HSPN Health System Performance Network

OHT cQIP Indicators & Population Segmentation

Ontario Results

February 2022

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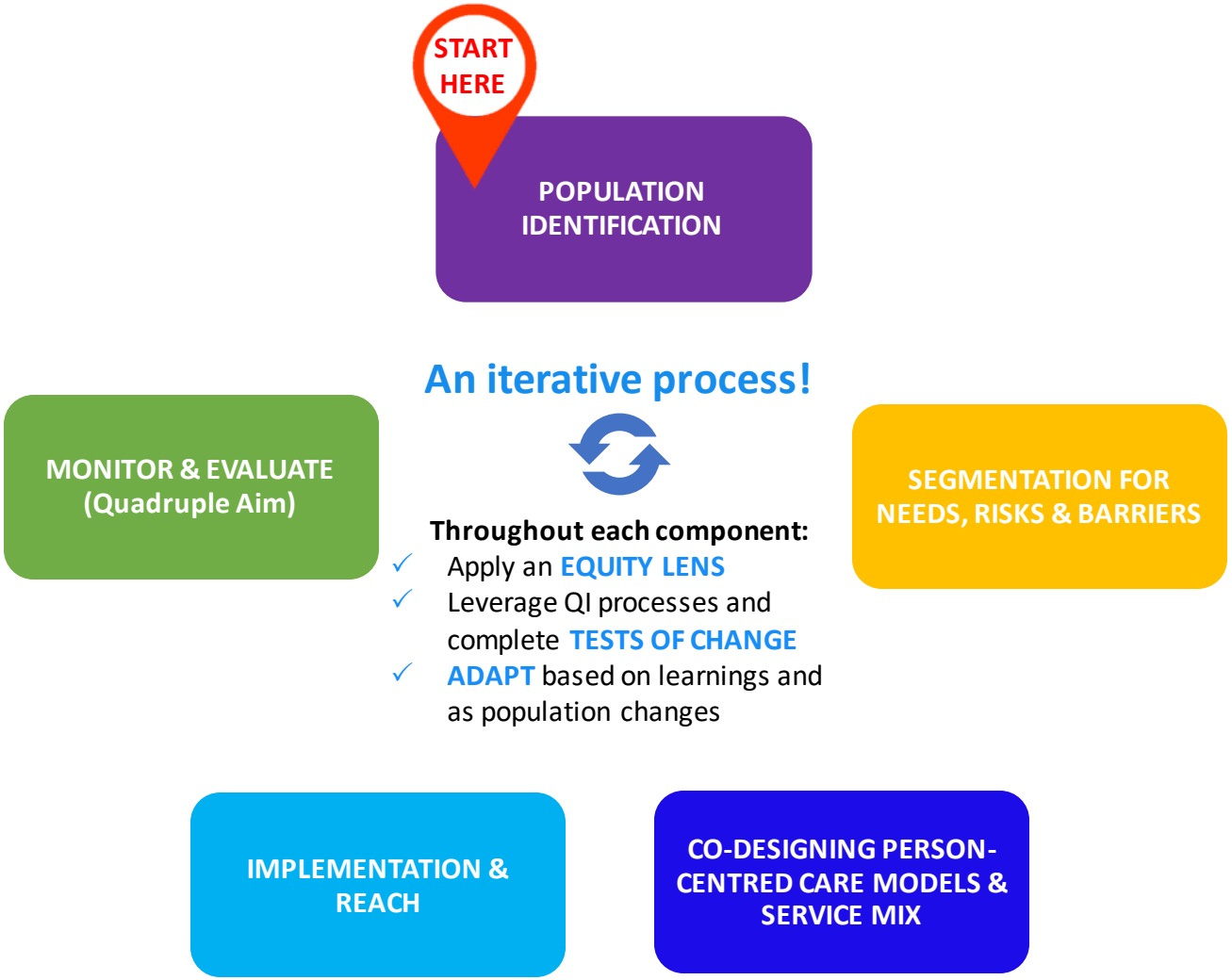
Overview

1. Approaching Population Health Management
2. HSPN indicators: opportunities for improvement
3. Population segmentation & BC Health System Matrix
4. COVID Recovery (aka cQIP) indicator results

How to Approach Population Health Management



Source: Adapted from Population Health Alliance, 2012

HIGH LEVEL OVERVIEW OF EACH COMPONENT

- **Population identification** (start here)
  - This will need to be done on an on-going basis as your population changes and can include two levels of identification:
    1) Understanding your attributed population (MoH data)
    2) Identifying a priority population with which to start/to prioritize next (HSPN Improvement Indicators)
    3) Identify opportunities for improvement (collaborative Quality Improvement Plan indicators)
- **Segmentation for needs, risks & barriers**
  - Segmenting your attributed population into priority populations
  - Segmenting your priority populations
- **Co-designing person-centred care models & service mix**
- **Implementation & reach**
- **Monitor & evaluate**
  - Using a quadruple aim approach

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Previously: HSPN OHT-Specific Reports

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Think about your **opportunities for improvement**

Now let's take it down a level.

- Move from entire OHT attributable populations to sub-populations. Use population-segmentation to identify patient populations with (crudely) similar health and social care needs.
- the British Columbia Health System Matrix is one approach to segment the OHT attributable population into sub-populations (you could find and use other approaches).

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Population Segmentation

September 2021 HSPN Webinar

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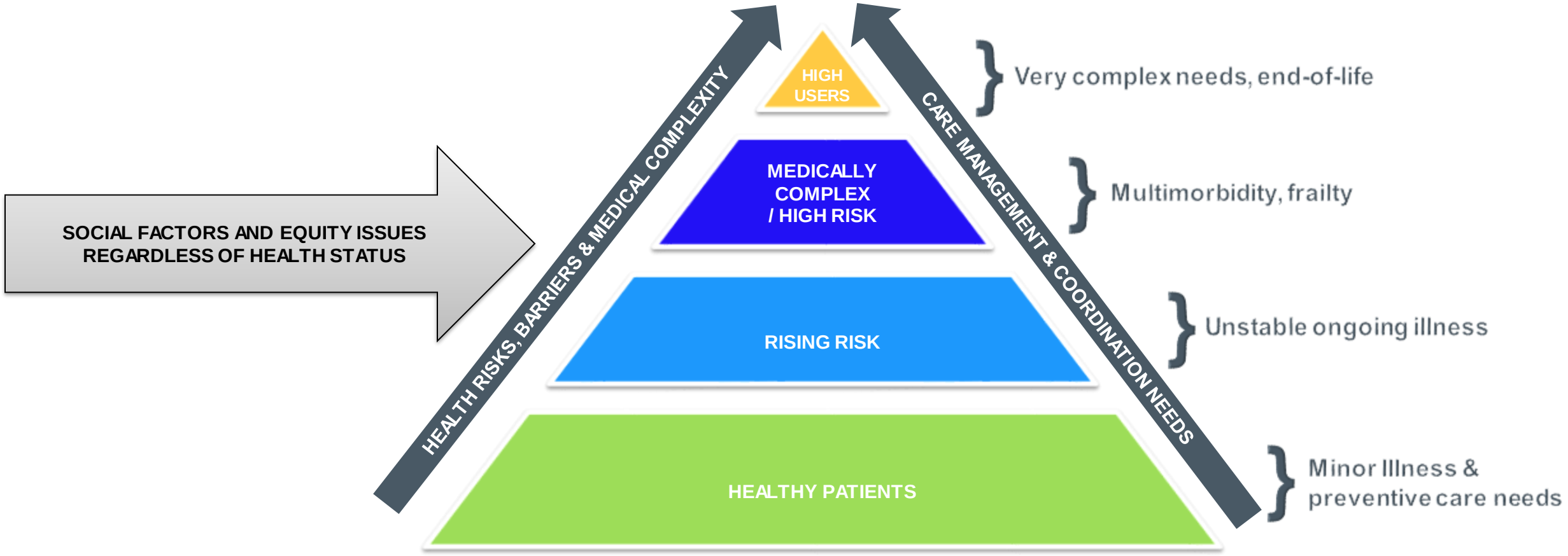
There are multiple ways to approach segmentation including population health analytics, local healthcare use and patient and provider input.

Segmenting for needs, risks and barriers



Source: Adapted from Kaiser Permanente

OHT Long Term Goal: Integrating Care for Full Attributed Population

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Population Segmentation using the BC Health System Matrix

- Clinically driven
- Focused on predicting care services
- Based on Bridges to Health Model

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Using Population Segmentation to Provide Better Health Care for All: The "Bridges to Health" Model

JOANNE LYNN, BARRY M. STRAUBE, KAREN M. BELL, STEPHEN F. JENCKS, and ROBERT T. KAMBIC

Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services

The model discussed in this article divides the population into eight groups: people in good health, in maternal/infant situations, with an acute illness, with stable chronic conditions, with a serious but stable disability, with failing health near death, with advanced organ system failure, and with long-term frailty. Each group has its own definitions of optimal health and its own priorities among services. Interpreting these population-focused priorities in the context of the Institute of Medicine's six goals for quality yields a framework that could shape planning for resources, care arrangements, and service delivery, thus ensuring that each person's health needs can be met effectively and efficiently. Since this framework would guide each population segment across the institute's "Quality Chasm," it is called the "Bridges to Health" model.

Keywords: Health care reform, community health planning, health services needs and demand, person-focused health.

Crossing the Quality Chasm (IOM 2001a) envisioned an approach to health that focuses on the individual person or patient and met six specific aims for care: it must be safe, effective, efficient, patient centered (i.e., meets the patient's desires and preferences within the care delivery environment), timely, and equitable.

Address correspondence to: Joanne Lynn, Office of Clinical Standards and Quality, CMS, 7500 Security Blvd., Baltimore, MD 21244-1850 (email: Joanne.lynn@cms.hhs.gov).

The Milbank Quarterly, Vol. 85, No. 2, 2007 (pp. 185–208)

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BC's Population Segmentation: 14 Health Status Groups

Broad Category	*Population Segment representing 'highest' need for care in year*	
Towards the End of Life	**End of Life**	In a palliative care or end of life program
	Frail in Residential Care	Living in Licenced residential care
	Frail with High Complex Chronic Conditions	High chronic conditions with supports for activities of daily living
	Frail living in the community	With supports for activities of daily living, without high chronic conditions
Living with Illness and Chronic Conditions	**High Complex Chronic Conditions, not Frail**	High chronic conditions, without supports for activities of daily living
	Cancer	Population with cancer diagnosis and treatment
	Severe Mental Illness and Substance Use	Hospitalized for MH or SU in 5 year period
	Medium Complex Chronic Conditions	Specific Medium Chronic Conditions or comorbidities
	Low Complex Chronic Conditions	Specific Low Chronic Conditions
Getting Better	**Children and Youth Major Conditions**	Significant time-limited health needs, without chronic conditions. Includes Newborns with health conditions
	Adults Major Conditions	
Staying Healthy	**Healthy**	Healthy, low users, with minor episodic health care needs
	Maternity and Healthy Newborns	Maternity, Obstetrics and newborns
	Non-users	People who used no health care in year

Health System Matrix 6.1, BC Ministry of Health 2015

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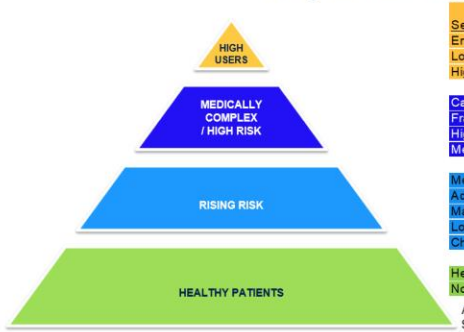
Population Segmentation

RISE Rapid-Improvement Support and Exchange

HSPN Health System Performance Network

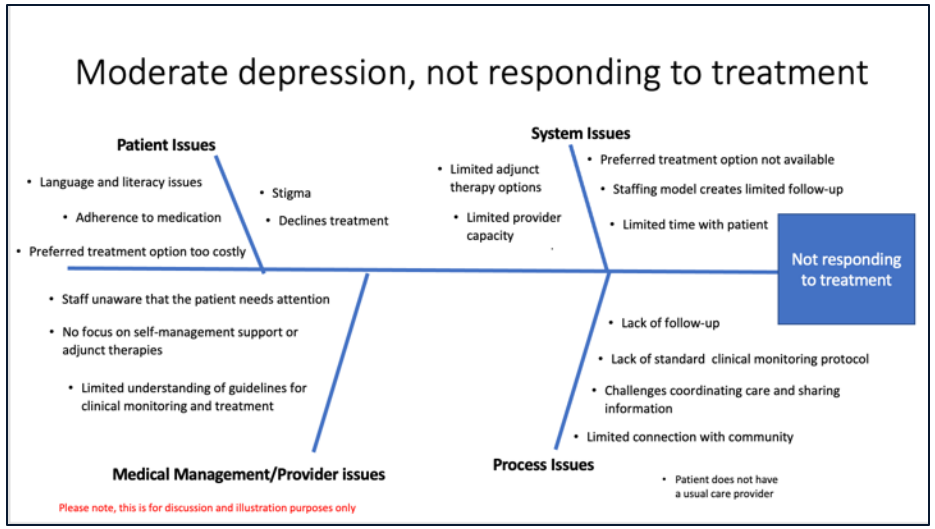
Ontario: Cost, Mortality and Population Sizes of Population Groups/Segments Using BC Health System Matrix



Segment	$ PMPM	Premature Mortality	% Pop
End of Life	$ 5,366	22,664	0.6%
Long-Term Care	$ 4,319	10,040	0.6%
High Chronic with Frailty	$ 2,739	6,518	1.0%
Cancer	$ 1,680	3,073	0.7%
Frail in Community (Home Care)	$ 1,356	2,695	0.7%
High Chronic Conditions	$ 929	1,374	4.0%
Mental Health & Substance Abuse	$ 731	967	1.1%
Medium Chronic Conditions	$ 450	542	8.2%
Adult Major Age 18+ yrs	$ 310	243	2.8%
Maternity & Healthy Newborn	$ 228	28	2.1%
Low Chronic Conditions	$ 193	200	27.0%
Child and Youth Major <18 yrs	$ 188	41	0.9%
Healthy (low user)	$ 66	52	39.1%
Non-user	$ 31	61	11.2%

All data for 2020/21 based on 2019 Attributed Population (N = 14,358,560)
$PMPM = Provincial attributed government cost per member per month
Premature mortality per 100,000 population (Missing if fewer than 5 events)

Source: Adapted from Kaiser Permanente



January 2022 HSPN Webinar

hspn.ca/evaluation/oht/webinars/

- Population segmentation can help to identify opportunities for improvement.
- Team-level activity can segment priority populations based on patient needs and gaps in care.

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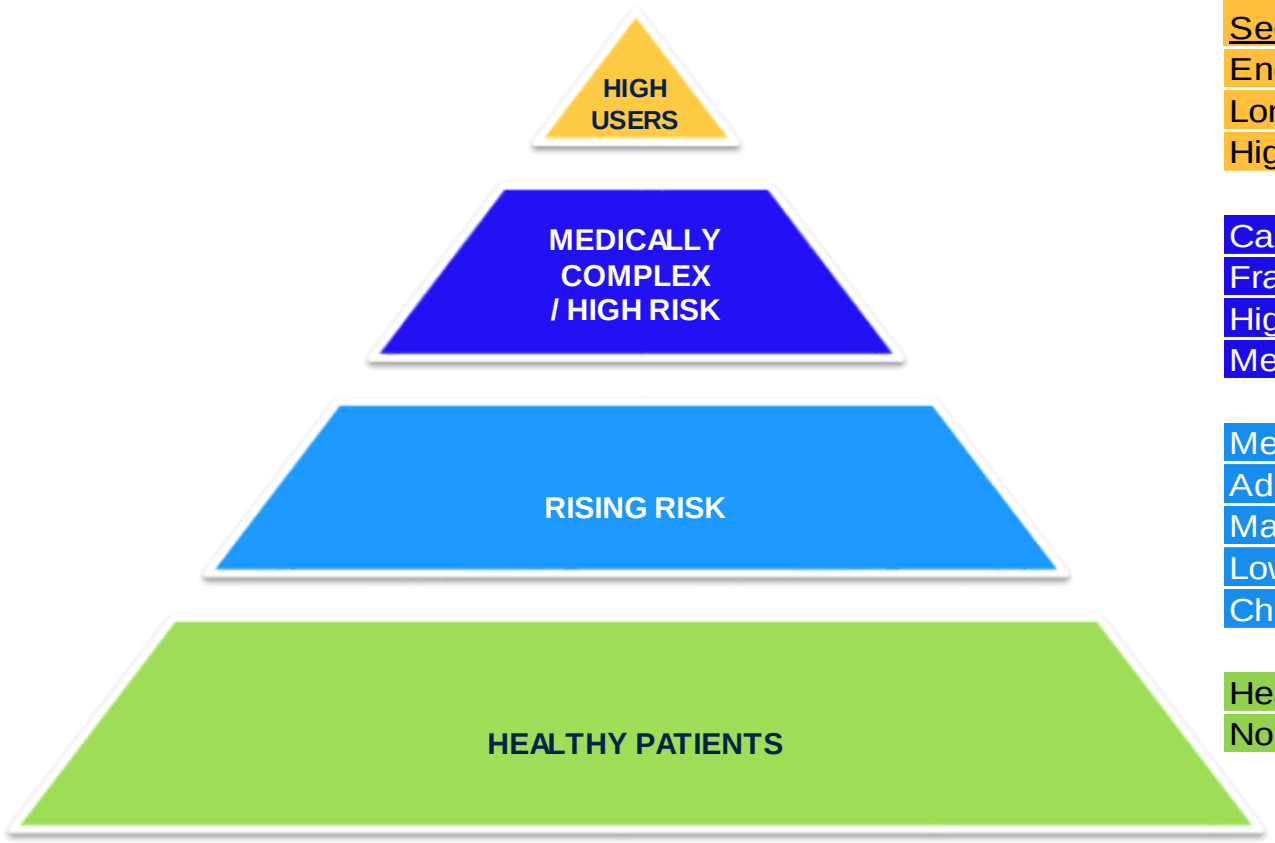
Population Segmentation

- First we use the BC Health System Matrix to segment the entire OHT population.
- We rank the population segments according to total health system cost using provincial data.
- For each segment we report: Total cost; Premature mortality; and the proportion of the OHT population for each OHT.

Ontario: Cost, Mortality and Population Sizes of Population Groups/Segments Using BC Health System Matrix



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collaborative Quality Improvement Plan Indicators (cQIP)

The next slides focus on cQIP indicators for OHTs:

- Alternate Level of Care;
- Emergency Department presentations for Mental Health and Addictions;
- 3 Cancer screening rates.

For each cQIP indicator, we report on the OHT-specific results:

1. by BC Health System Matrix Segment;
2. by neighbourhood Material Deprivation Quintile;
3. and by Primary Care Patient Enrolment Model.

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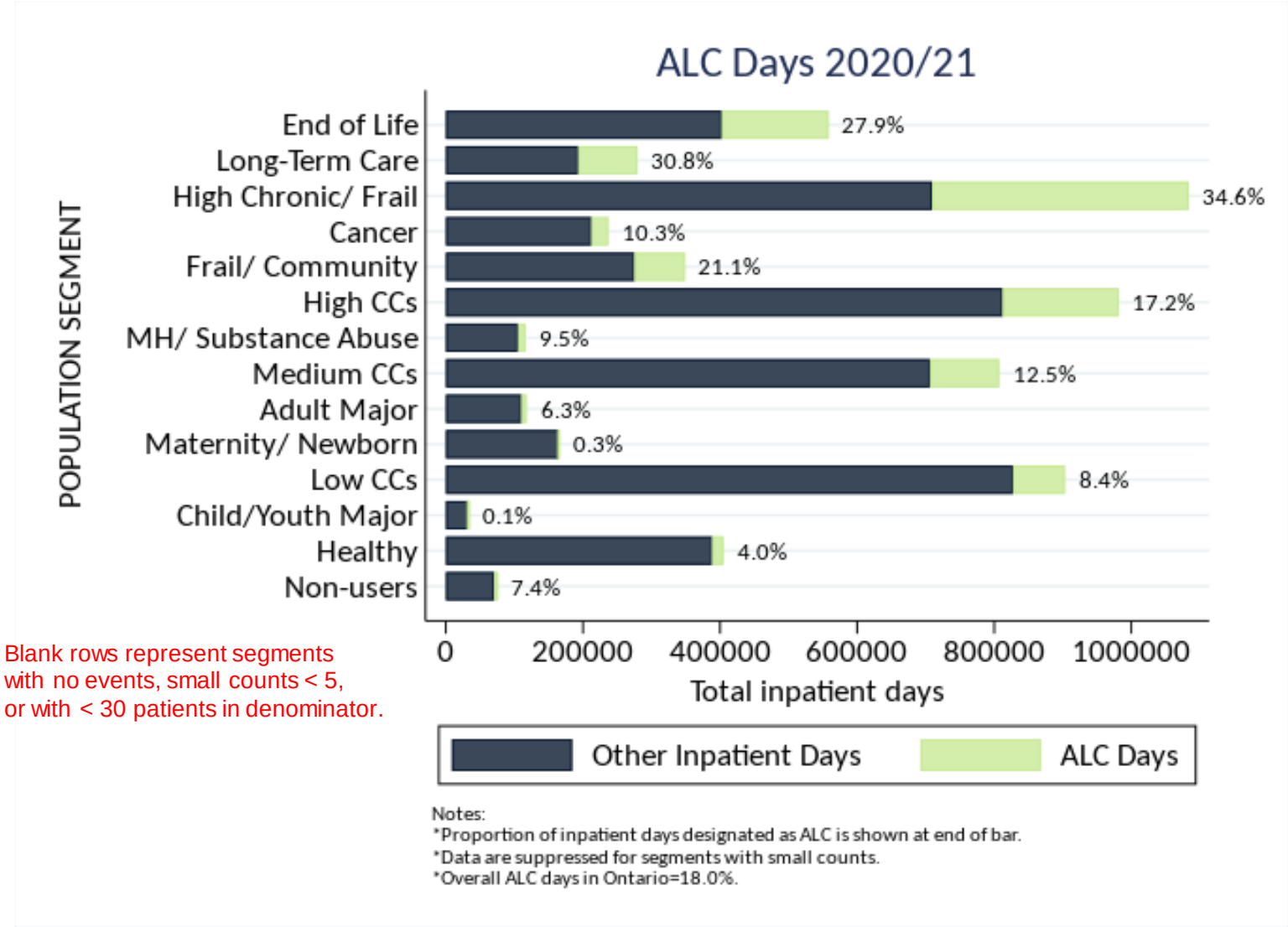
2020/21 ALC Days (percent of acute days) in acute hospitals by BC Matrix Segment



Blank rows represent segments with no events, small counts < 5, or with < 30 patients in denominator.

Horizontal axis presents total acute inpatient days:

- Bright green indicates ALC days;
- Dark blue represents non-ALC inpatient days;
- Percentage to the right is the proportion of inpatient days designated as ALC.
- OHT and Ontario average indicated in figure footnote.

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IC/ES

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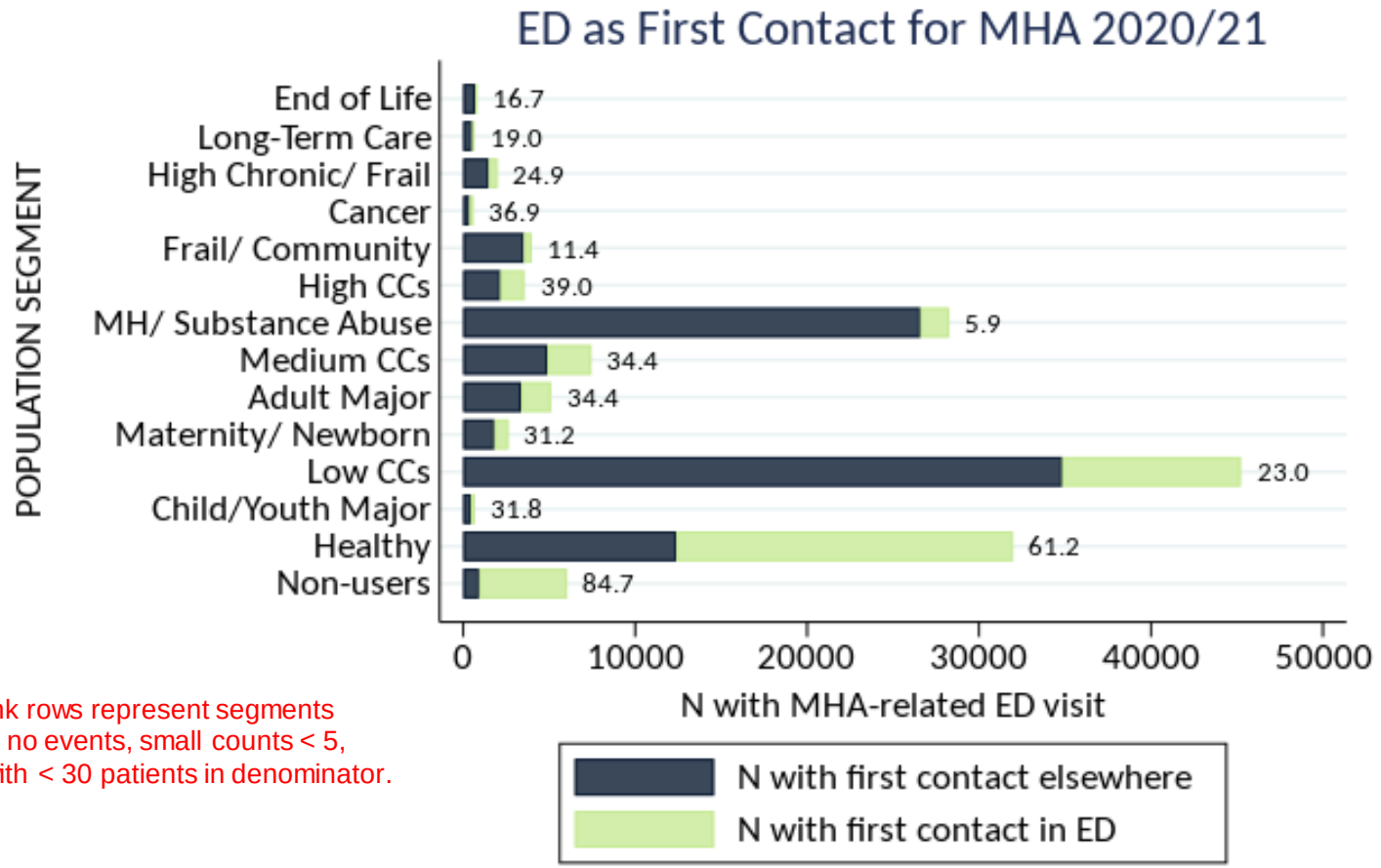
2020/21 Rate of Emergency Department visits as first point of contact for Mental Health and Addictions-related care by BC Matrix Segment



Blank rows represent segments with no events, small counts < 5, or with < 30 patients in denominator.

Horizontal axis shows the total number of individuals with Mental-Health and Addictions-related ED visit:

- Bright green indicates number of individuals for whom first contact for MHA was at an ED;
- Dark blue represents number of individuals with previous contact for MHA;
- Number to the right is the rate of each segment with ED as first point of contact for MHA.
- OHT and Ontario average indicated in figure footnote.

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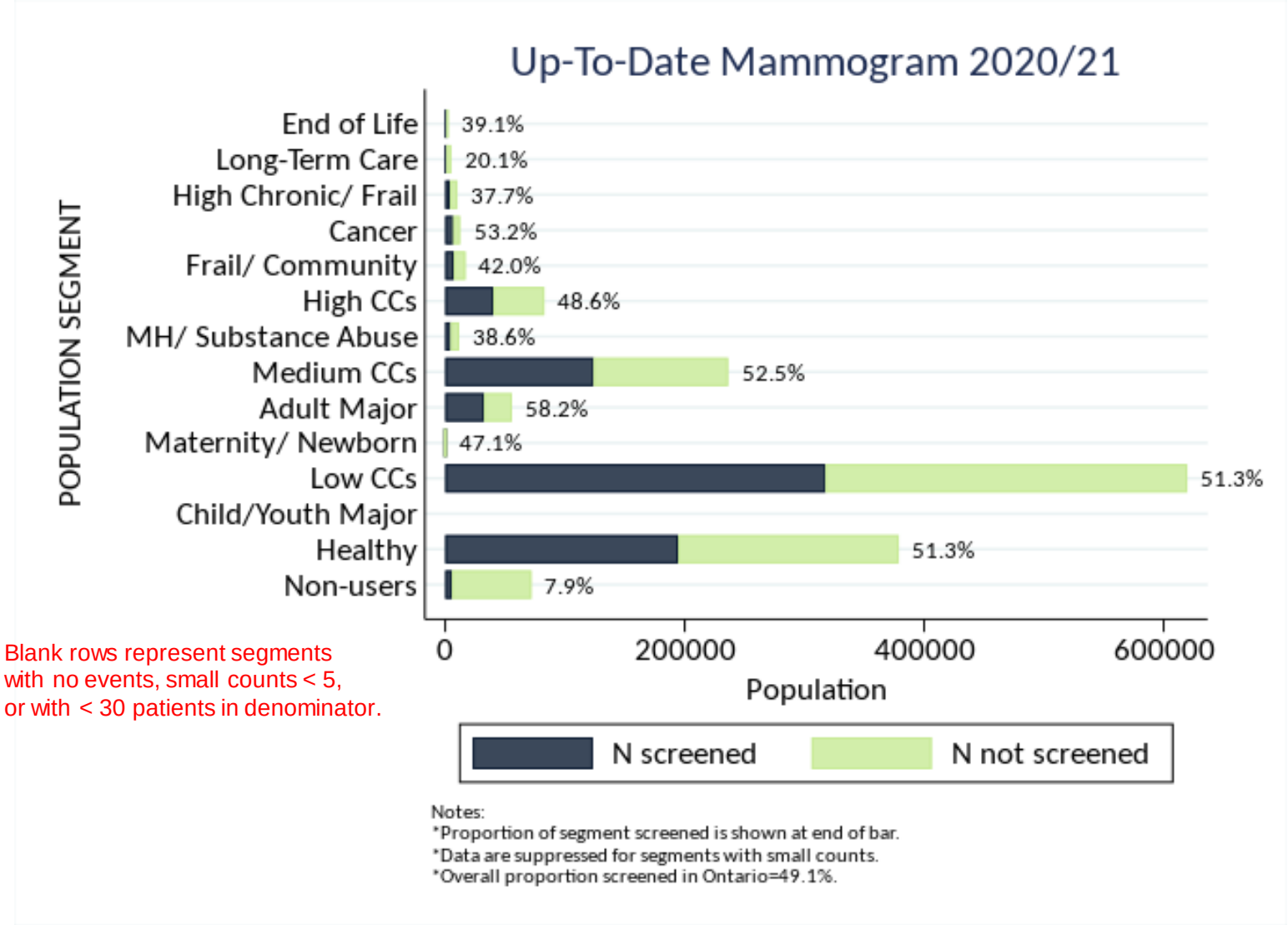
Percentage of screen-eligible patients (women 52-69 years of age) up to date with a Mammogram on March 31, 2021 by BC Matrix Segment



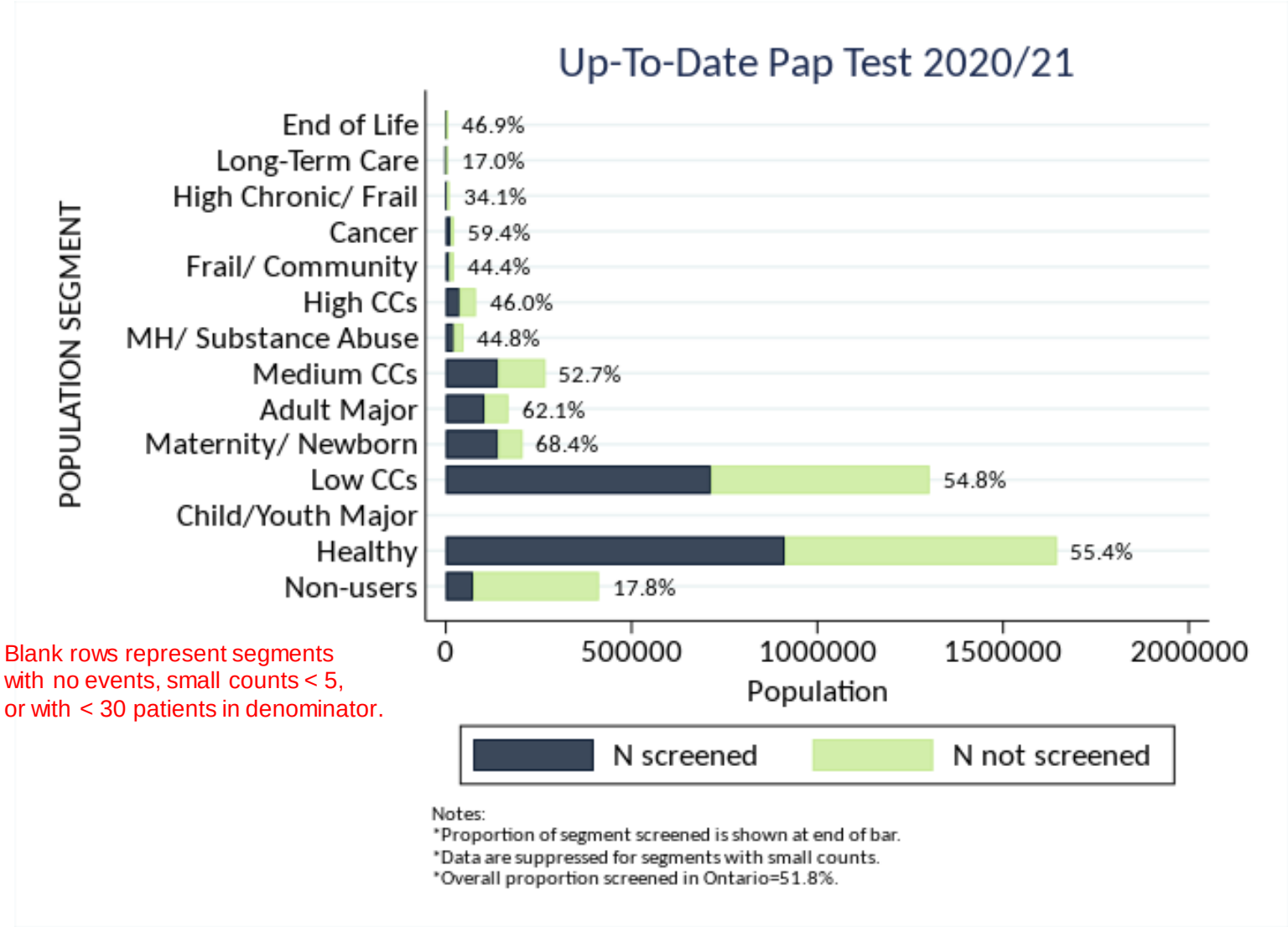
Blank rows represent segments with no events, small counts < 5, or with < 30 patients in denominator.

Horizontal axis shows the number of women 52-69 years:

- Bright green indicates number of women not screened;
- Dark blue represents number of women screened;
- Percentage to the right is the proportion of each segment screened.
- Ontario OHT and Ontario average indicated in figure footnote.

*

Percentage of screen-eligible patients (women 23-69 yrs of age) up to date with Papanicolaou (Pap) tests on March 31, 2021 by BC Matrix Segment



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Horizontal axis shows the number of women 23-69 years

- Bright green indicates number of women not screened;
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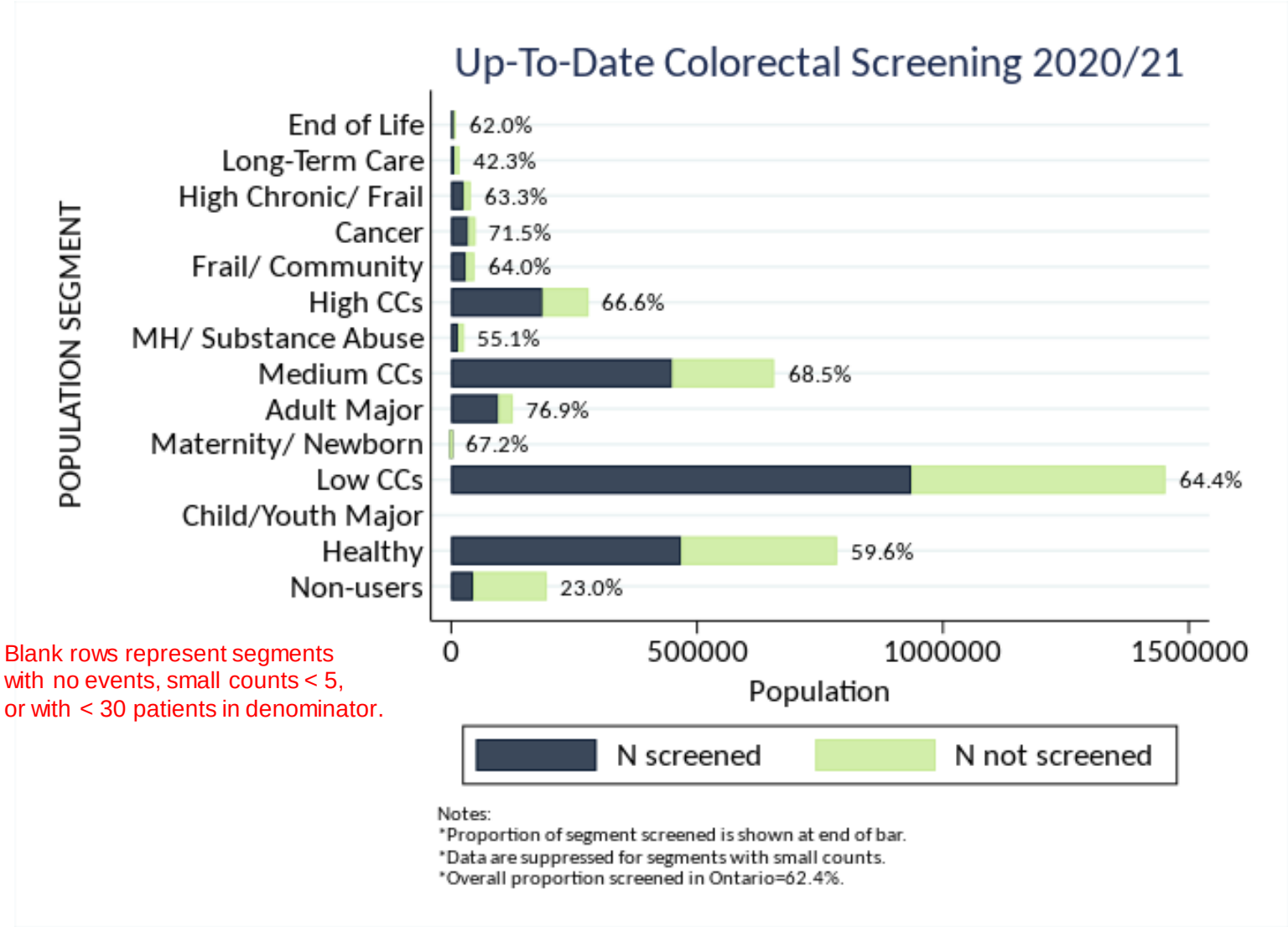
Number of adults 52-74 years of age up to date with Colorectal screening on March 31, 2021 by BC Matrix Segment



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- Bright green indicates number of adults not screened;
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- Percentage to the right is the proportion of each segment screened.
- OHT and Ontario average indicated in figure footnote.

*

Implications

- ALC strategies must consider multiple populations including frail seniors with high chronic conditions, those in Long Term Care and those who have palliative care needs.
- Strategies to identify individuals with Mental Health and Addictions must consider those who do use relatively little health care services but also Maternity/newborn, and those who have Major Acute encounters in the health care system.
- Cancer screening strategies must pay particular attention to those with little to no contact with the health care system.

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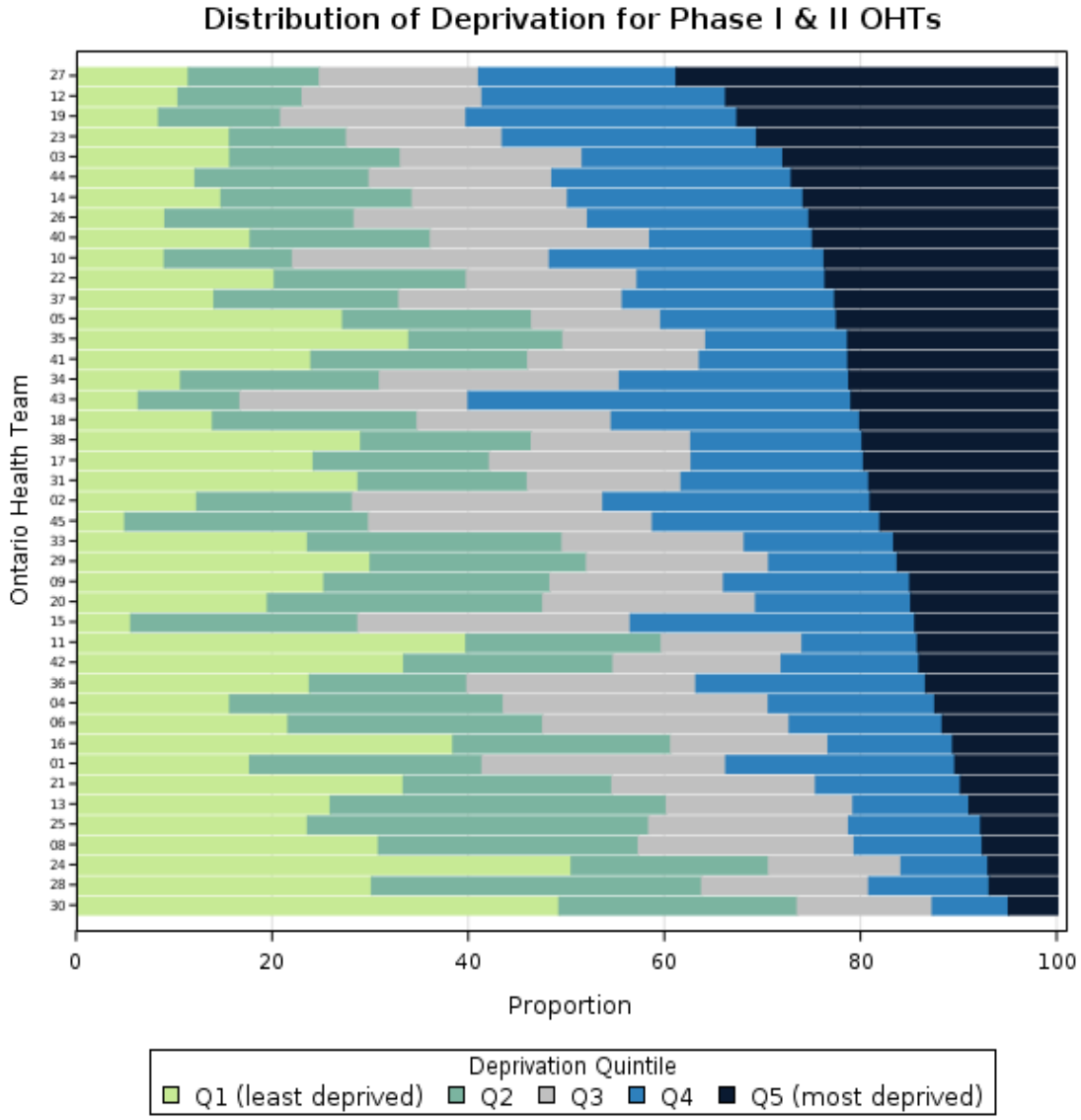
Material Deprivation Quintile



Proportion of OHT population according to Neighbourhood Material Deprivation

Ontario Health Teams Phase 2 Evaluation. OHT Attributable Populations: Total Population Improvement Indicators at Baseline, 2017/18 to 2019/20. Toronto, ON: Health System Performance Network. 2021. available at https://hspn.ca/evaluation/oht/reports/

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Sub-population segmentation: Think about **equity**

The next slides show how OHT cQIP measures are related to Material Deprivation across your attributed population

- We use the Material Deprivation Score from the Ontario Marginalization Index to assess equity in cQIP indicators across socioeconomic status.

- There is a notable gradient in Cancer screening in each total attributable population across OHTs.
  - The gradient is also represented within the segments from the BC Health System Matrix but because many OHTs have relatively small populations (and we run into small cells in a 14x5 = 70 cell table), we have standardized this report to show only the overall results by material deprivation. Provincial results are included in January 2022 HSPN OHT webinar and presentation.

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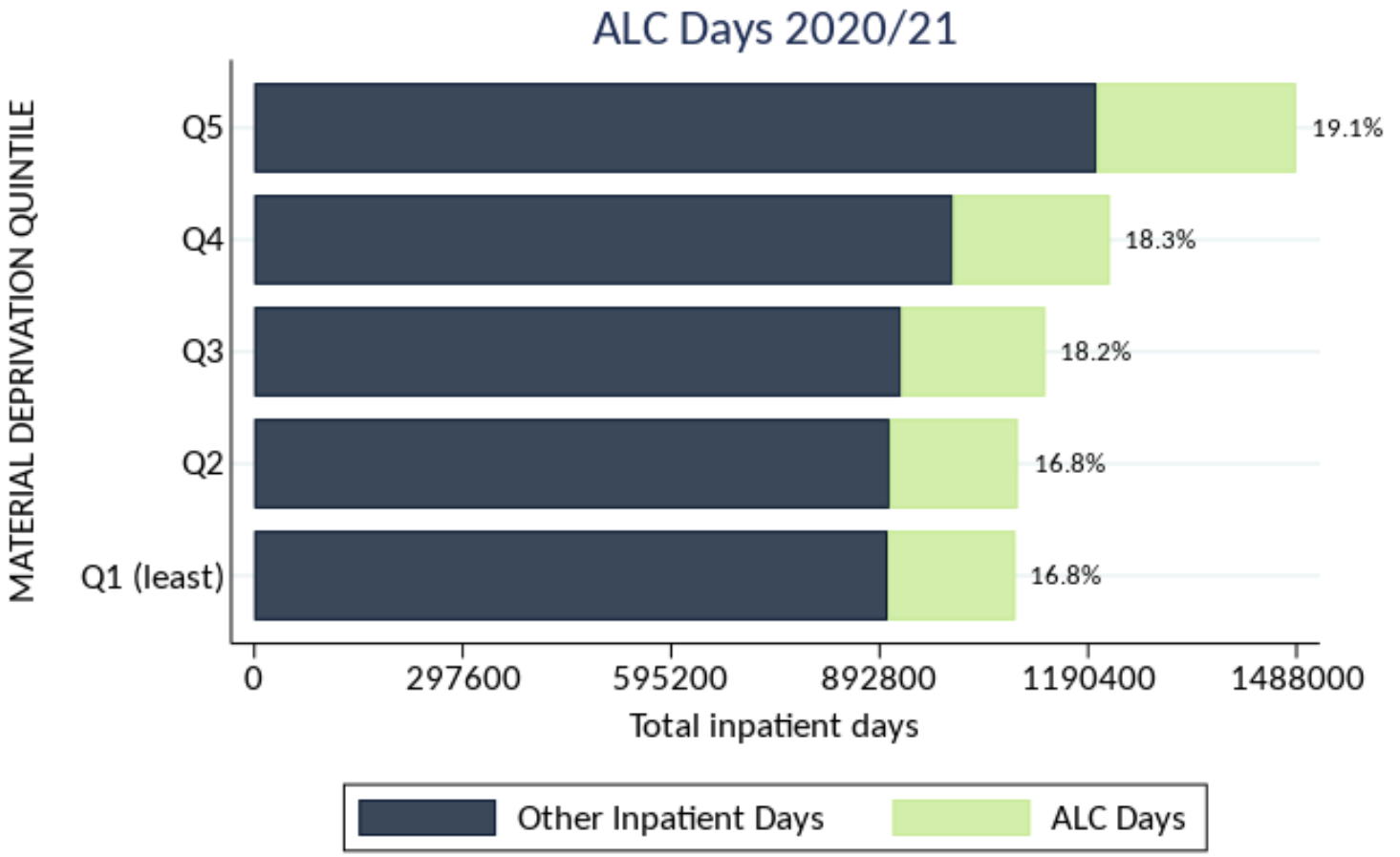
2020/21 ALC Days (percent of acute days) in acute hospitals by Material Deprivation Quintile



Horizontal axis presents total inpatient days:

- Q5 is neighbourhood with highest level of deprivation.
- Bright green indicates ALC days;
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- OHT and Ontario average indicated in figure footnote.

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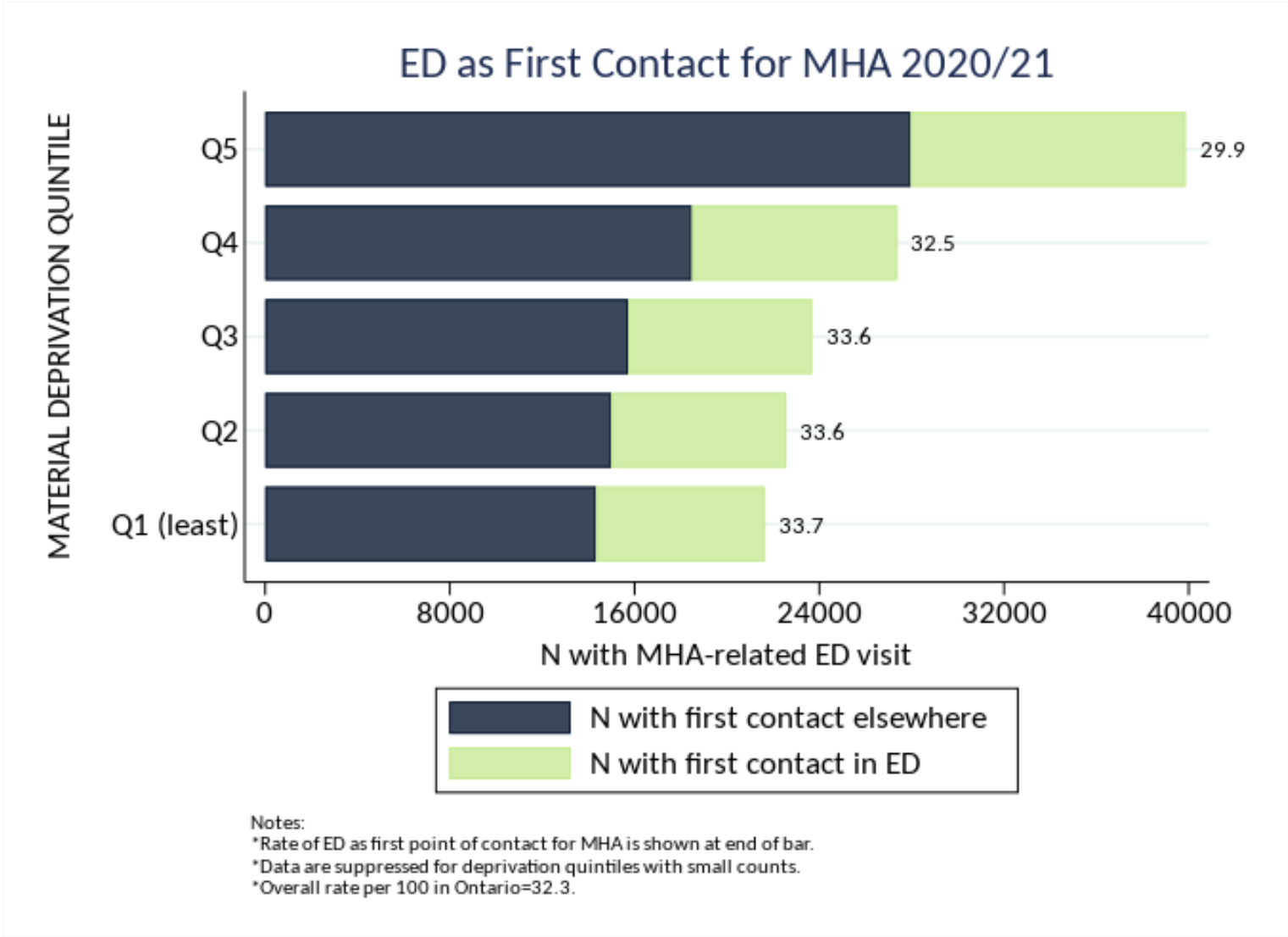
2020/21 Rate of Emergency Department visits as first point of contact for Mental Health and Addictions-related care by Material Deprivation Quintile



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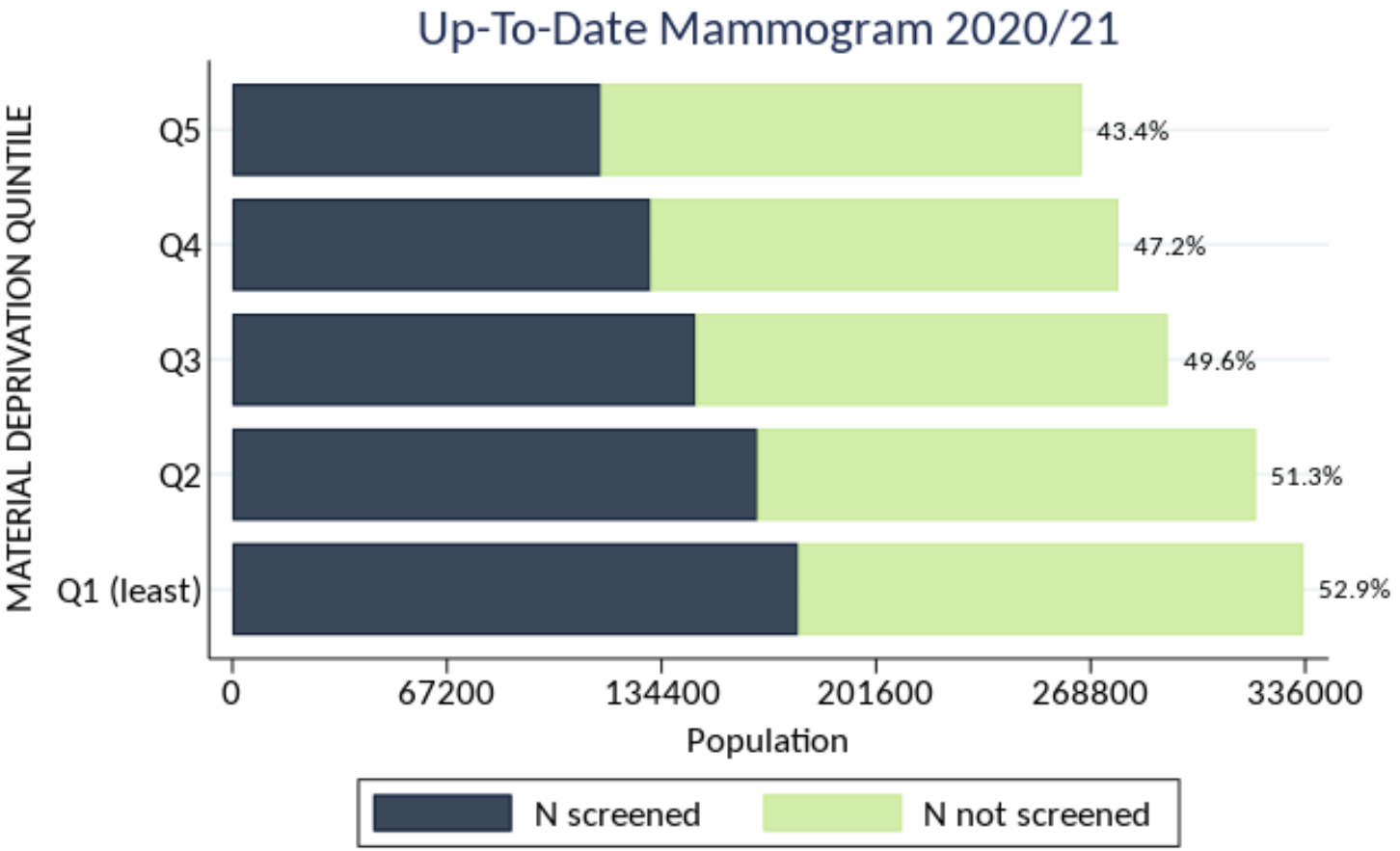
Percentage of screen-eligible patients (women 52-69 years of age) up to date with a Mammogram on March 31, 2021 by Material Deprivation Quintile



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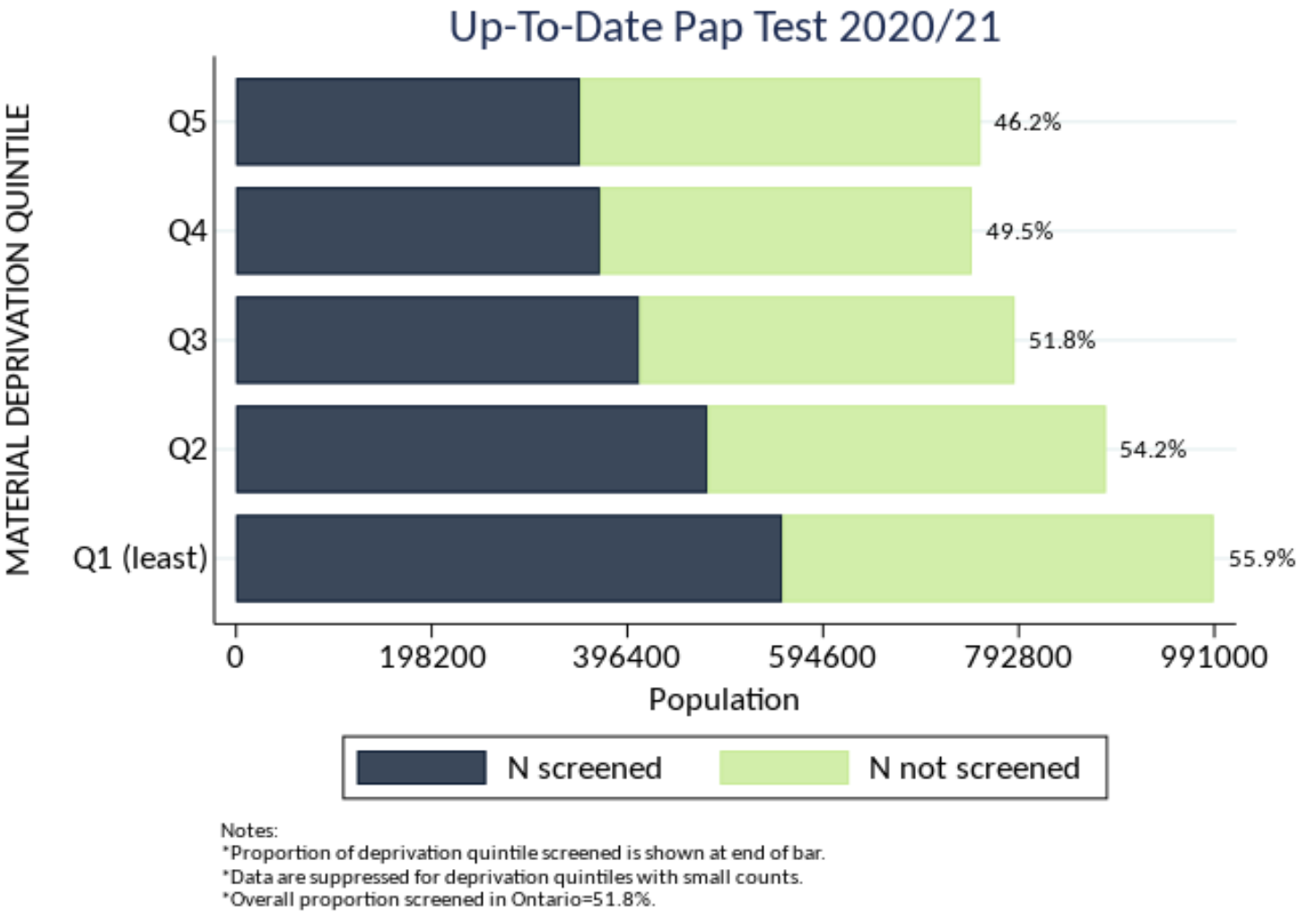
Percentage of screen-eligible patients (women 23-69 yrs of age) up to date with Papanicolaou (Pap) tests on March 31, 2021 by Material Deprivation Quintile



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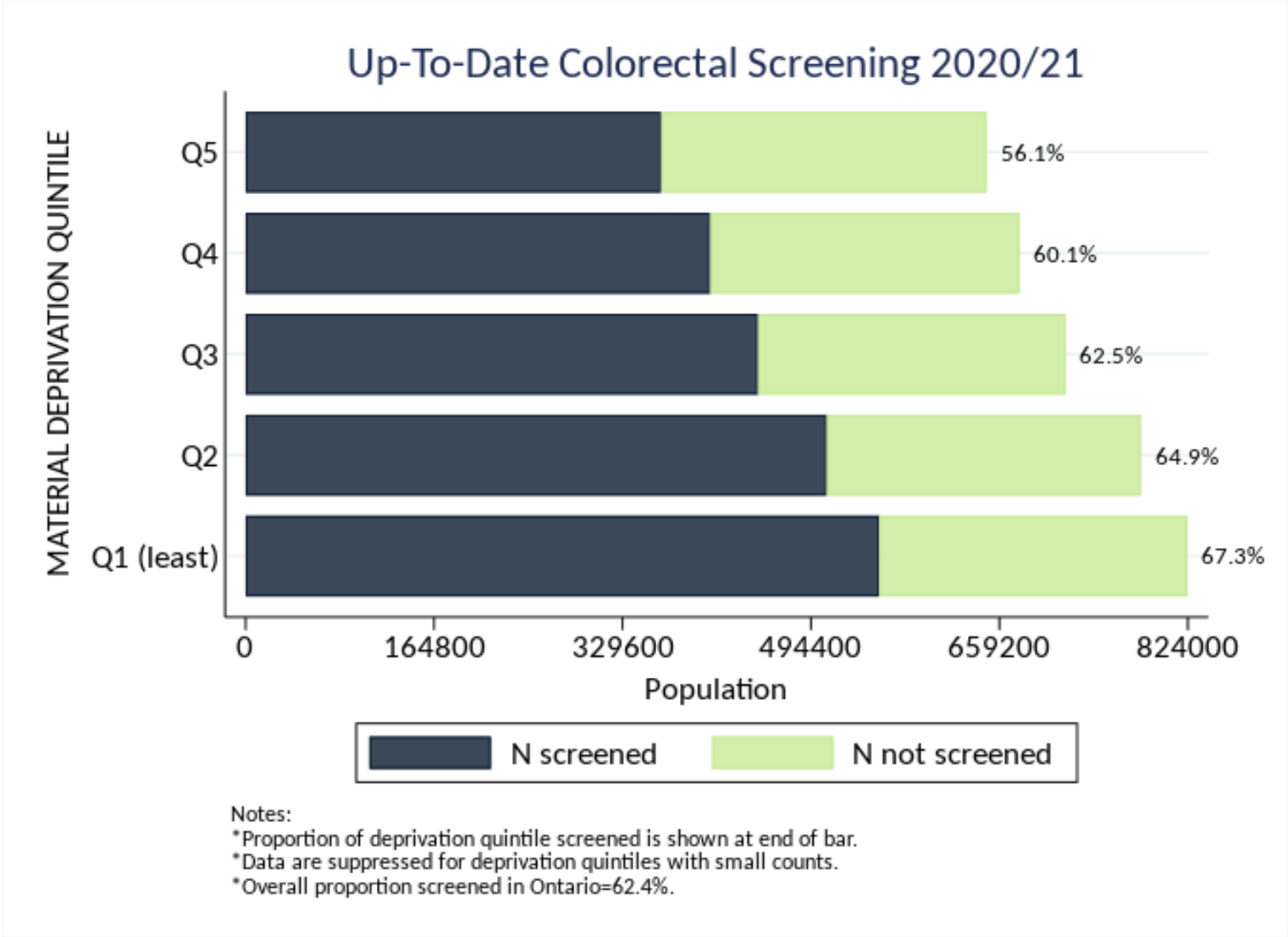
Number of adults 52-74 years of age up to date with Colorectal screening on March 31, 2021 by Material Deprivation Quintile



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Implications

- ALC: there appears to be no real pattern of increase in ALC days across deprivation levels.

- Mental Health and Addictions: again generally no association of this indicator with SES. Those residing in areas of high material deprivation (low affluence) are more likely to have ED as a common point of contact for MHA related issues, it's just not differentially the *first* point of contact).

- Cancer screening strategies can make the largest difference if targeted to those living in areas where there is high material deprivation.

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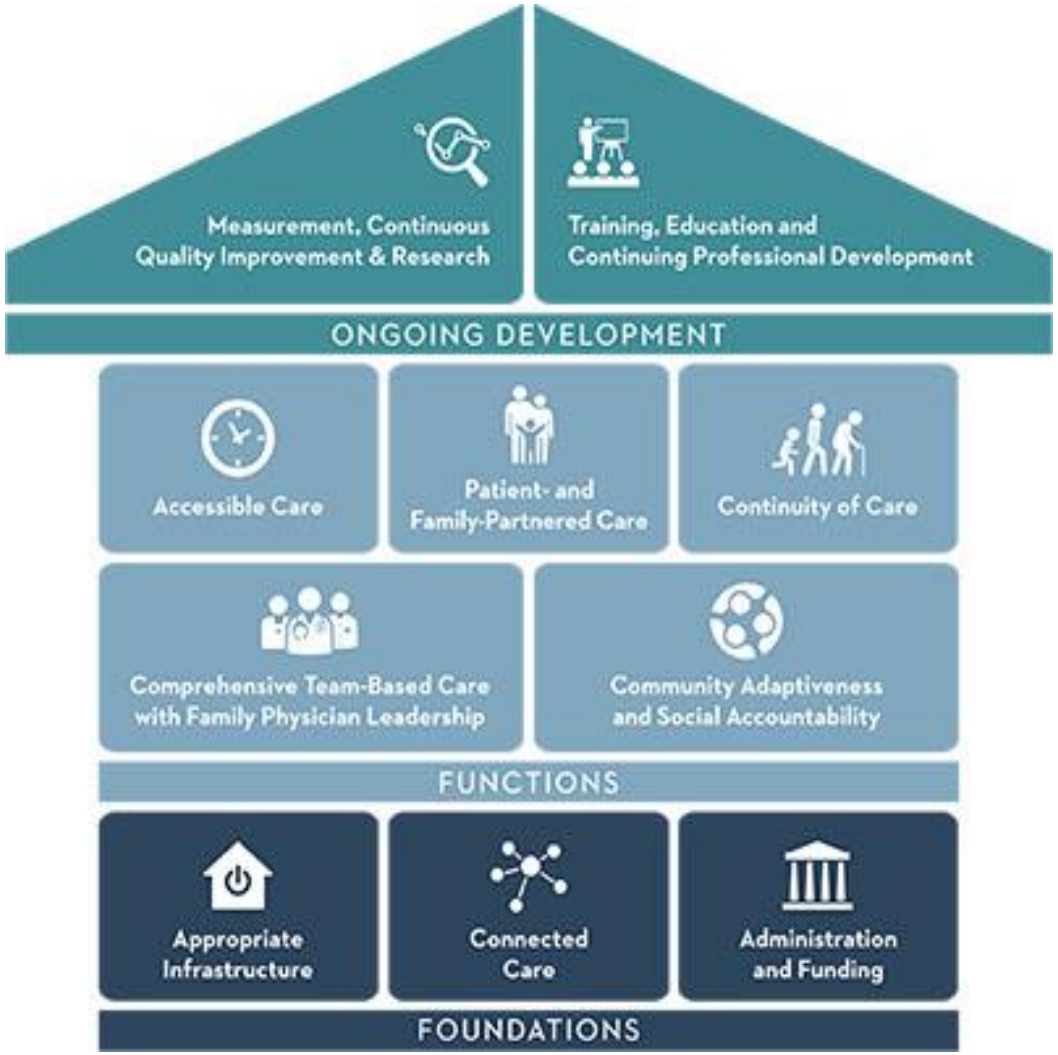
Primary Care

Patient Enrolment Models



The Patient Centred Medical Home. College of Family Physicians of Canada
https://www.cfpc.ca/en/policy-innovation/health-policy-goverment-relations/the-patient-s-medical-home

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Sub-population: Think about **primary care models**

The next slides focus on how OHT cQIP measures are related to Primary Care Patient Enrolment Model (PEM):

- Family Health Teams (FHTs)
- Capitation Based Models (CAP): Family Health Network (FHN) and Family Health Organizations (FHO)
- Family Health Groups (FHGs)
- Comprehensive Care Model (CCM)
- Not rostered
- Other (mostly this is the Rural and Northern Model)

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Sub-population: Think about **primary care models**

- Across most Ontario Health Teams, we see a notable gradient with higher rates of cancer screening:

Family Health Teams (FHTs) > other capitation models > blended payment, FFS and non-enrolled patients

- This gradient is also seen at the provincial *within* population segments *and* across Material Deprivation scores (population sizes are generally too small to report these stratifications for each OHT).

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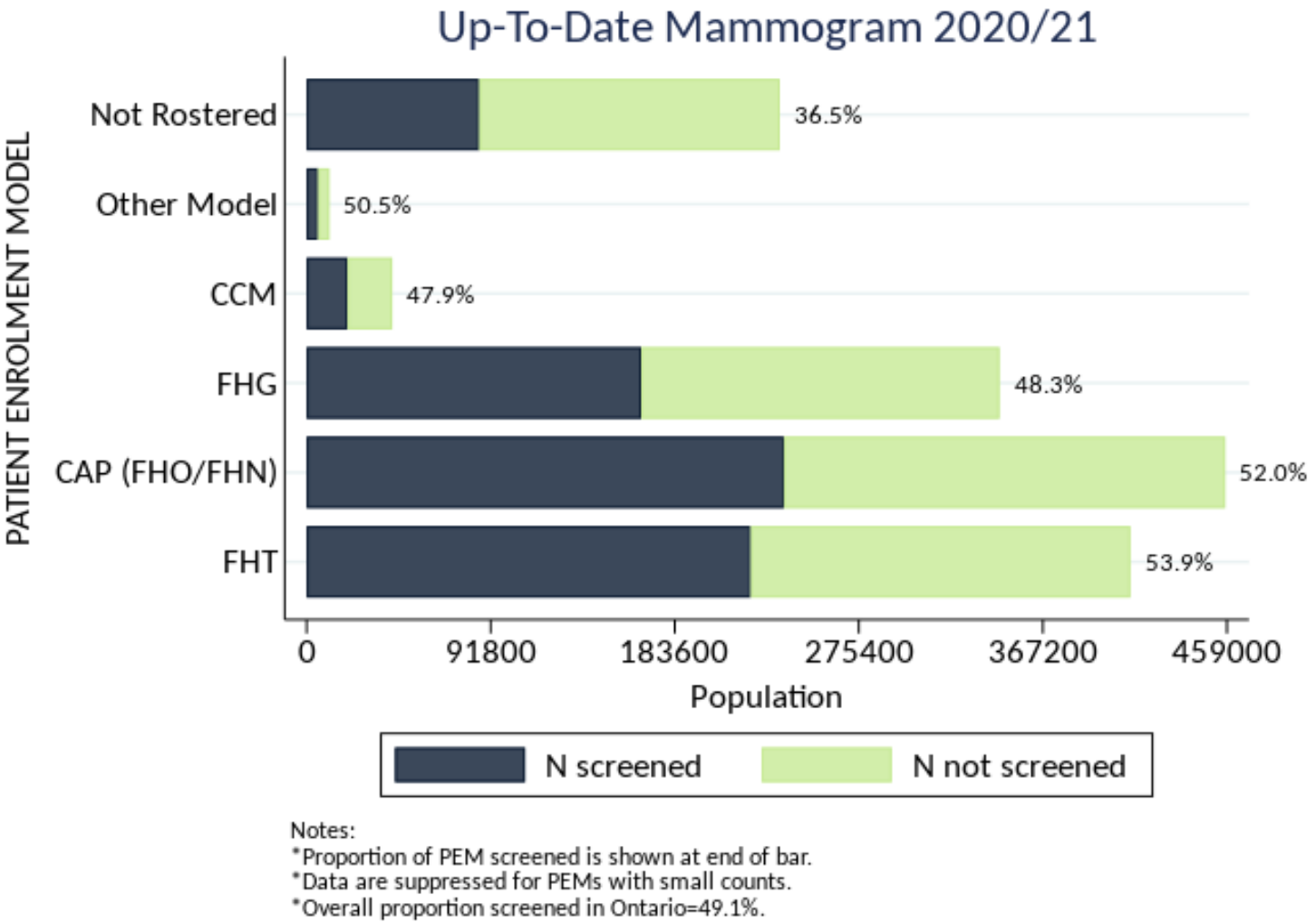
Percentage of screen-eligible patients (women 52-69 years of age) up to date with a Mammogram on March 31, 2021 by Patient Enrolment Model



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- Bright green indicates number of women not screened;
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Implications

- Strategies must consider the barriers to access experienced by individuals living in geographies with high levels of deprivation.
- Strategies to improve cancer screening must be effective and reach patients in primary care practices that do not have rostered patients or are primarily Fee for Service with Comprehensive Care Model rostering.
- The most difficult to improve access for are those not seeking care and not attached to capitated physicians who live in areas with high levels of deprivation.

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Summary

- Population segmentation into different ‘types’ of health care needs offers more refined information on which individuals require additional intervention to improve on cQIP (and other) indicators.

- Sub-population segmentation can be used to drive more specifically at the different challenges faced by patients associated with socio-economic status and the advantages of attachment to interprofessional teams.

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Notes

- For details on cQIP Indicators, please see Collaborative Quality Improvement Plan Technical Specifications. Ontario Health. 2021.

- For details on specification of BC Health System Matrix segmentation please see:

  Mondor L, Hall RE, and Wodchis WP. Population Segmentation for Ontario Health Teams using the British Columbia Health System Matrix. Toronto, ON: Health System Performance Network. 2021. available at https://hspn.ca/evaluation/oht/reports/

- For details on Total Cost and Premature Mortality calculations please see:

  Mondor L, Hall RE, and Wodchis WP. Ontario Health Teams Phase 2 Evaluation. OHT Attributable Populations: Total Population Improvement Indicators at Baseline, 2017/18 to 2019/20. Toronto, ON: Health System Performance Network. 2021. available at https://hspn.ca/evaluation/oht/reports/

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Notes

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