Geographic Variation in Primary Care Need, Service Use and Providers in Ontario 2015/16

The OCHPP Website: An Overview and Practice with new Sub-region Data

September 21, 2018

Rick Glazier on behalf of the SMH and ICES Analytic Team

ICES Data Discovery Better Health

St. Michael's
Inspired Care. Inspiring Science.

Analytic Team

Scientists, leadership, knowledge users:

Rick Glazier, Curtis Handford, Geordie Fallis, Tara Kiran, Flora Matheson, Aisha Lofters, Cynthia Damba, Jocelyn Charles

Mental health working group: Anna Durbin, Paul Kurdyak, Rachel Solomon, Simone Vigod

TC LHIN:

Cynthia Damba, Marsha Barnes, Nathalie Sava, Ting Lim, Margery Konan, Laera Gattoni

Coordination and management:

Anne-Marie Tynan (C-UHS), Patrick O'Brien (St. Michael's Hospital)

Geographers:

Peter Gozdyra, Gary Moloney (ICES/C-UHS)

ICES analytic and epidemiology staff:

Li Bai, Ellie Corn, Min Kim, Alex Kopp, Sue Schultz, Yvonne DeWit, Kinwah Fung

Data and web development:

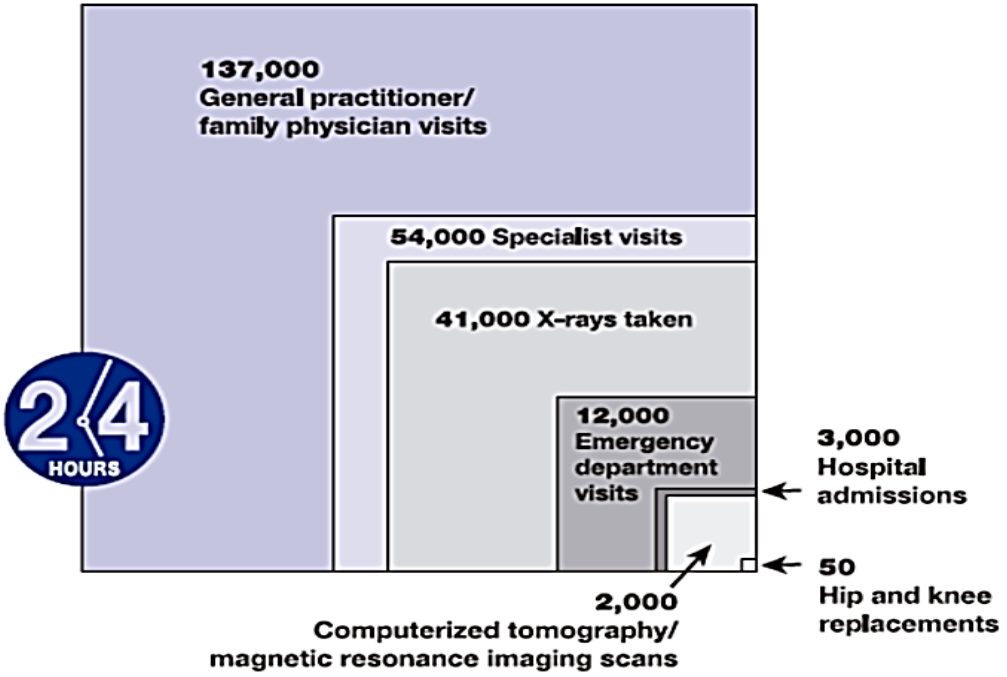
Nadiya Minkovska

ICES Data Discovery Better Health

Health Services Accessed Each Day

(ICES Primary Care Atlas)

Exhibit 1.1 Average number* of various health care services accessed each day, in Ontario, 2002/03



*Values rounded to the nearest thousand with the exception of hip and knee replacements, which were rounded to the nearest 10.

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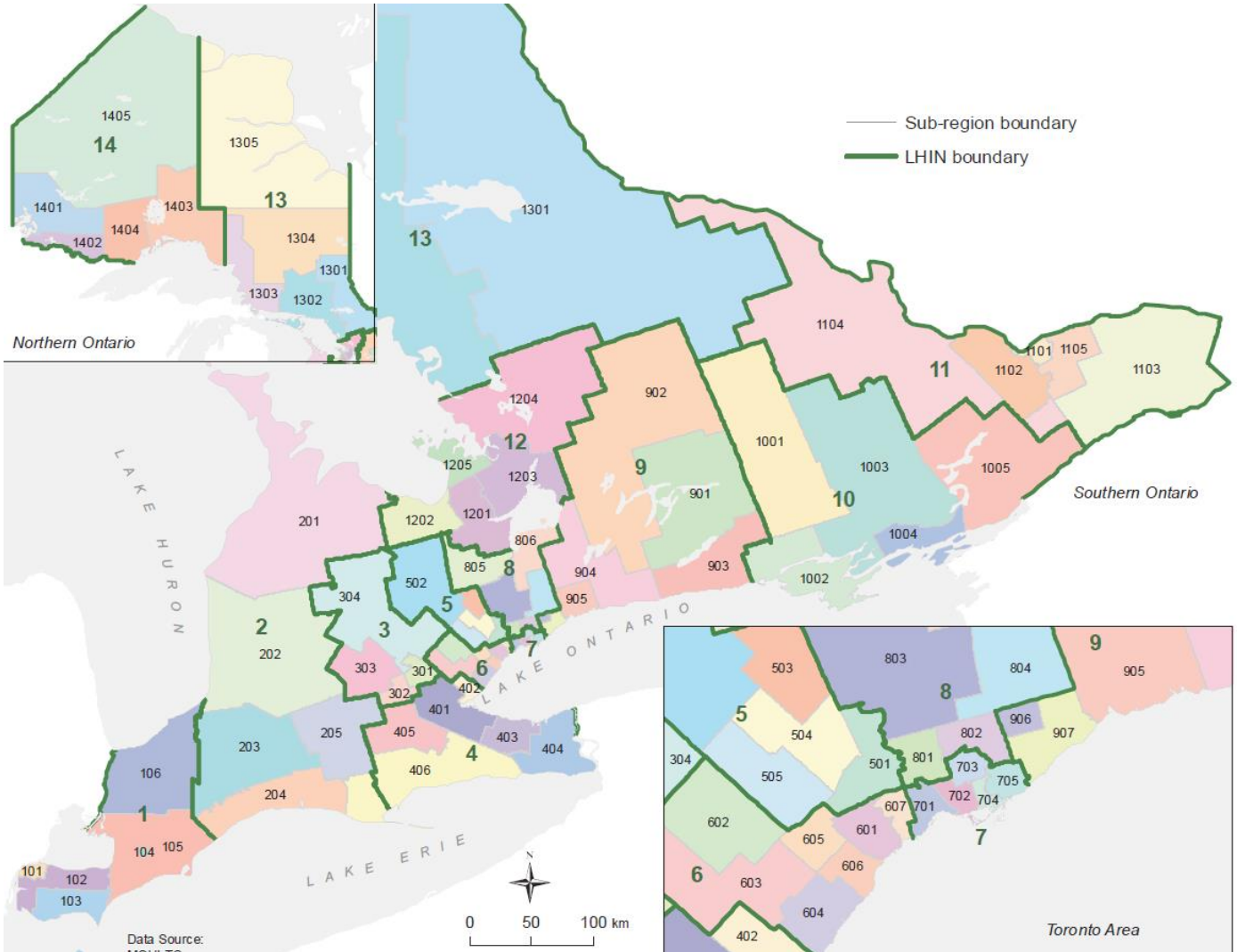
Primary Care and Outcomes

- Primary care associated with
  - Lower
    - mortality, premature mortality, infant mortality
    - disparities in overall mortality, infant mortality, low birth weight, stroke mortality, self-reported health, and avoidable hospitalizations
  - Higher
    - satisfaction in relation to overall costs

Macinko J et al. Health Services Research. 2003;38:831-65
Shi L et al. Health Services Research. 2002;37:529-50
Engstrom S et al. Scand J Prim Health Care 2001; 19:131-4

How Would You Plan for Primary Care in Ontario's 76 Sub-Regions?



How Would You Plan for Primary Care in Ontario's 76 Sub-Regions?

- Where to start?
  - **population health needs?**
  - utilization?
  - providers?
  - something else?

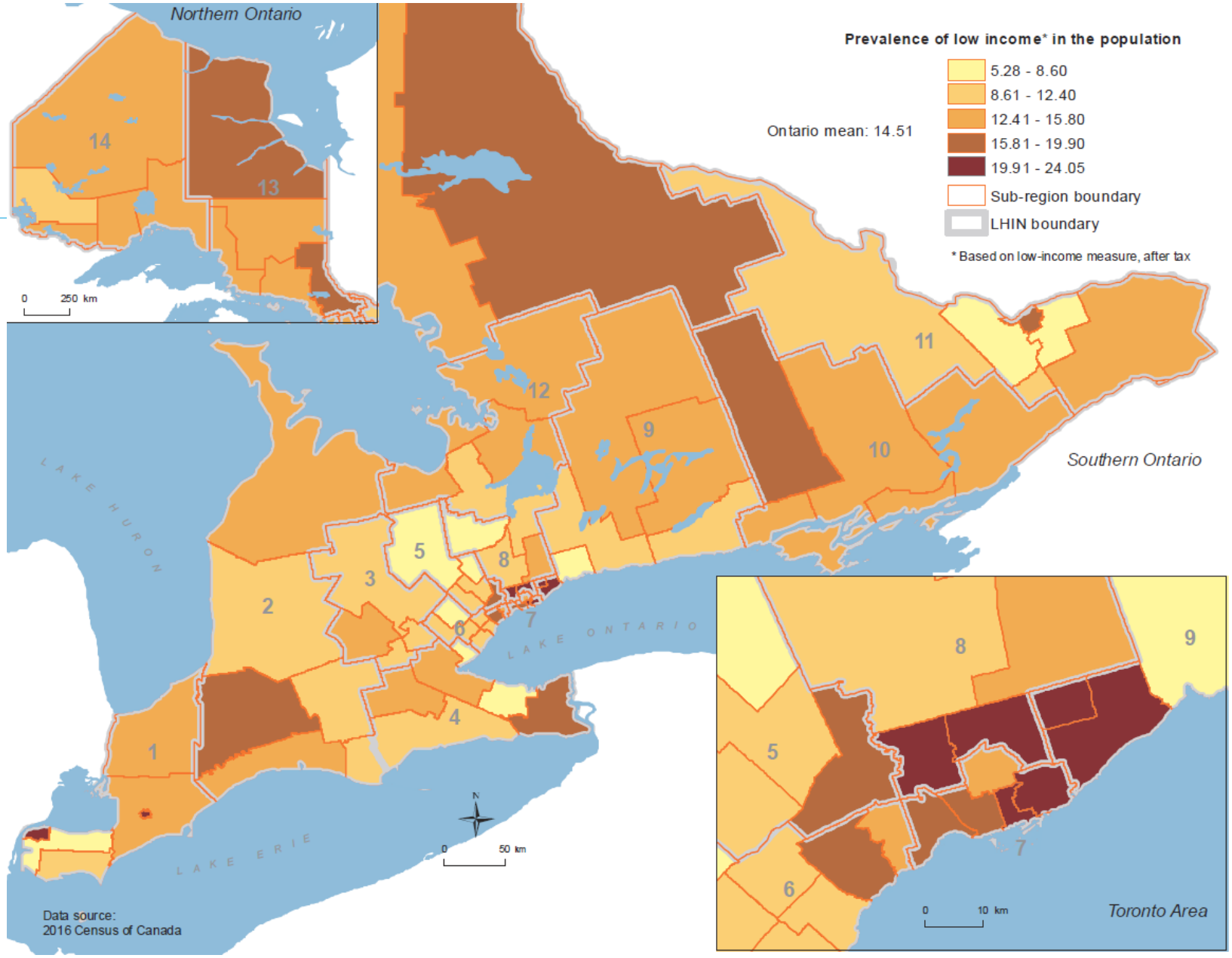
Population Health Needs

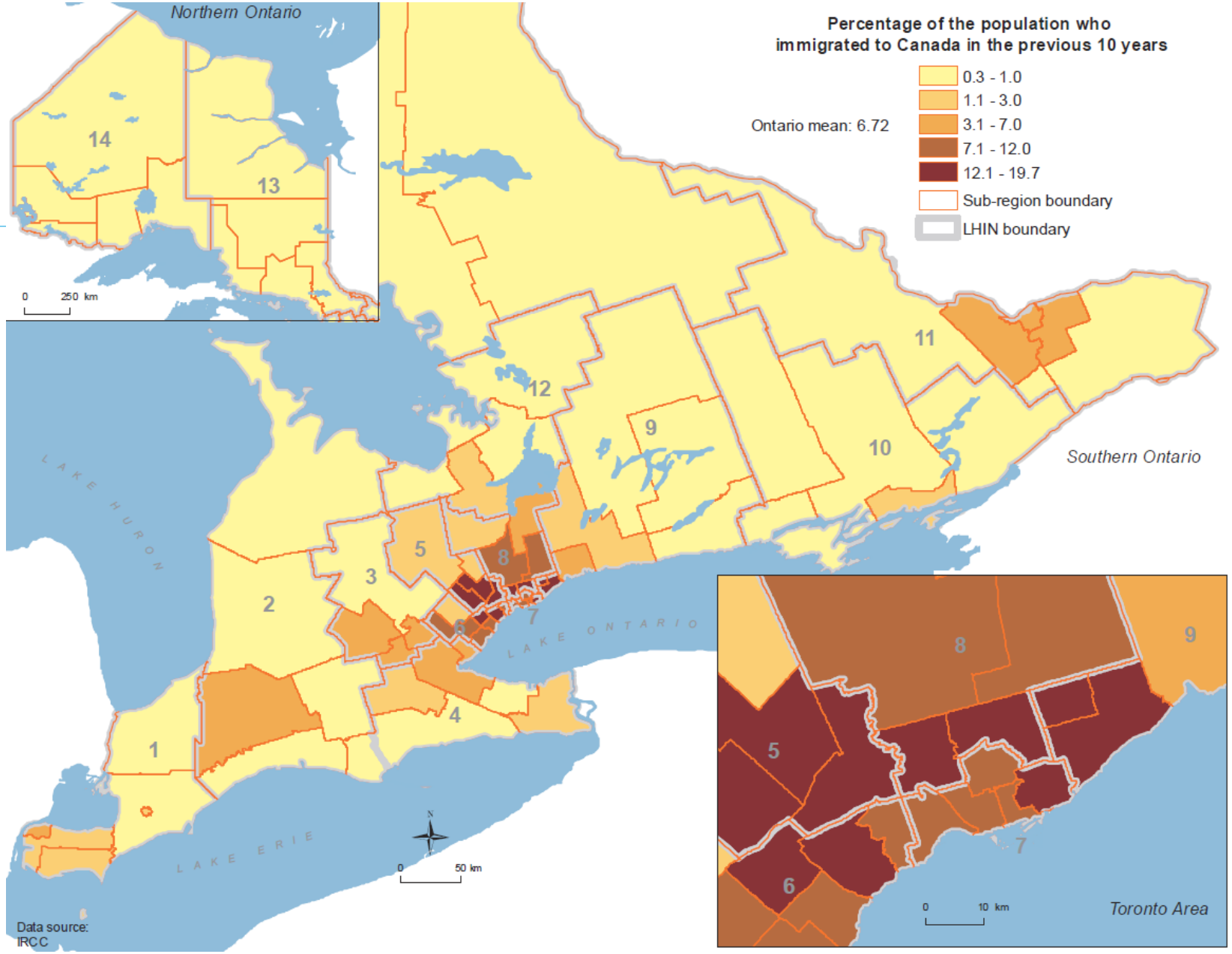
- What measures?
- Do they vary across the province?

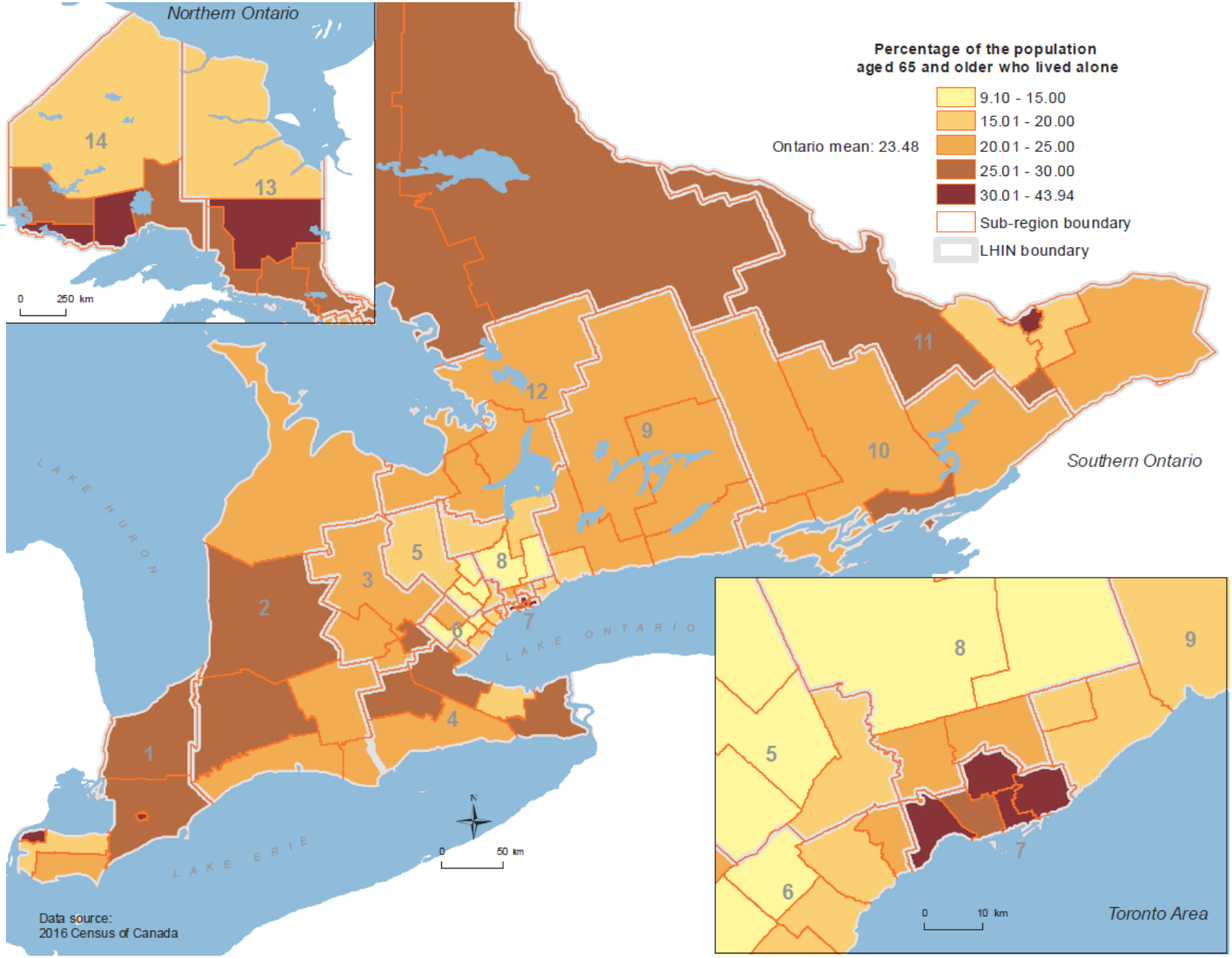
Population Health Needs

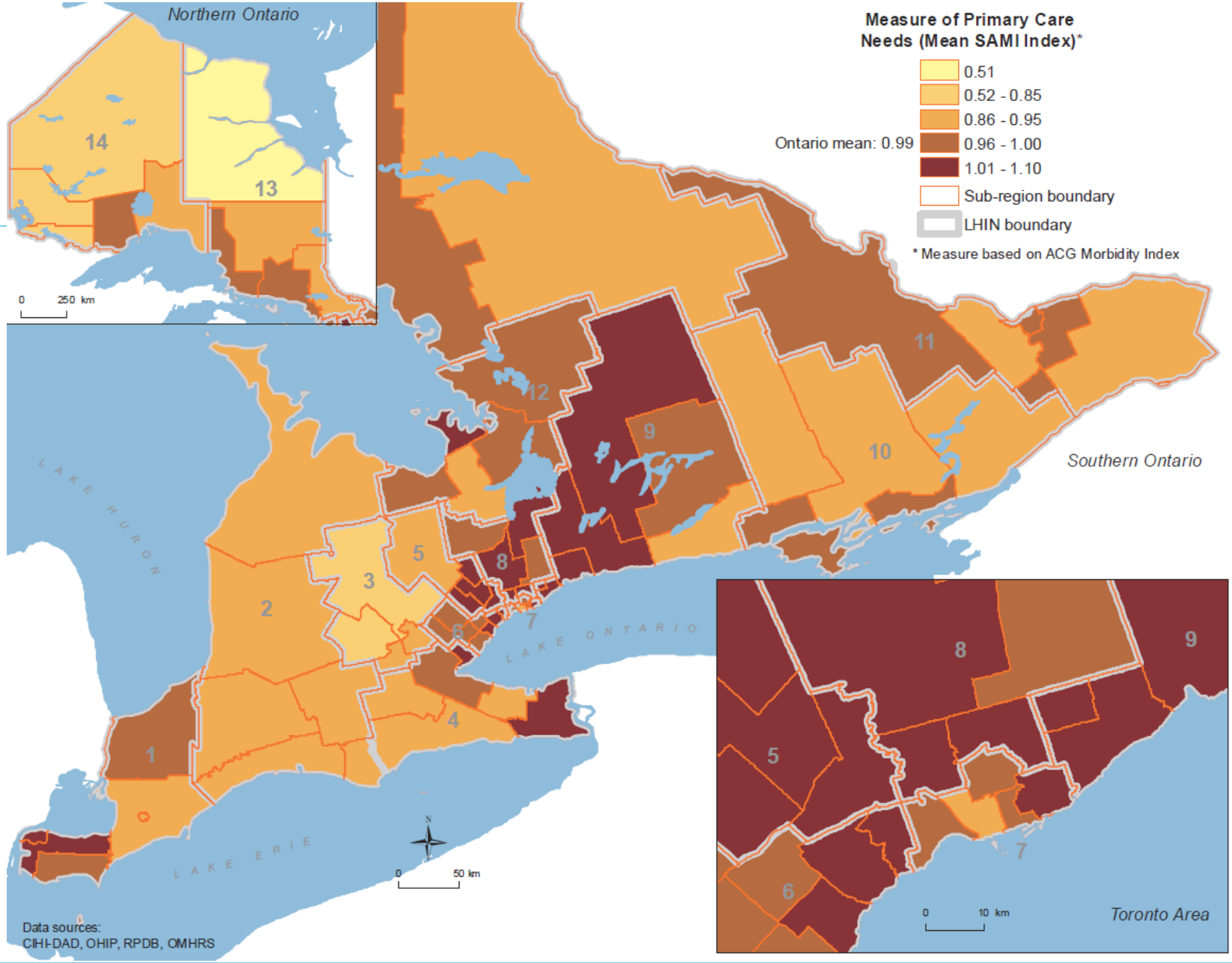
- What measures?
  - low income
  - recent immigrants
  - seniors
  - seniors living alone
  - disability
  - primary care needs (SAMI)
  - not enrolled in a primary care enrolment model (PEM)
  - mental health

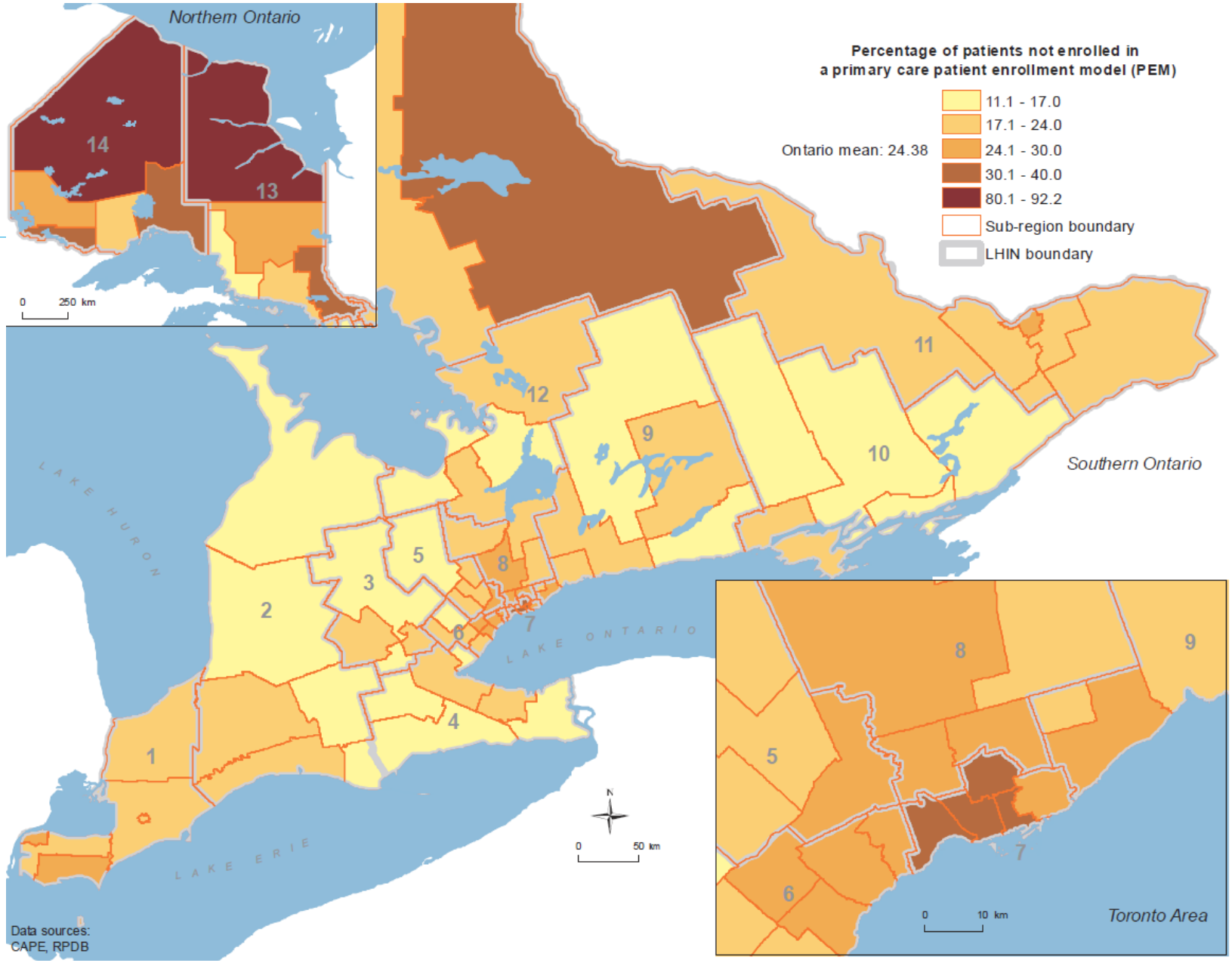
- Any others?

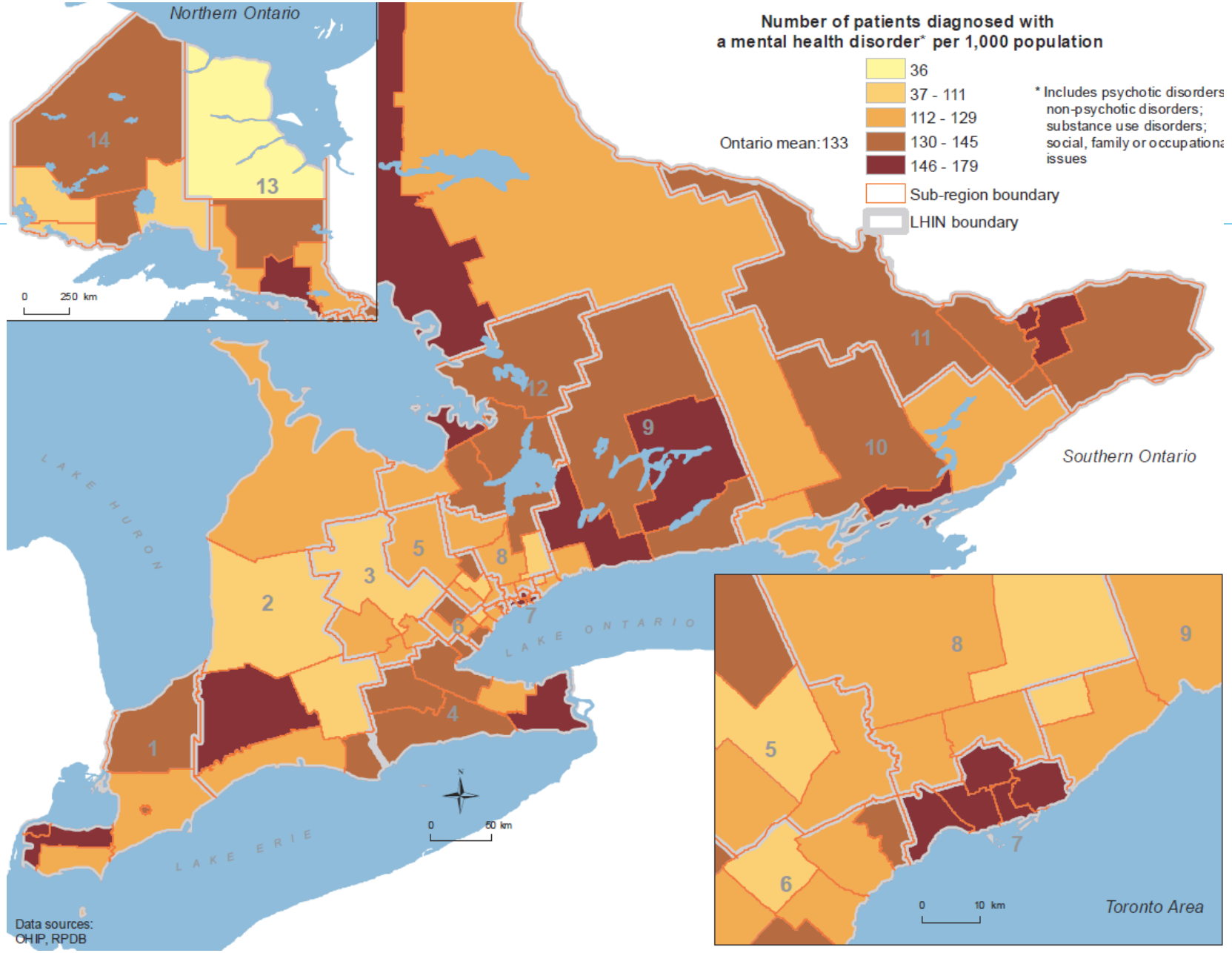

Northern Ontario
Prevalence of low income* in the population
5.28 - 8.60
8.61 - 12.40
12.41 - 15.80
15.81 - 19.90
19.91 - 24.05
Sub-region boundary
LHIN boundary
Ontario mean: 14.51
* Based on low-income measure, after tax
0 250 km
Southern Ontario
LAKE HURON
LAKE ONTARIO
LAKE ERIE
N
0 50 km
Data source:
2016 Census of Canada
0 10 km
Toronto Area


Northern Ontario
Southern Ontario
Toronto Area
Percentage of the population who immigrated to Canada in the previous 10 years
Ontario mean: 6.72
0.3 - 1.0
1.1 - 3.0
3.1 - 7.0
7.1 - 12.0
12.1 - 19.7
Sub-region boundary
LHIN boundary
LAKE HURON
LAKE ERIE
LAKE ONTARIO
0 250 km
0 50 km
0 10 km
N
Data source: IRCC


Northern Ontario
Southern Ontario
Toronto Area
Percentage of the population aged 65 and older who lived alone
Ontario mean: 23.48
9.10 - 15.00
15.01 - 20.00
20.01 - 25.00
25.01 - 30.00
30.01 - 43.94
Sub-region boundary
LHIN boundary
0 250 km
0 50 km
0 10 km
N
LAKE HURON
LAKE ERIE
LAKE ONTARIO
1
2
3
4
5
6
7
8
9
10
11
12
13
14
Data source:
2016 Census of Canada


Northern Ontario
14
13
0 250 km
Measure of Primary Care Needs (Mean SAMI Index)*
0.51
0.52 - 0.85
0.86 - 0.95
Ontario mean: 0.99
0.96 - 1.00
1.01 - 1.10
Sub-region boundary
LHIN boundary
* Measure based on ACG Morbidity Index
Southern Ontario
11
12
9
10
LAKE HURON
5
3
8
2
7
6
LAKE ONTARIO
4
1
LAKE ERIE
N
0 50 km
Data sources:
CIHI-DAD, OHIP, RPDB, OMHRS
8
9
5
7
6
0 10 km
Toronto Area


Northern Ontario
Southern Ontario
Toronto Area
Percentage of patients not enrolled in
a primary care patient enrollment model (PEM)
Ontario mean: 24.38
11.1 - 17.0
17.1 - 24.0
24.1 - 30.0
30.1 - 40.0
80.1 - 92.2
Sub-region boundary
LHIN boundary
LAKE HURON
LAKE ONTARIO
LAKE ERIE
0 250 km
0 50 km
0 10 km
N
Data sources:
CAPE, RPDB

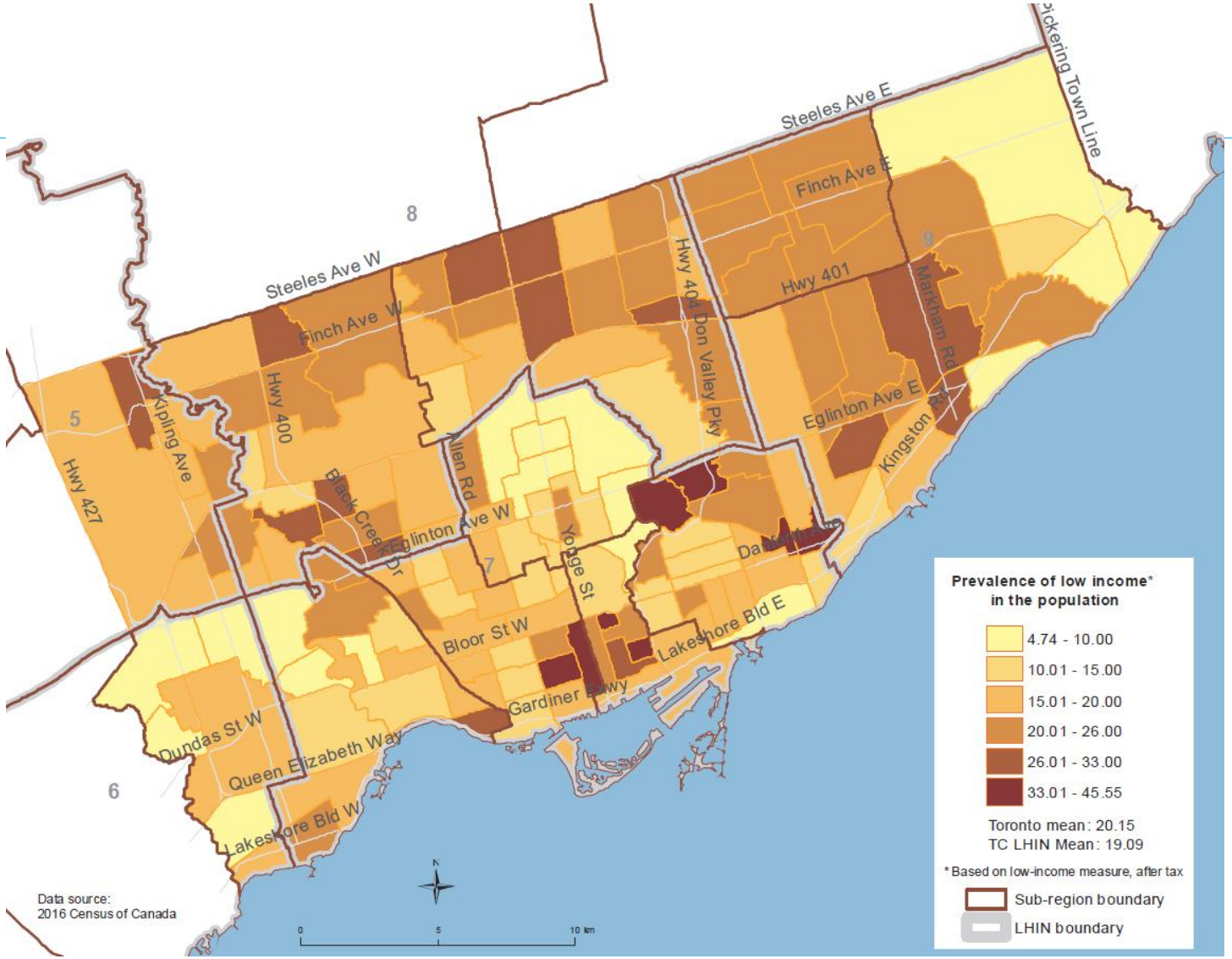

Number of patients diagnosed with
a mental health disorder* per 1,000 population
36
37 - 111
112 - 129
130 - 145
146 - 179
Ontario mean:133
* Includes psychotic disorders
non-psychotic disorders;
substance use disorders;
social, family or occupationa
issues
Sub-region boundary
LHIN boundary
Northern Ontario
Southern Ontario
Toronto Area
LAKE HURON
LAKE ONTARIO
LAKE ERIE
0 250 km
0 60 km
0 10 km
Data sources:
OHIP, RPDB

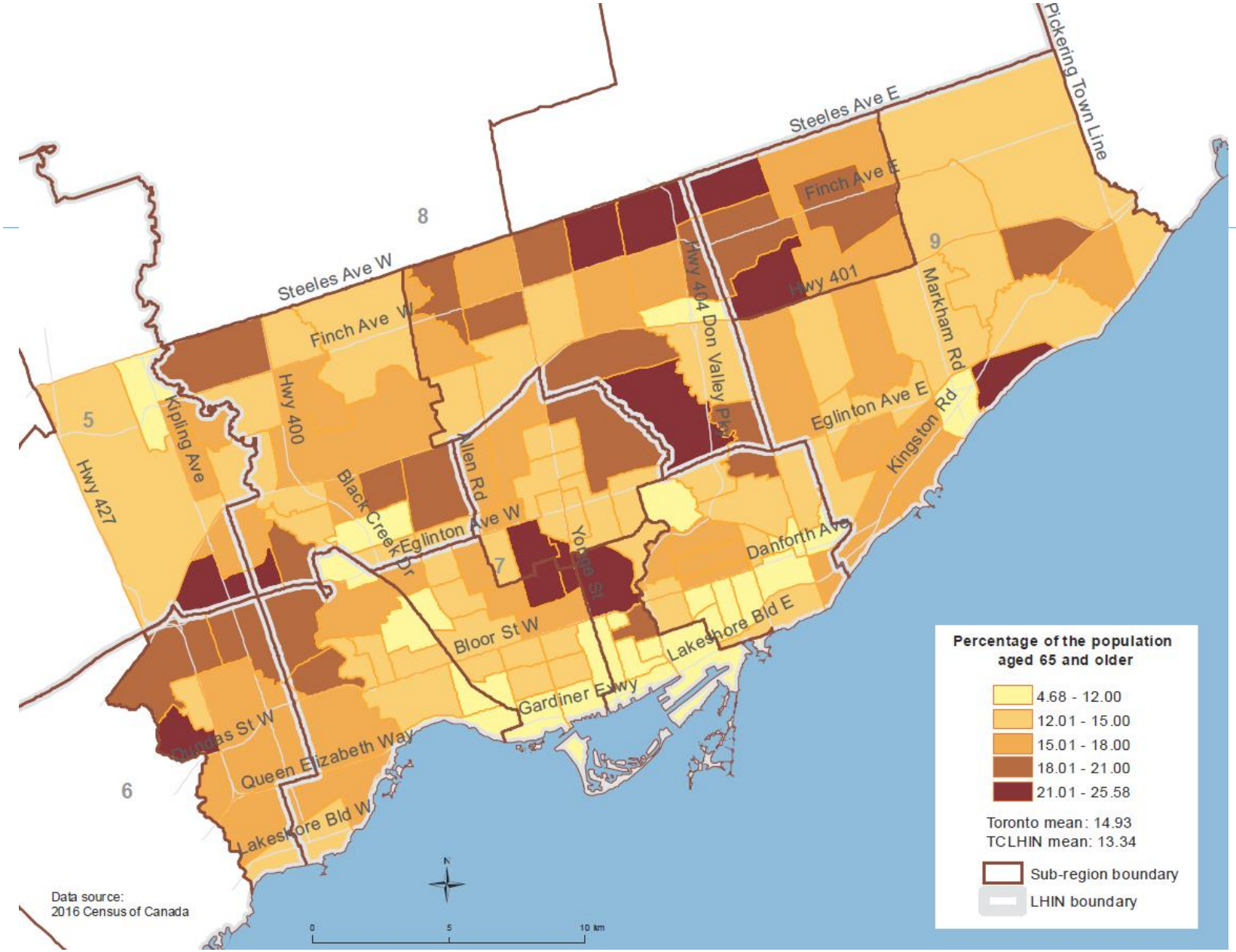
Do Primary Care Needs Vary?

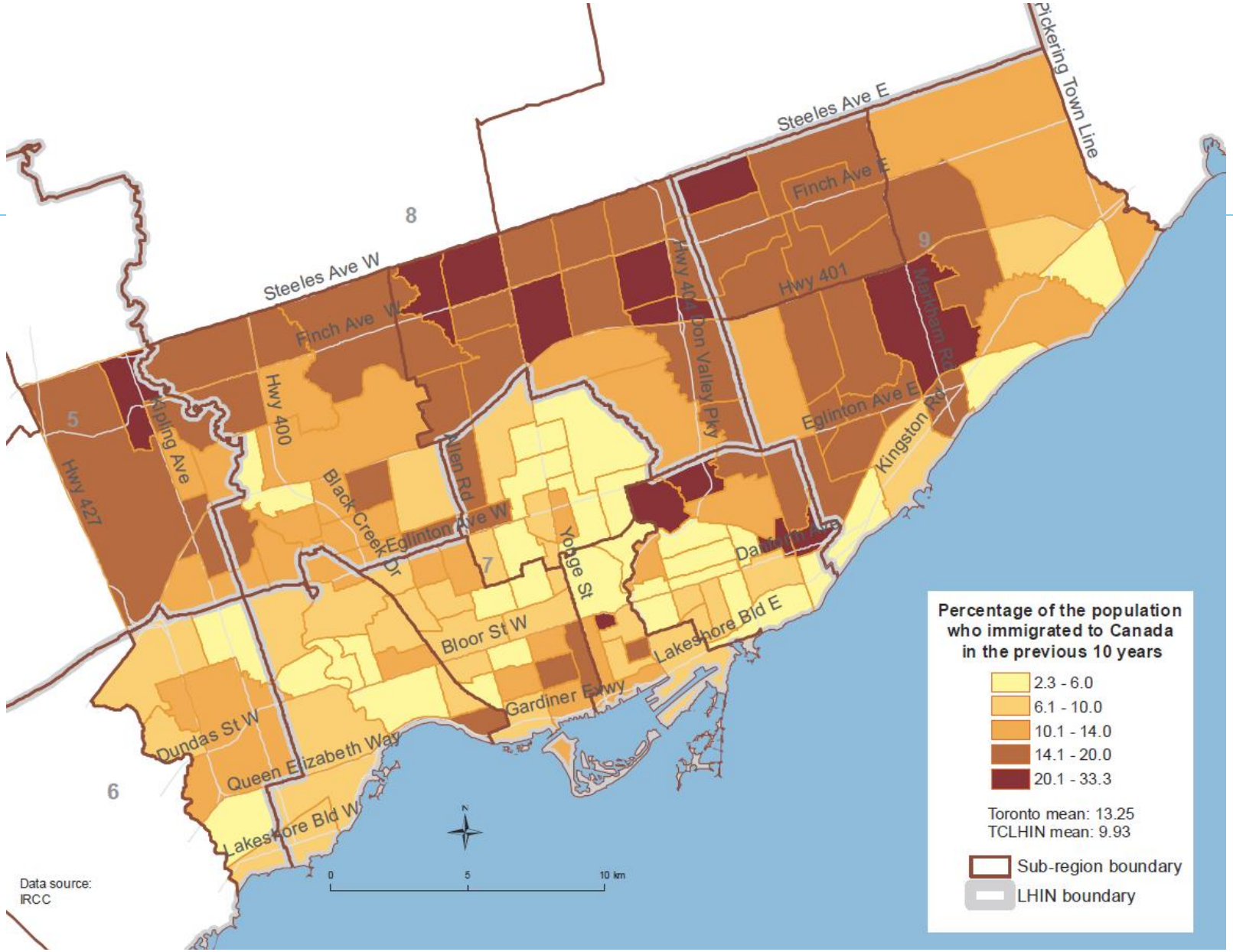
Toronto:

- poverty, immigration, social isolation, chronic illness, mental health, not connected to care

Using this Information Locally




Steeles Ave E
Pickering Town Line
Finch Ave E
Steeles Ave W
Finch Ave W
Hwy 404
Don Valley Pkwy
Hwy 401
Markham Rd
Eglinton Ave E
Kingston Rd
Hwy 400
Kipling Ave
Hwy 427
Black Creek Dr
Allen Rd
Eglinton Ave W
Yonge St
Danforth Ave
Bloor St W
Lakeshore Bld E
Gardiner Expwy
Dundas St W
Queen Elizabeth Way
Lakeshore Bld W
5
6
7
8
9
Percentage of the population aged 65 and older
4.68 - 12.00
12.01 - 15.00
15.01 - 18.00
18.01 - 21.00
21.01 - 25.58
Toronto mean: 14.93
TCLHIN mean: 13.34
Sub-region boundary
LHIN boundary
Data source:
2016 Census of Canada
0
5
10 km


Steeles Ave E
Pickering Town Line
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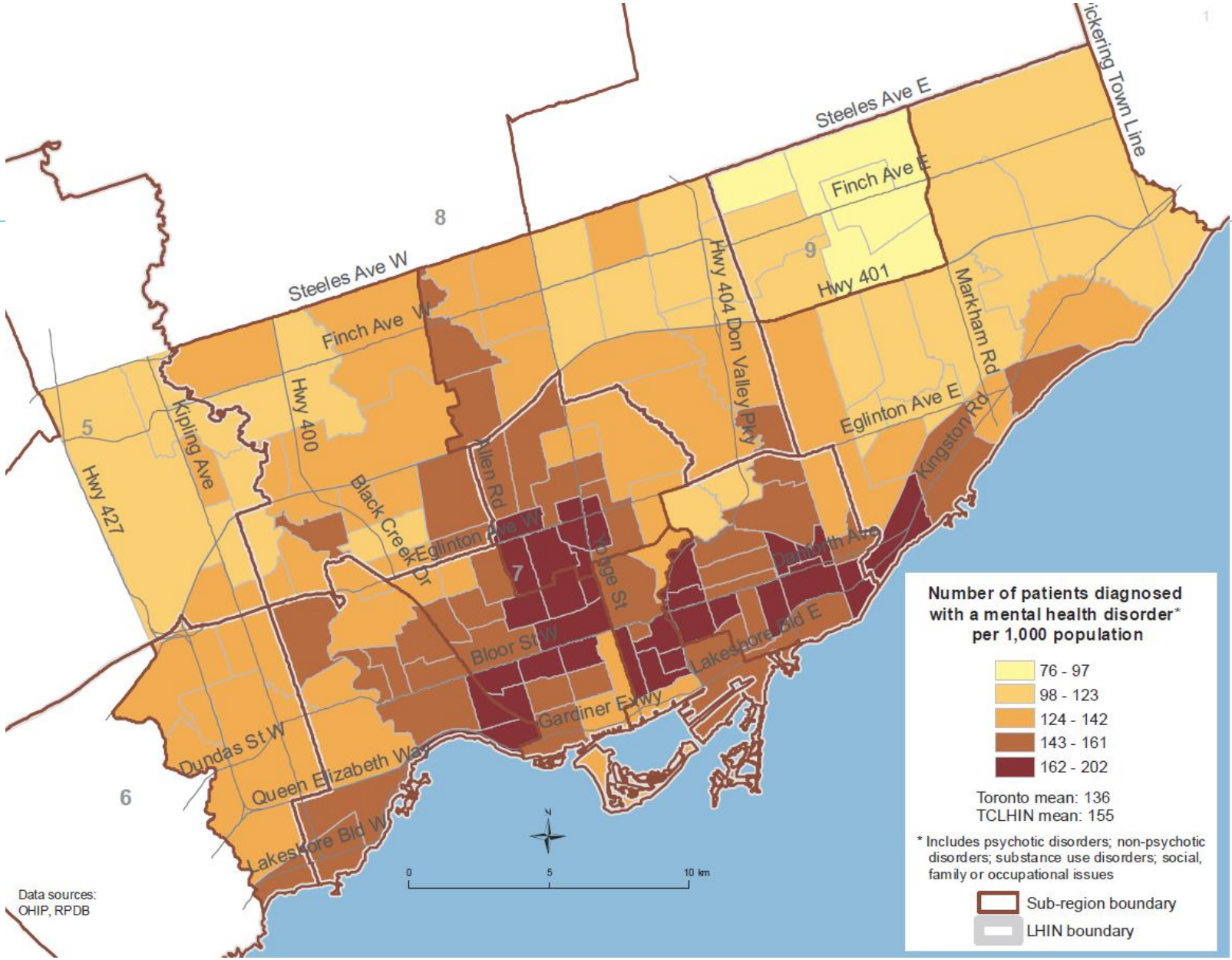
Kipling Ave
Hwy 427
Black Creek Dr
Allen Rd
Eglinton Ave W
Yonge St
Bloor St W
Lakeshore Bld E
Gardiner Expwy
Dundas St W
Queen Elizabeth Way
Lakeshore Bld W
5
6
7
8
9
0
5
10 km
Data source:
IRCC
Percentage of the population who immigrated to Canada in the previous 10 years
2.3 - 6.0
6.1 - 10.0
10.1 - 14.0
14.1 - 20.0
20.1 - 33.3
Toronto mean: 13.25
TCLHIN mean: 9.93
Sub-region boundary
LHIN boundary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Kingston Rd
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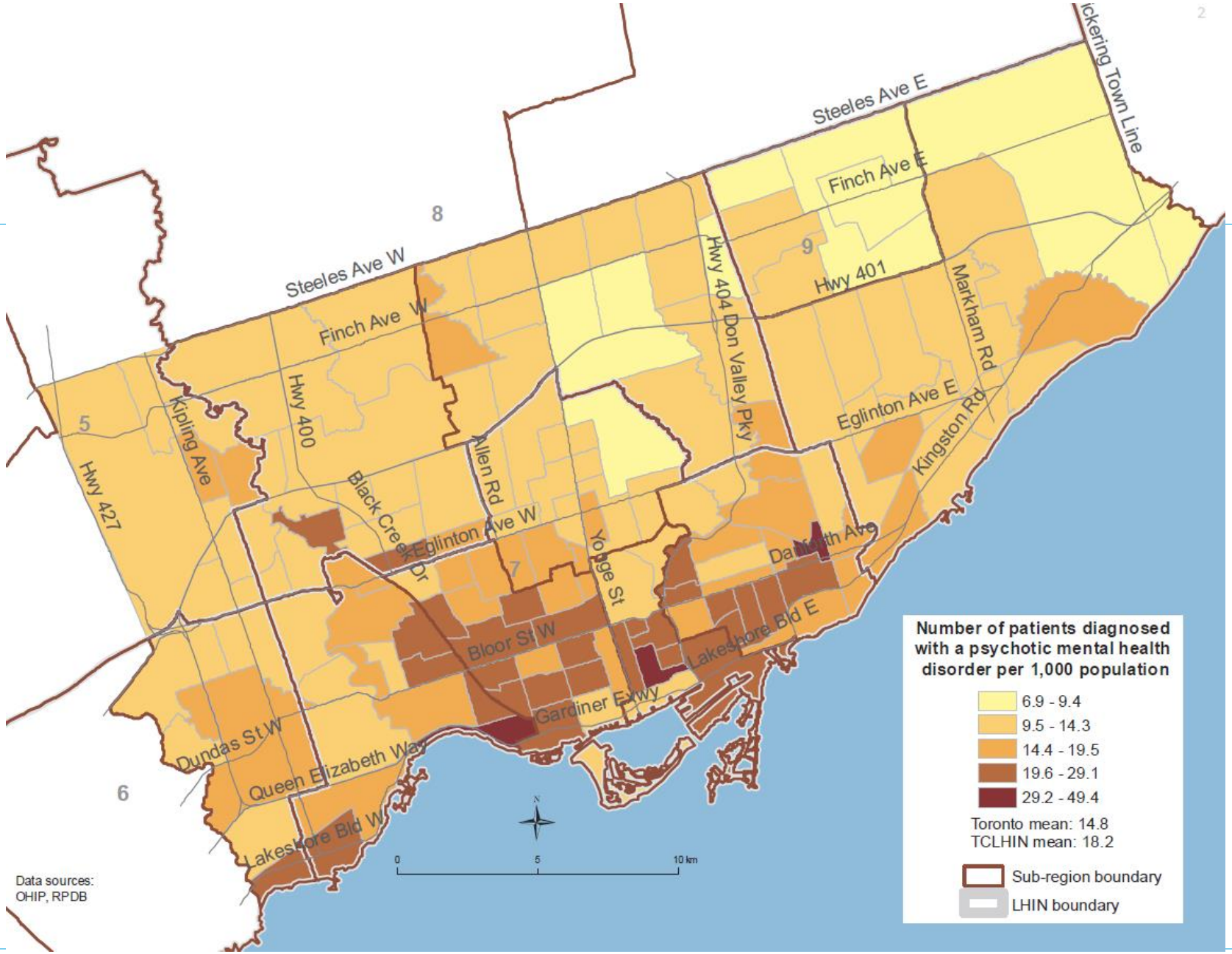
Kipling Ave
Hwy 427
Black Creek Dr
Allen Rd
Eglinton Ave W
Yonge St
Bloor St W
Gardiner Expwy
Lakeshore Blvd E
Lakeshore Blvd W
Dundas St W
Queen Elizabeth Way
5
6
7
8
9
0
5
10 km
Data sources:
OHIP, RPDB
Number of patients diagnosed with a mental health disorder* per 1,000 population
76 - 97
98 - 123
124 - 142
143 - 161
162 - 202
Toronto mean: 136
TCLHIN mean: 155
* Includes psychotic disorders; non-psychotic disorders; substance use disorders; social, family or occupational issues
Sub-region boundary
LHIN boundary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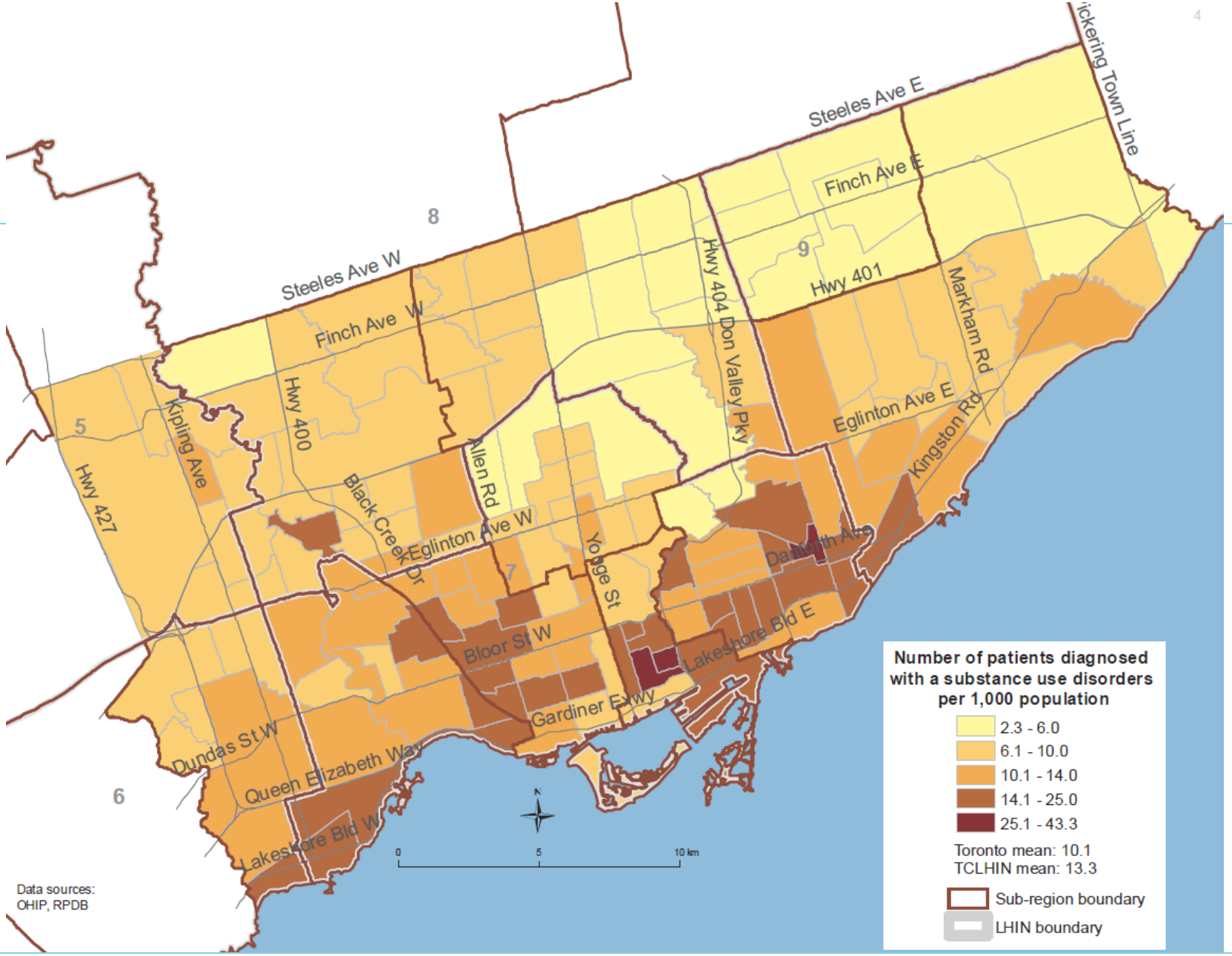
Black Creek Dr
Allen Rd
Eglinton Ave W
Yonge St
Bloor St W
Lakeshore Bld E
Gardiner Expwy
Dundas St W
Queen Elizabeth Way
Lakeshore Bld W
5
6
7
8
9
0
5
10 km
N
Data sources:
OHIP, RPDB
Number of patients diagnosed with a psychotic mental health disorder per 1,000 population
6.9 - 9.4
9.5 - 14.3
14.4 - 19.5
19.6 - 29.1
29.2 - 49.4
Toronto mean: 14.8
TCLHIN mean: 18.2
Sub-region boundary
LHIN boundary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Finch Ave W
Hwy 400
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Hwy 427
Black Creek Dr
Allen Rd
Eglinton Ave W
Yonge St
Bloor St W
Gardiner Expwy
Lakeshore Bld E
Lakeshore Bld W
Queen Elizabeth Way
Dundas St W
5
6
7
8
9
0
5
10 km
Data sources:
OHIP, RPDB
Number of patients diagnosed with a substance use disorders per 1,000 population
2.3 - 6.0
6.1 - 10.0
10.1 - 14.0
14.1 - 25.0
25.1 - 43.3
Toronto mean: 10.1
TCLHIN mean: 13.3
Sub-region boundary
LHIN boundary

How Would You Plan for Primary Care in Ontario's 76 Sub-Regions?

- Where to start?
  - population health needs?
  - **utilization?**
  - providers?
  - something else?

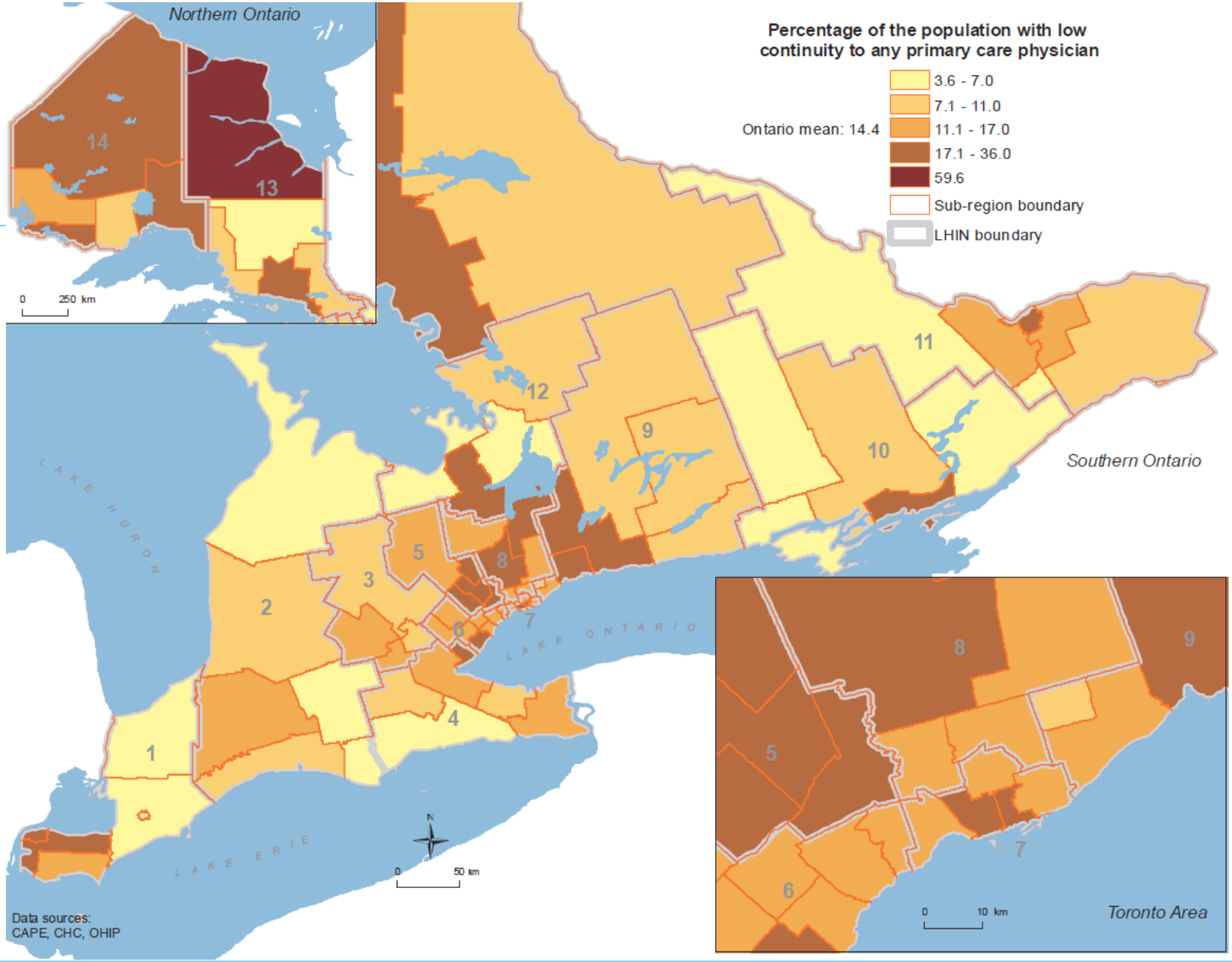
Utilization

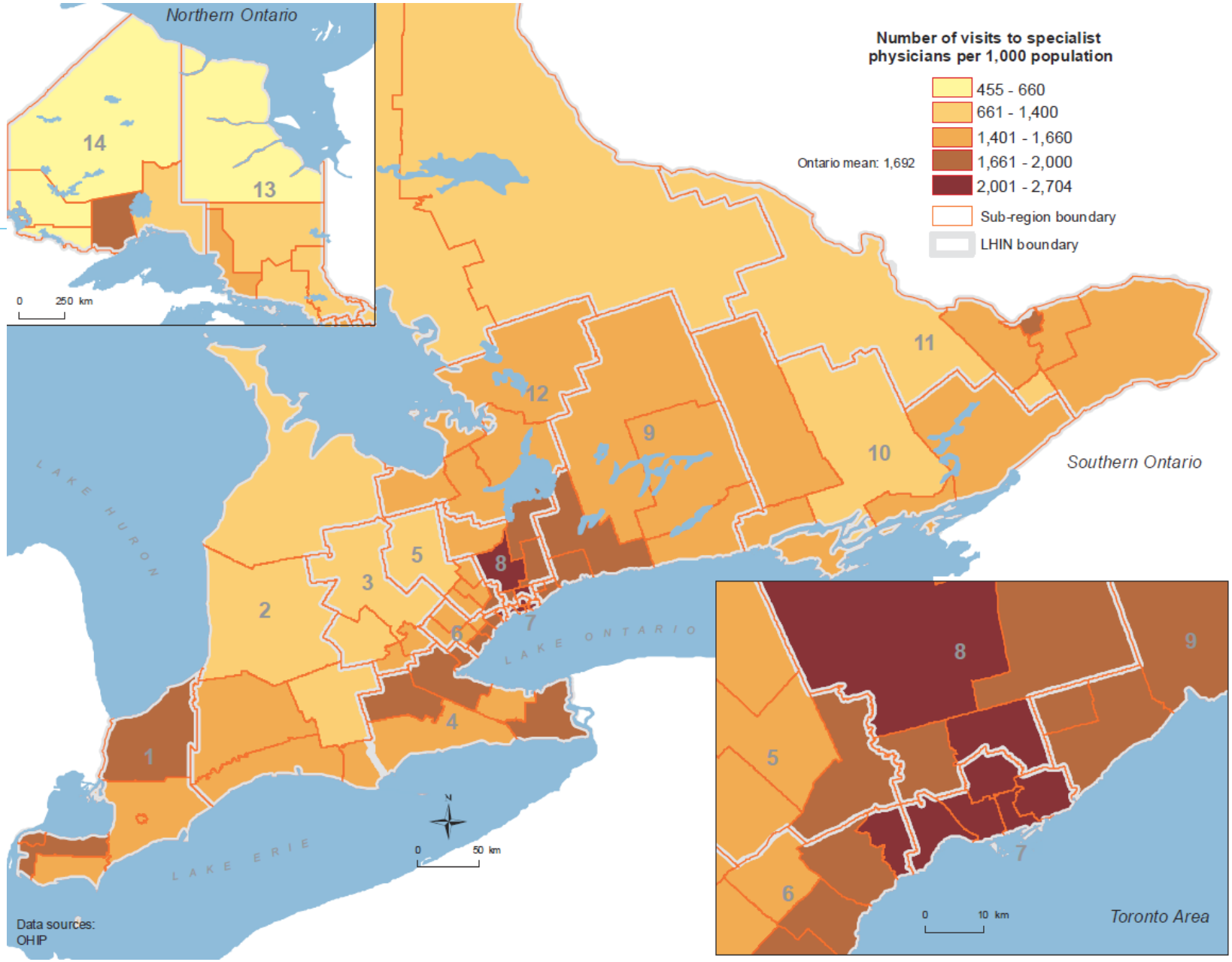
- What measures?
- Do they vary across the province?

Utilization

- What measures?
  - few primary care visits
  - low continuity of primary care visits
  - lack of after-hours care
  - emergency department visits
  - few specialist visits

- Any others?


Northern Ontario
Percentage of the population with low continuity to any primary care physician
Ontario mean: 14.4
3.6 - 7.0
7.1 - 11.0
11.1 - 17.0
17.1 - 36.0
59.6
Sub-region boundary
LHIN boundary
0 250 km
Southern Ontario
LAKE HURON
LAKE ONTARIO
LAKE ERIE
0 50 km
Data sources:
CAPE, CHC, OHIP
0 10 km
Toronto Area

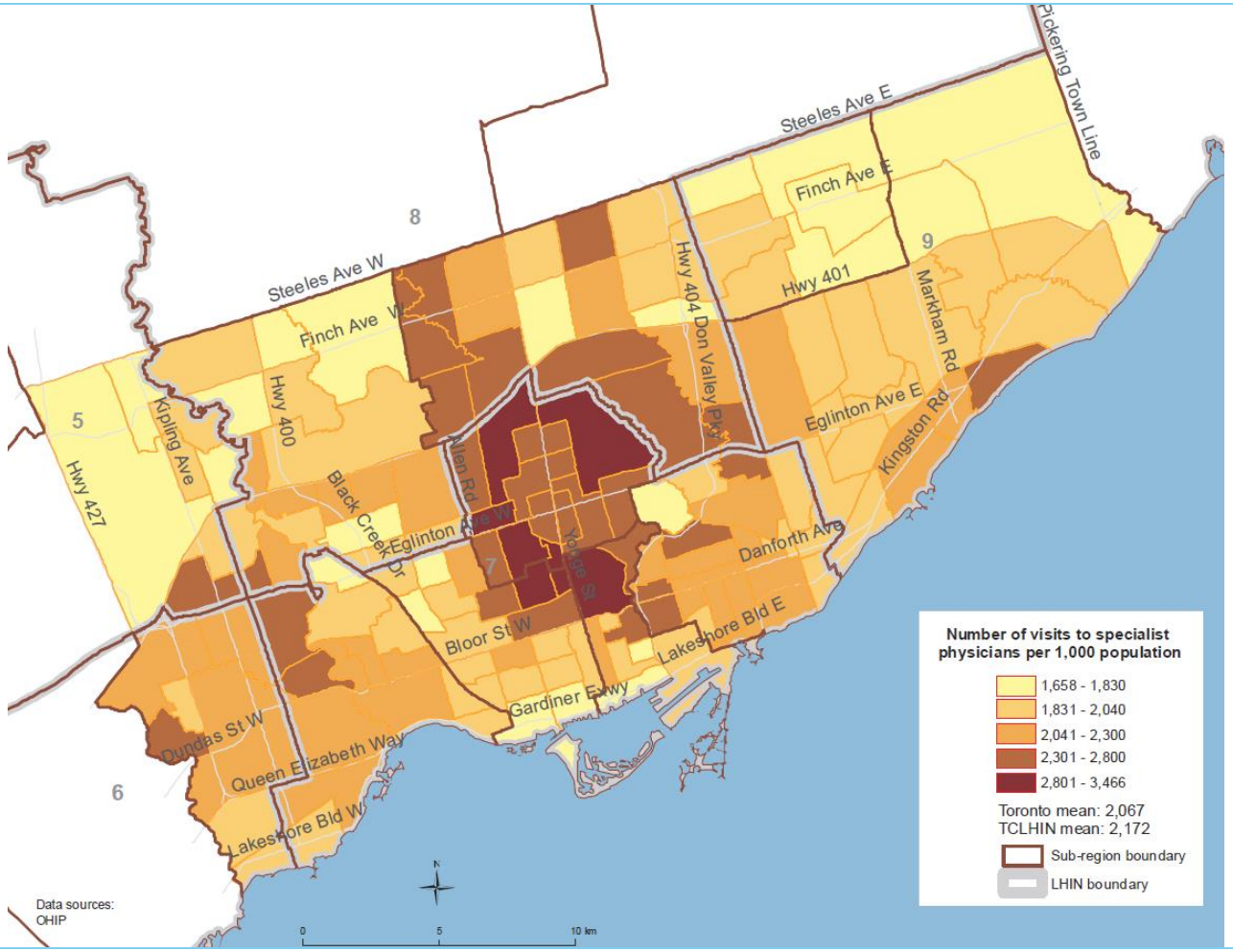

Northern Ontario
14
13
0 250 km
Number of visits to specialist physicians per 1,000 population
455 - 660
661 - 1,400
1,401 - 1,660
1,661 - 2,000
2,001 - 2,704
Ontario mean: 1,692
Sub-region boundary
LHIN boundary
11
12
9
10
Southern Ontario
LAKE HURON
2
3
5
8
7
6
4
1
LAKE ONTARIO
LAKE ERIE
0 50 km
Data sources:
OHIP
8
9
5
7
6
0 10 km
Toronto Area

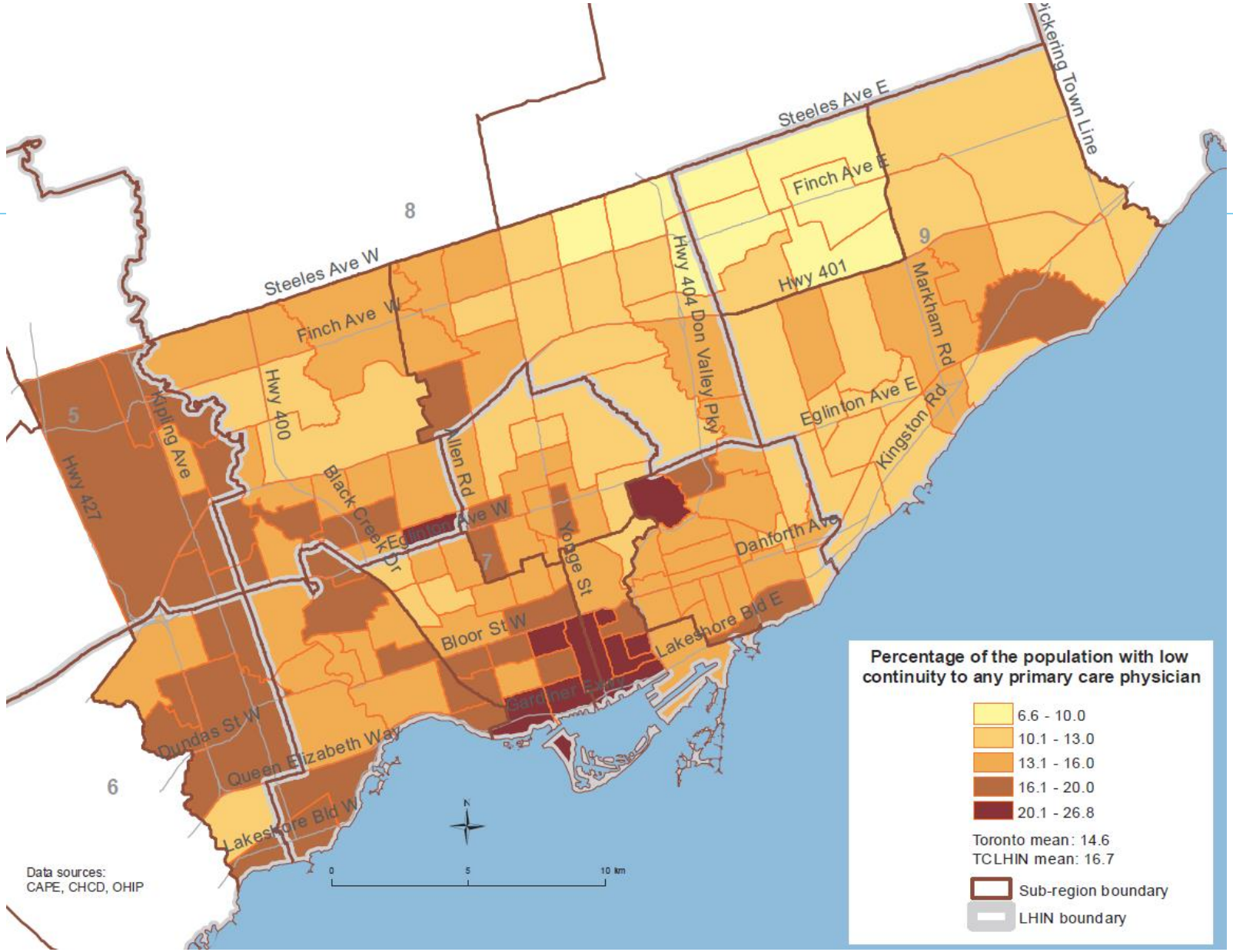
Does Utilization Vary?

Toronto:

- lower continuity, greater use of specialists

Using this Information Locally

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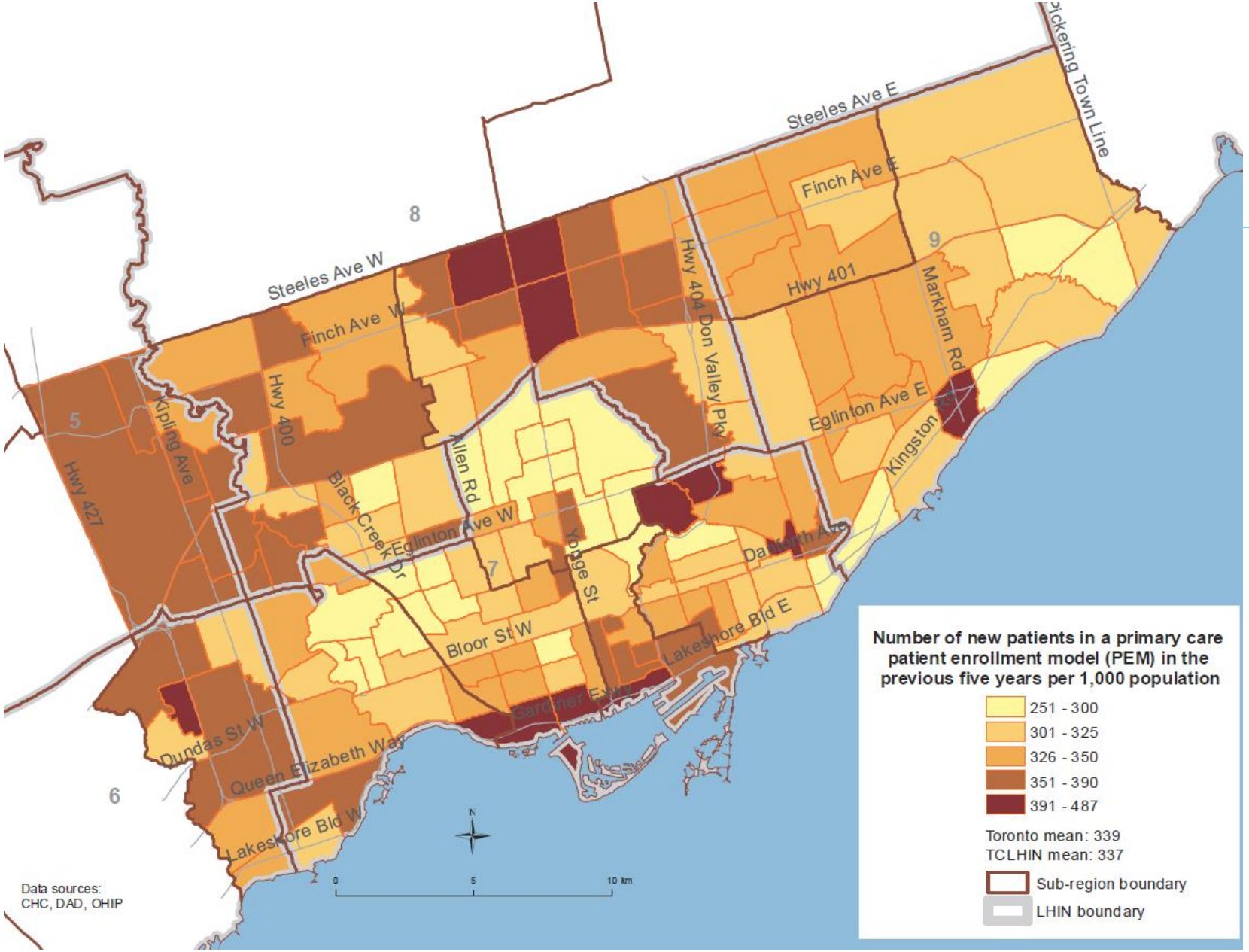
Black Creek Dr
Allen Rd
Eglinton Ave W
Yonge St
Bloor St W
Lakeshore Bld E
Gardiner Expy
Dundas St W
Queen Elizabeth Way
Lakeshore Bld W
5
6
7
8
9
Data sources:
CAPE, CHCD, OHIP
0
5
10 km
N
Percentage of the population with low continuity to any primary care physician
6.6 - 10.0
10.1 - 13.0
13.1 - 16.0
16.1 - 20.0
20.1 - 26.8
Toronto mean: 14.6
TCLHIN mean: 16.7
Sub-region boundary
LHIN boundary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Hwy 400
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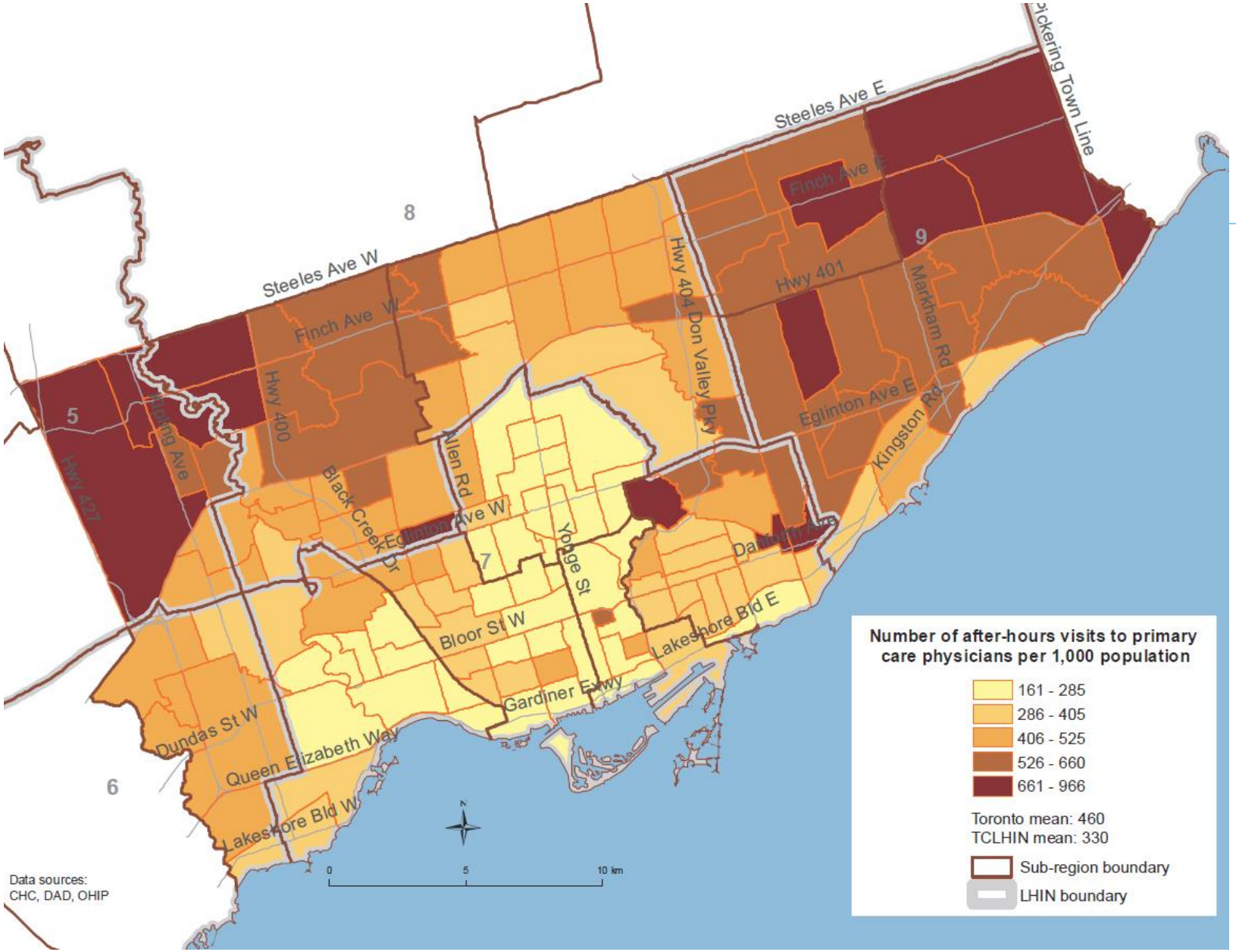
Hwy 427
Black Creek Dr
Allen Rd
Eglinton Ave W
Yonge St
Bloor St W
Lakeshore Bld E
Dundas St W
Queen Elizabeth Way
Lakeshore Bld W
8
9
5
7
6
N
0
5
10 km
Data sources:
CHC, DAD, OHIP
Number of new patients in a primary care patient enrollment model (PEM) in the previous five years per 1,000 population
251 - 300
301 - 325
326 - 350
351 - 390
391 - 487
Toronto mean: 339
TCLHIN mean: 337
Sub-region boundary
LHIN boundary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Yonge St
Bloor St W
Lakeshore Bld E
Gardiner Expwy
Dundas St W
Queen Elizabeth Way
Lakeshore Bld W
5
6
7
8
9
0
5
10 km
Data sources:
CHC, DAD, OHIP
Number of after-hours visits to primary care physicians per 1,000 population
161 - 285
286 - 405
406 - 525
526 - 660
661 - 966
Toronto mean: 460
TCLHIN mean: 330
Sub-region boundary
LHIN boundary

How Would You Plan for Primary Care in Ontario's 76 Sub-Regions?

- Where to start?
  - population health needs?
  - utilization?
  - **providers?**
  - something else?

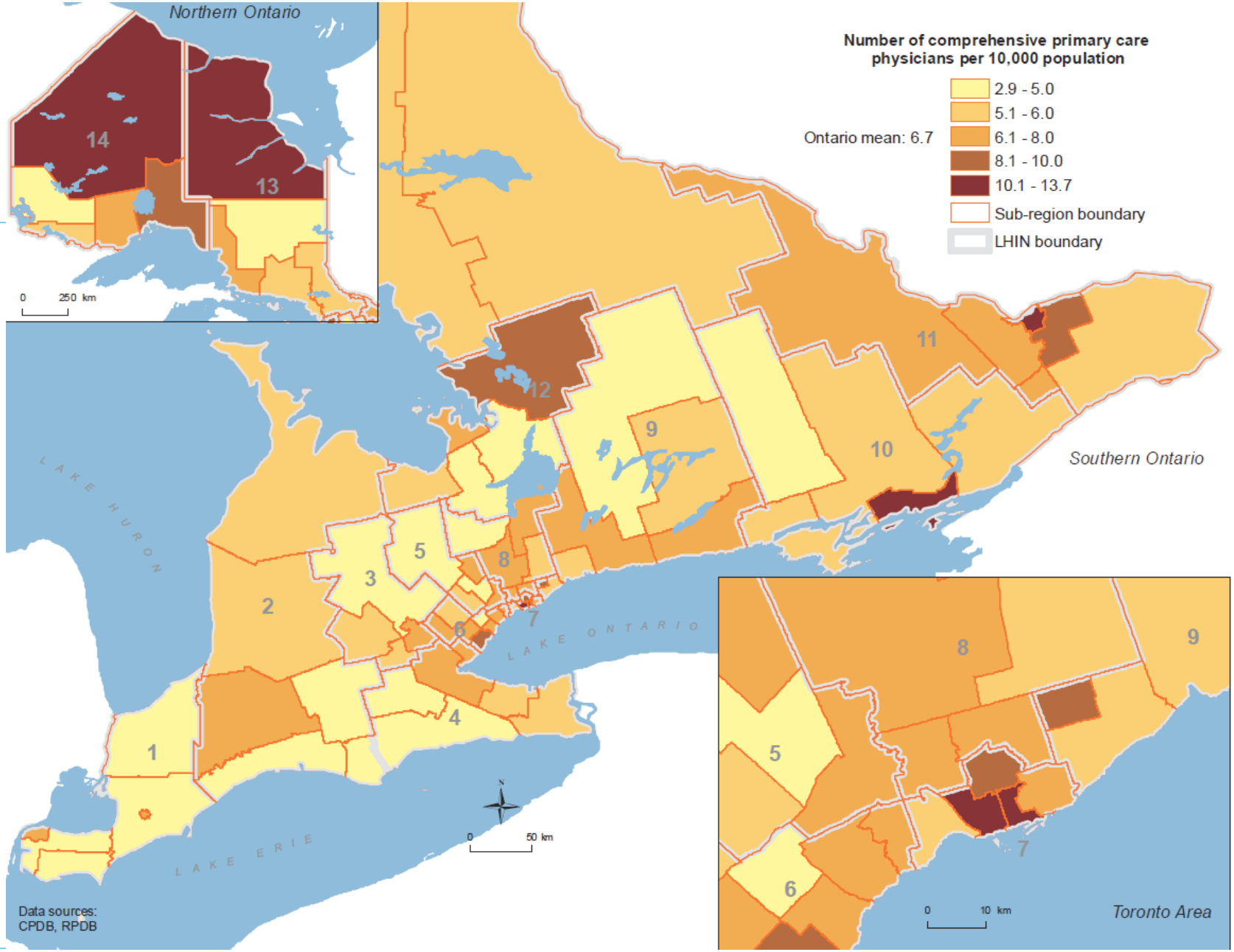
Providers: Primary Care Physicians and Inter-professional Teams

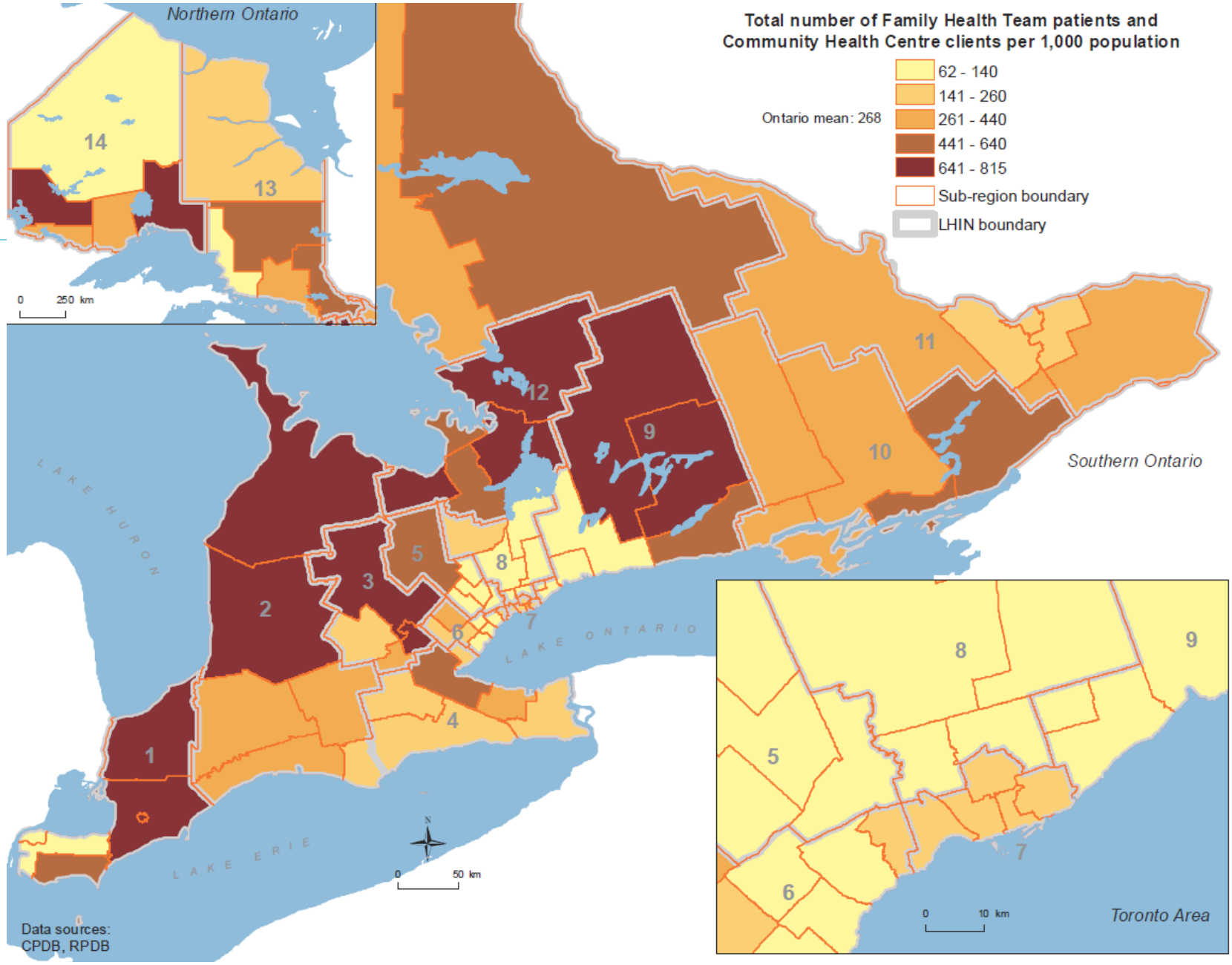
- What measures?
- Do they vary across the province?

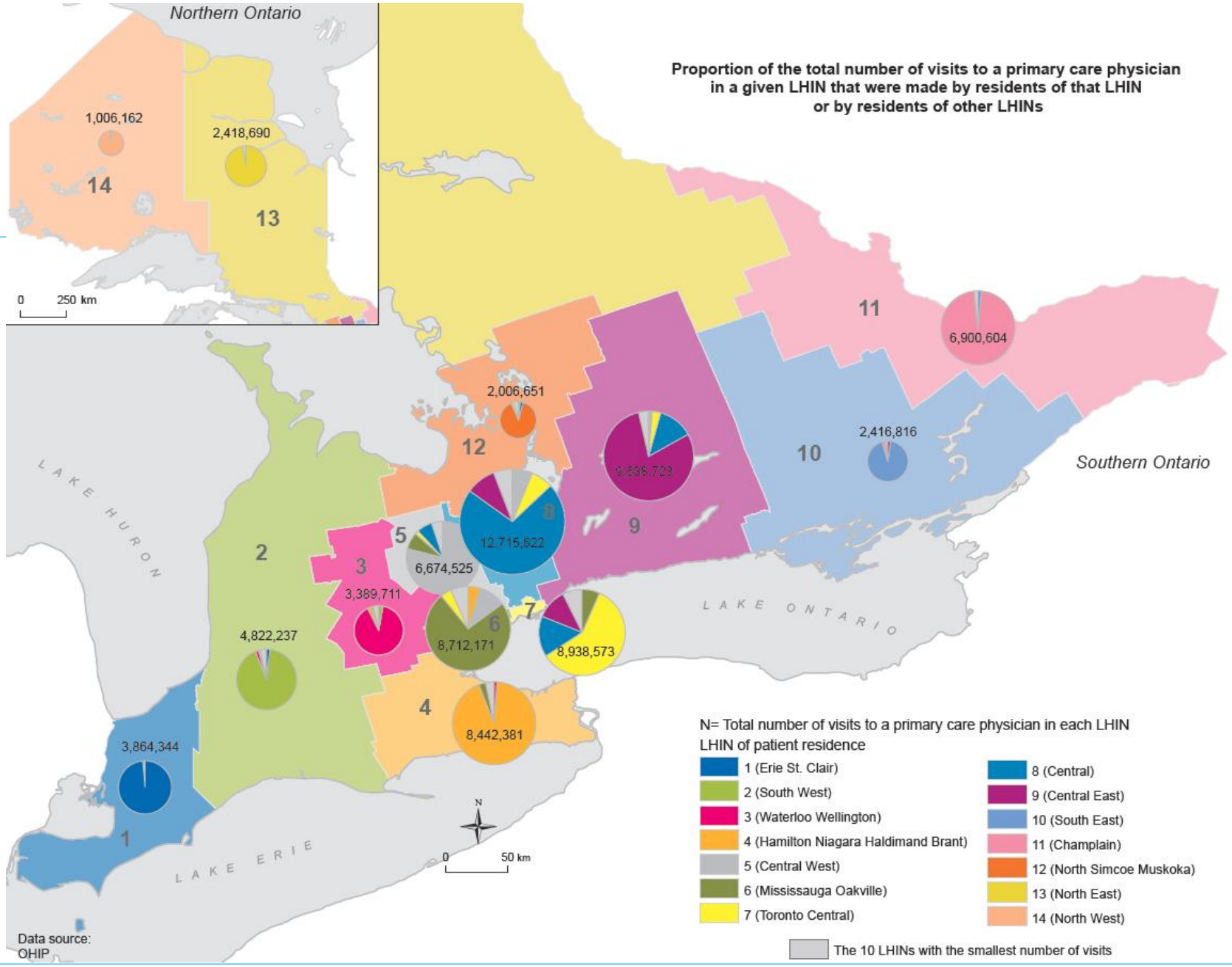
Providers

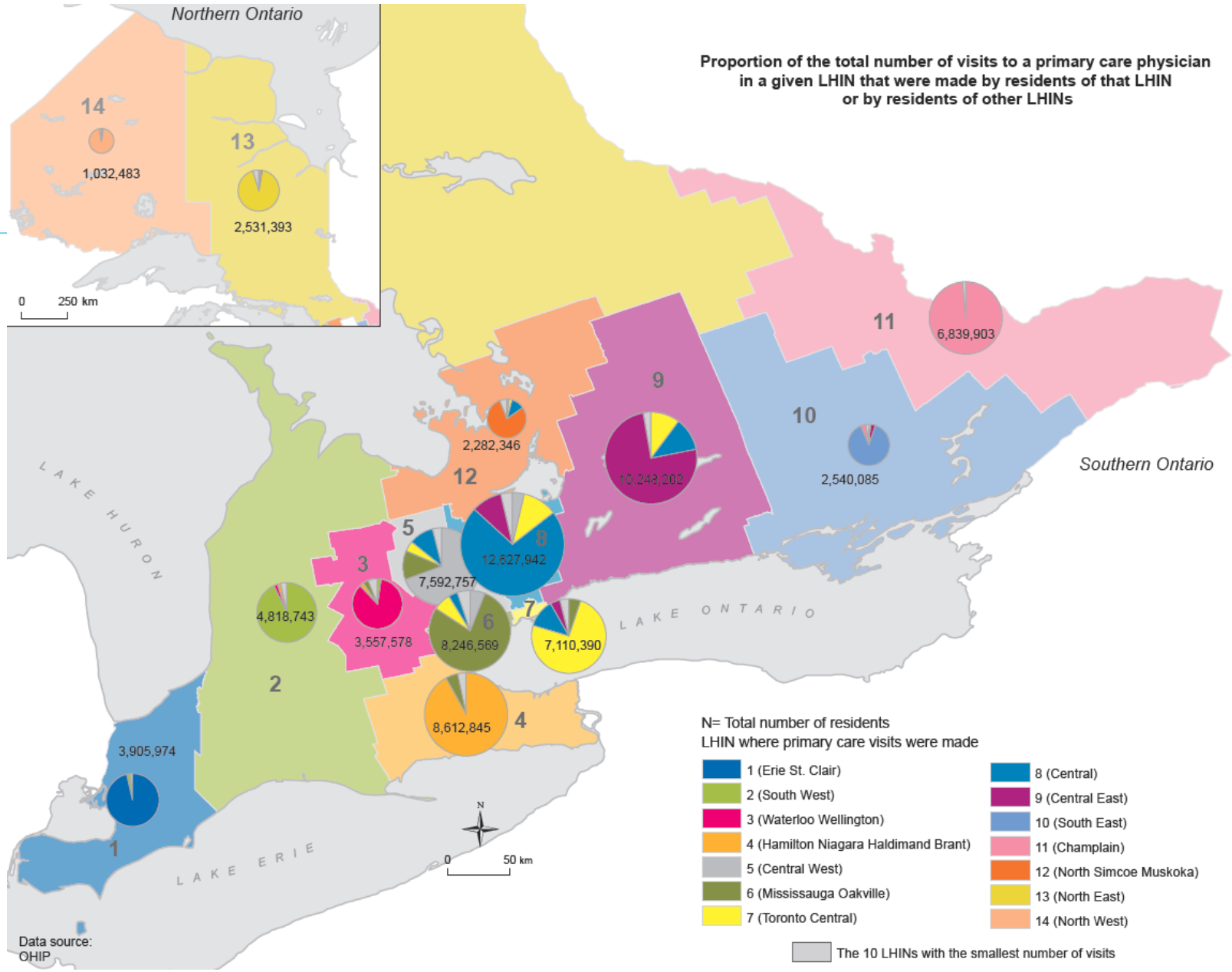
- What measures?
  - comprehensive PC physicians
  - FHT and CHCs per population
  - patient flow across LHINs

- Any others?


Northern Ontario
Number of comprehensive primary care physicians per 10,000 population
2.9 - 5.0
5.1 - 6.0
Ontario mean: 6.7
6.1 - 8.0
8.1 - 10.0
10.1 - 13.7
Sub-region boundary
LHIN boundary
14
13
0 250 km
12
11
9
10
Southern Ontario
LAKE HURON
5
3
2
8
7
6
LAKE ONTARIO
4
1
0 50 km
LAKE ERIE
Data sources:
CPDB, RPDB
8
9
5
7
6
0 10 km
Toronto Area


Total number of Family Health Team patients and
Community Health Centre clients per 1,000 population
Ontario mean: 268
62 - 140
141 - 260
261 - 440
441 - 640
641 - 815
Sub-region boundary
LHIN boundary
Northern Ontario
Southern Ontario
Toronto Area
LAKE HURON
LAKE ONTARIO
LAKE ERIE
0 250 km
0 50 km
0 10 km
Data sources:
CPDB, RPDB


Northern Ontario
1,006,162
2,418,690
14
13
0 250 km
Proportion of the total number of visits to a primary care physician in a given LHIN that were made by residents of that LHIN or by residents of other LHINs
11
6,900,604
2,006,651
12
10
2,416,816
Southern Ontario
9,838,729
9
8
12,715,622
5
6,674,525
2
3
3,389,711
7
6
8,712,171
8,938,573
4,822,237
4
8,442,381
3,864,344
1
LAKE HURON
LAKE ONTARIO
LAKE ERIE
N
0 50 km
Data source: OHIP
N= Total number of visits to a primary care physician in each LHIN
LHIN of patient residence
1 (Erie St. Clair)
2 (South West)
3 (Waterloo Wellington)
4 (Hamilton Niagara Haldimand Brant)
5 (Central West)
6 (Mississauga Oakville)
7 (Toronto Central)
8 (Central)
9 (Central East)
10 (South East)
11 (Champlain)
12 (North Simcoe Muskoka)
13 (North East)
14 (North West)
The 10 LHINs with the smallest number of visits

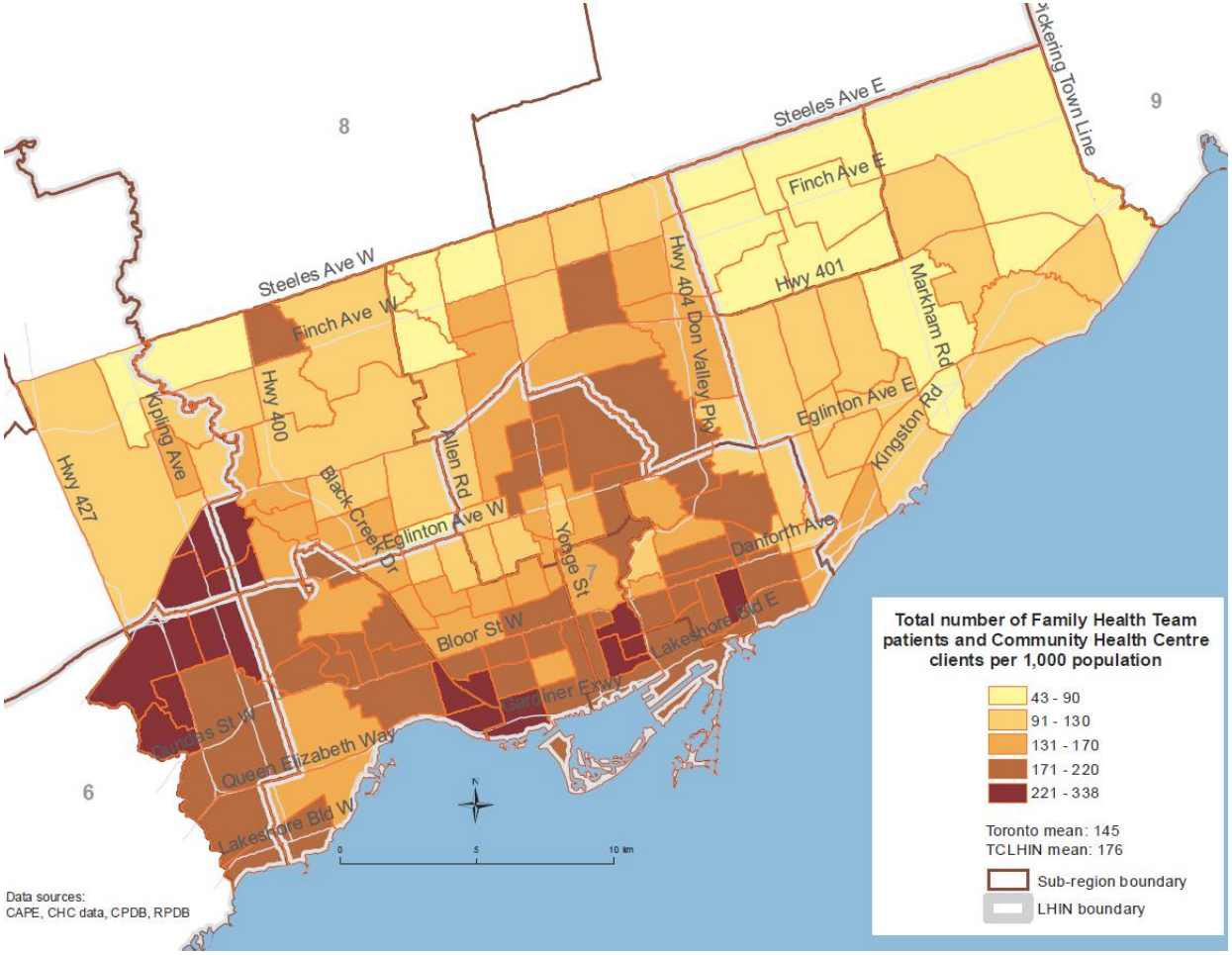

Northern Ontario
14
1,032,483
13
2,531,393
0 250 km
Proportion of the total number of visits to a primary care physician in a given LHIN that were made by residents of that LHIN or by residents of other LHINs
11
6,839,903
9
10
2,540,085
Southern Ontario
2,282,346
12
10,248,202
LAKE HURON
5
8
12,627,942
3
7,592,757
4,818,743
3,557,578
6
8,246,569
7
7,110,390
LAKE ONTARIO
2
8,612,845
4
3,905,974
1
LAKE ERIE
N
0 50 km
Data source:
OHIP
N= Total number of residents
LHIN where primary care visits were made
1 (Erie St. Clair)
2 (South West)
3 (Waterloo Wellington)
4 (Hamilton Niagara Haldimand Brant)
5 (Central West)
6 (Mississauga Oakville)
7 (Toronto Central)
8 (Central)
9 (Central East)
10 (South East)
11 (Champlain)
12 (North Simcoe Muskoka)
13 (North East)
14 (North West)
The 10 LHINs with the smallest number of visits

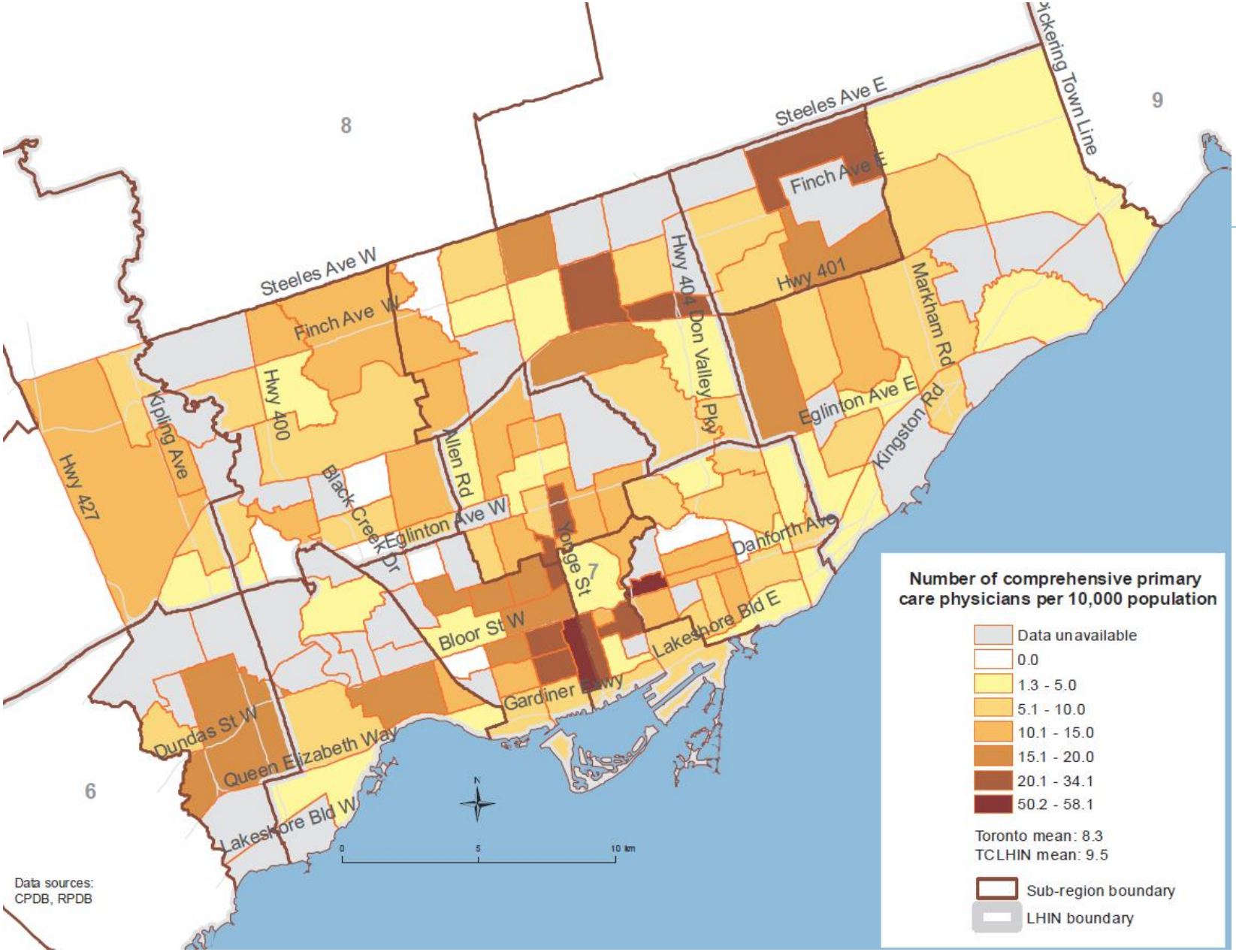
Do Providers Vary?

Toronto:

- greater inflow of primary care visits, over-estimation of physician supply; less team care

Using this Information Locally




8
9
6
7
Steeles Ave E
Steeles Ave W
Finch Ave E
Finch Ave W
Hwy 404
Don Valley Pky
Hwy 401
Markham Rd
Pickering Town Line
Eglinton Ave E
Kingston Rd
Hwy 427
Kipling Ave
Hwy 400
Black Creek Dr
Allen Rd
Eglinton Ave W
Yonge St
Danforth Ave
Bloor St W
Lakeshore Bld E
Gardiner Expwy
Dundas St W
Queen Elizabeth Way
Lakeshore Bld W
N
0
5
10 km
Data sources:
CPDB, RPDB
Number of comprehensive primary care physicians per 10,000 population
Data unavailable
0.0
1.3 - 5.0
5.1 - 10.0
10.1 - 15.0
15.1 - 20.0
20.1 - 34.1
50.2 - 58.1
Toronto mean: 8.3
TCLHIN mean: 9.5
Sub-region boundary
LHIN boundary

Do Inequities and Gaps in Care Vary?

- Toronto
  - high social needs
  - low attachment
  - low continuity
  - large inflows
  - few teams

Comments, Questions?

ICES
Data
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Better Health

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Inspired Care. Inspiring Science.