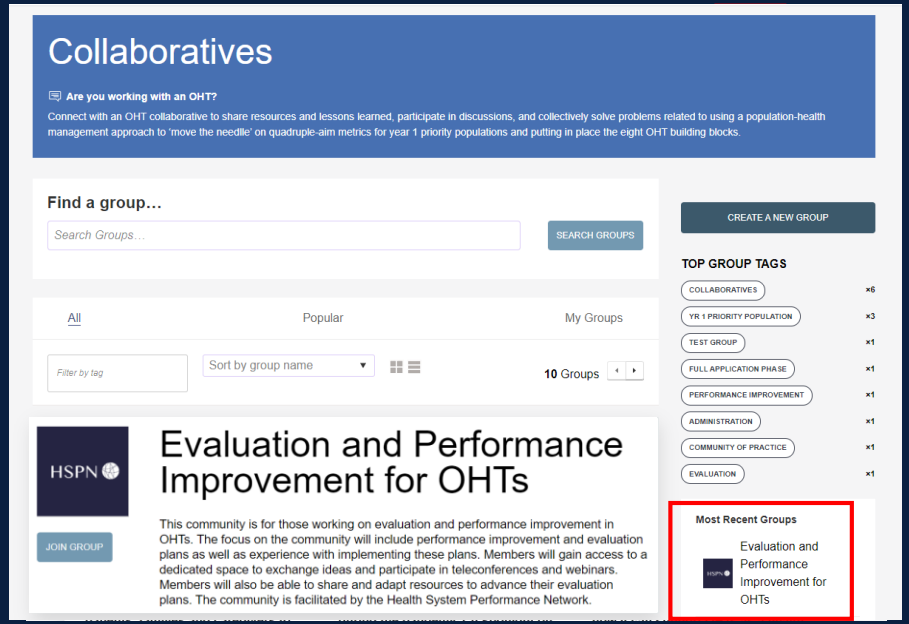
- Share experience across OHTs
- Access and share evaluation and measurement resources
- Connect at monthly teleconferences
- Ask the experts

How do I join?

Check the chat box for links

1. Visit the OHT Collaboratives platform and click the “Sign Up” button

2. On the Collaboratives page, look for the **Evaluation and Performance Improvement for OHTs** community of practice and click “Join Group”



Up Next:

HSPN Webinar Series

- 4th Tuesday of the Month: 12:00 – 1:30pm

Upcoming Topics:

- ✓ HSPN OHT Evaluation Measures
- ✓ Population Health Management
- OHT Improvement Indicator Results
- Population segmentation in Ontario

… and more.

Key Resources Available

Teams are encouraged to access the **ministry's central program of supports** for resources and assistance to improve their readiness to implement the Ontario Health Team model wherever they are in the readiness assessment process.

Teams can access this central program through the Ministry of Health website: http://health.gov.on.ca/en/pro/programs/connectedcare/oht/default.aspx

Ontario
Ministry of Health
Ministry of Long-Term Care

Key resources include:

- **Ontario Health Teams: Digital Health Playbook** – playbook to help understand how providers can build a digital health plan for OHTs that supports the delivery of integrated care (available at MOH website above).

- **Rapid-Improvement Support and Exchange (RISE)** – an interactive website (www.ohtrise.org) that provides access to resources, experts and assistance for potential Ontario Health Teams. Main rapid learning and supports delivery partner.

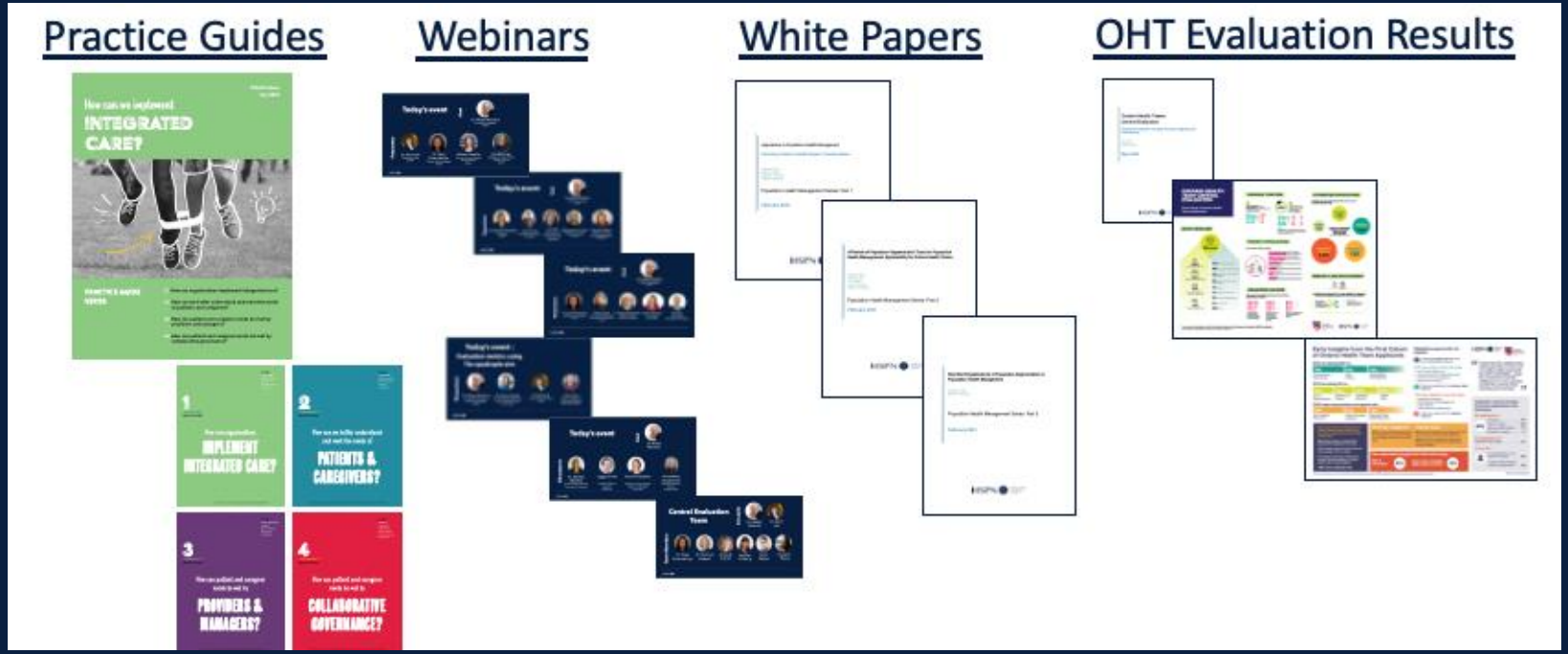
- **HSPN – Central OHT Evaluation –** Evaluation resources and reports (www.hspn.ca)

RISE
Rapid-Improvement Support and Exchange

HSPN
Health System Performance Network

HSPN Implementation Resources

https://hspn.ca/evaluation/ontario-health-teams



Everyone is involved !

Twitter: @infohspn

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https://hspn.ca/evaluation/ontario-health-teams

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Thank you!

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