Toronto Community Health Profiles

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We can help you plan: Getting the most out of Toronto Community Health Profiles

Friday October 12, 9am-11:30am
Li Ka Shing Knowledge Institute at St. Michaels Hospital, 209 Victoria Street, Toronto

www.torontohealthprofiles.ca

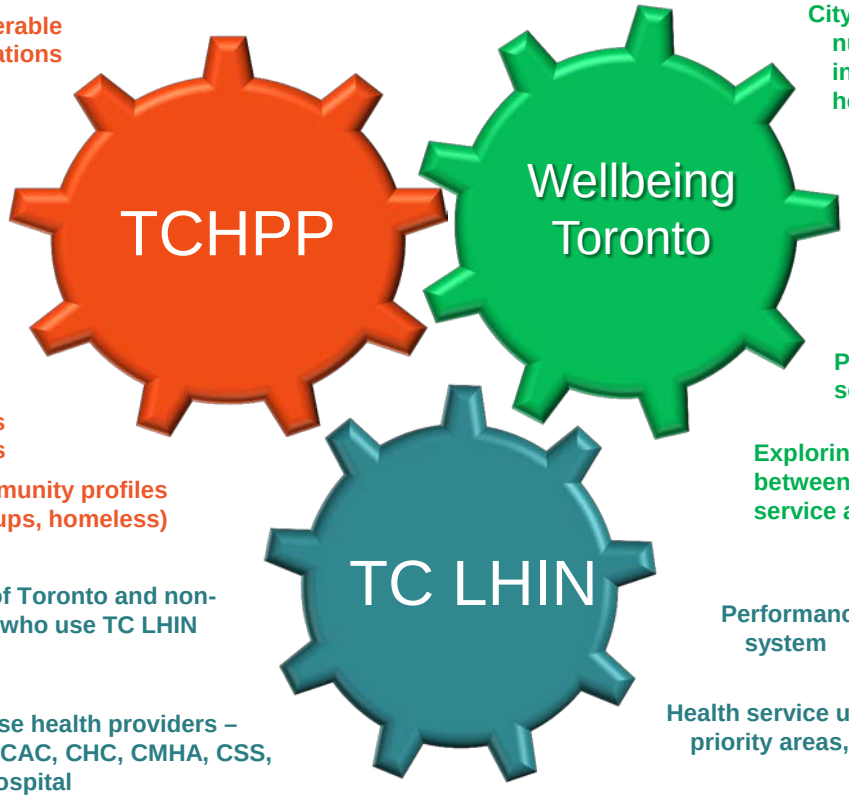
Aim

Enhance the quality and usage of health care data that will benefit the LHIN and its Health Service Providers.

Goal

Leverage established relationships, expertise and existing resources to increase access to more comprehensive, high quality and standardized data and indicators for the TC LHIN and all HSPs as well as other stakeholders

Responsibilities



TCHPP

- Distribution of vulnerable populations
- "Hot spots"- areas with greatest health needs
- Priority neighborhoods
- Barriers to access
- Equity of service utilization and prevention
- Links to studies that address other issues
- Non-geographic community profiles (racialized groups, homeless)

Wellbeing Toronto

- City of Toronto mandate of large number of diverse services, including social, infrastructure, health, etc
- Planning for diverse and complex population in City
- Access to services, outcomes, priority areas, quality, equity
- Performance measurement of city services
- Exploring through mapping relationship between socio-demographic and service access indicators

TC LHIN

- Diverse population of Toronto and non-Toronto residents who use TC LHIN health services
- 176 diverse health providers – CHC, CCAC, CHC, CMHA, CSS, LTC, Hospital
- Performance measurement of health system
- Health service use, health outcomes, priority areas, quality, equity
- Planning and program development

Collaboration Areas and Outcomes

Common geography: City of Toronto
Pooled ideas: Understanding social determinants of health; Equity
Pooled resources: Shared high quality data; population data; Priority neighborhoods; technology/mapping capabilities
Pooled knowledge: methodology expertise; joint workshops

Agenda

Part 1 (20 min)

- Welcome and introductions
- Background on the partnership & website
- Updates
- Brief orientation to website
- What's coming in 2012/13

Part 2 (45 min)

- How to use the Data/Maps ('real world' examples)
- Ontario Marginalization Index
- Questions/Comments

<< COFFEE BREAK >>

Part 3 (1 hour)

- Hands-on Workshop

Partners and Collaborators :

- Centre for Research on Inner City Health (CRICH), St. Michael's Hospital
- Toronto Central LHIN
- Toronto Public Health
- Wellesley Institute
- The Southeast Toronto Project (SETo)
- Access Alliance – Multicultural Health & Community Services
- Steps to Equity
- Institute for Clinical Evaluative Sciences (ICES)
- Wellbeing Toronto

****TCHPP is a member of the Canadian Network of Population Health Observatories****

Overall goals:

- Foster **collaborations & partnerships** between health services providers, researchers and policy-makers
- Facilitate **access to health information** to support planning
- Maximize the **effective use of system resources** for planning
- **Increase capacity** of health service providers to use health information
- Deepen **understanding of Health Inequities** and how to measure, monitor and reduce them.

Why? What gap are we filling?

- Producing health indicators for Toronto communities and service providers since 1990s to:
  - **reduce duplication** of work
  - **maximize efficiency and productivity** by collaborating and sharing
  - use **common** definitions, data standards, methods, quality assurance
  - create a **single point of access** for health indicators
  - provide **information and training**

Our focus:

- Vulnerable populations
- Geographic areas with greatest health needs
- Toronto's Priority neighbourhoods
- Multiple barriers to access
- Translation and cultural interpretation priorities
- Equity

Through the partnership we have access to numerous data sources. For example:

- Physician services (OHIP)
- Hospitalizations (CIHI, OMHRS)
- Emergency Department (ED) visits (NACRS)
- Office of the Registrar General of Ontario (ORG) Live Birth database and Mortality database
- Specialized databases (Cytobase, Ontario Breast Screening Program (OBSP))
- Chronic disease provincial registries (diabetes, asthma, COPD, etc.)
- Census (1991, 1996, 2001, 2006, 2011?)
- Numerous Geographic datasets

What's new (in 2012):

NEW DATA:

- Premature mortality
- Causes of premature mortality
- Emergency Department (ED) visits
- Avoidable (low triage) ED visits
- Hospitalizations
- Walkability by neighbourhood
- Ontario Marginalization Index

What's new (in 2012):

NEW PROJECT DEVELOPMENTS:

- Data can now be downloaded
- Can sign up for new data 'alerts' on website
- Rapid response requests (pilot)
- Ontario-wide website

Brief orientation to site and live demo

What's coming in 2012/13:

- Developing/Expanding indicators:
  - Develop indicators related to LHIN priorities (eg. ALC, hospital readmissions, mental health, high users),
  - Immigrant health indicators using CIC linked data
  - Continue to develop Equity indicators
  - Physical activity, overweight/obesity, diet
  - New geographies (eg. expanding to all Ontario LHINs & subLHINs)

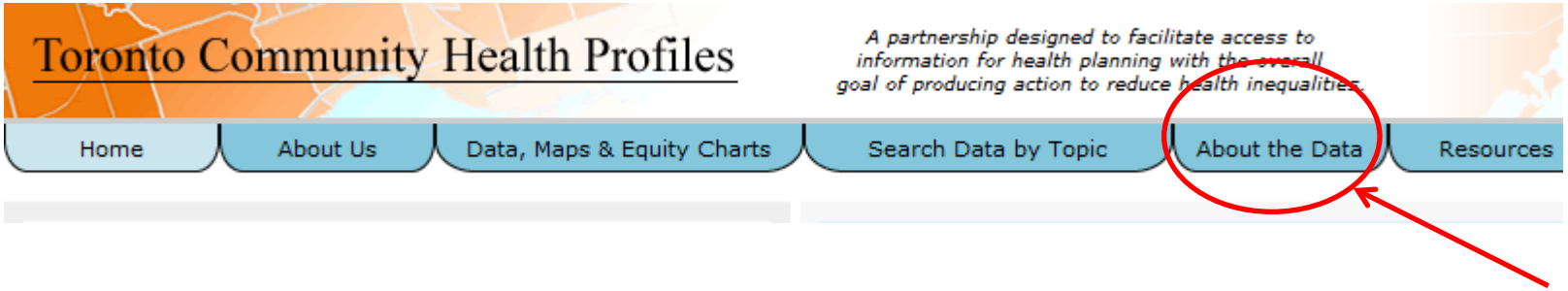
What's coming in 2012/13:

- Knowledge Translation: Maximizing Use & Access to Information
  - Continue to update and improve website
  - Promote use of, and contribute to other initiatives
  - Additional workshops for users
- Provide Advice & Expertise (ongoing)
  - Act as a resource for MOHLTC working groups, Hospital Collaborations, TC LHIN, community service partnerships
  - Rapid response function

Part II : How to use the data?

- Notes about data interpretation
- How to use the maps
- ‘Real World’ examples of how to use the data
- Ontario Mariginalization Index

Important to read “About the data”



- Understand the population covered by the indicator/data
- Understand the strengths and limitations of the data
- Understand how the indicator was calculated

Area versus Individual Measures

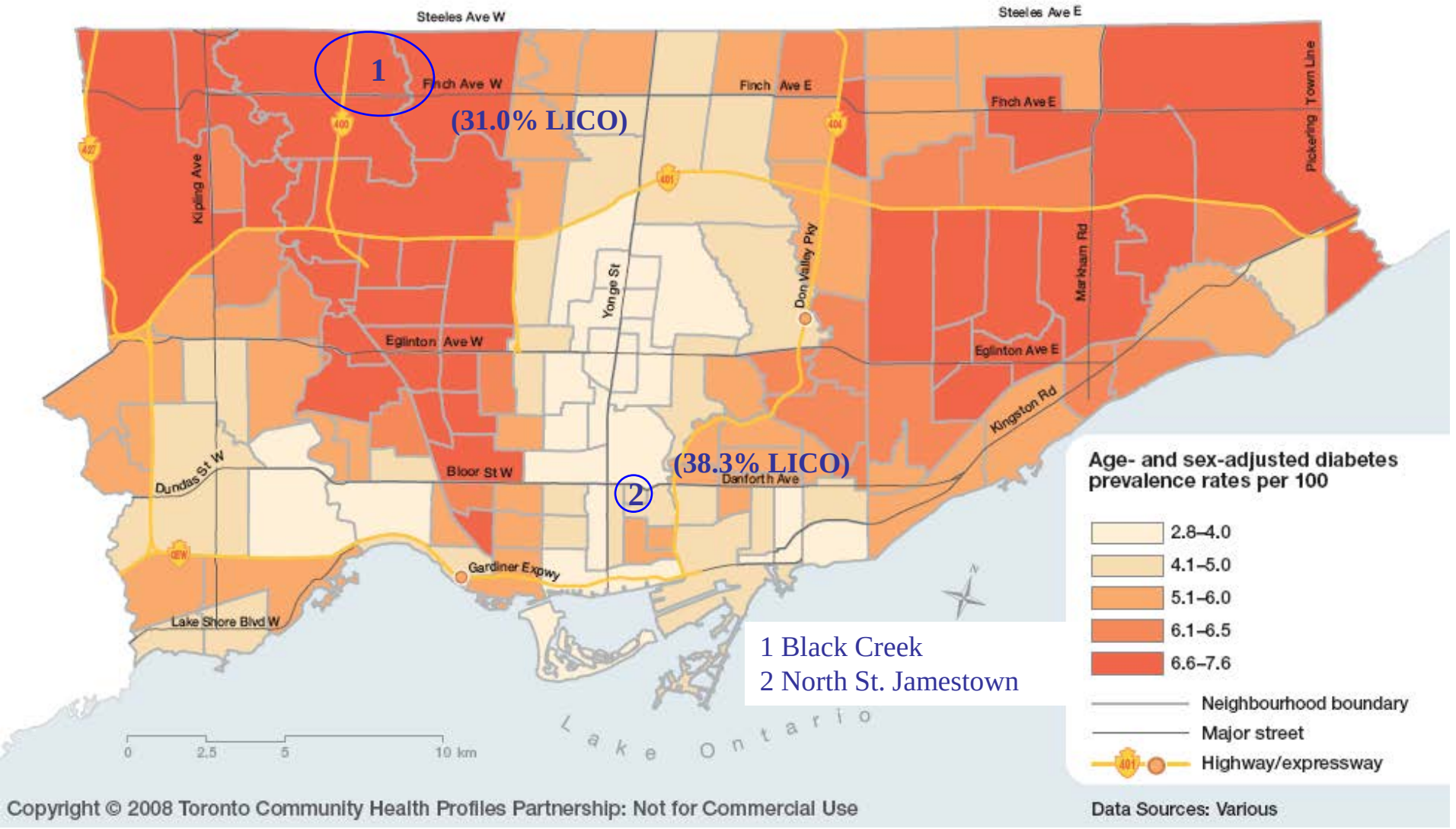
- Neighbourhood and planning area rates represent an “average” of all the individuals living in the area – does not always capture heterogeneity.

- Area rates cannot be assumed to apply to all the individuals living in the area, however we can use them to identify trends and for planning.

SES/SEP and Health

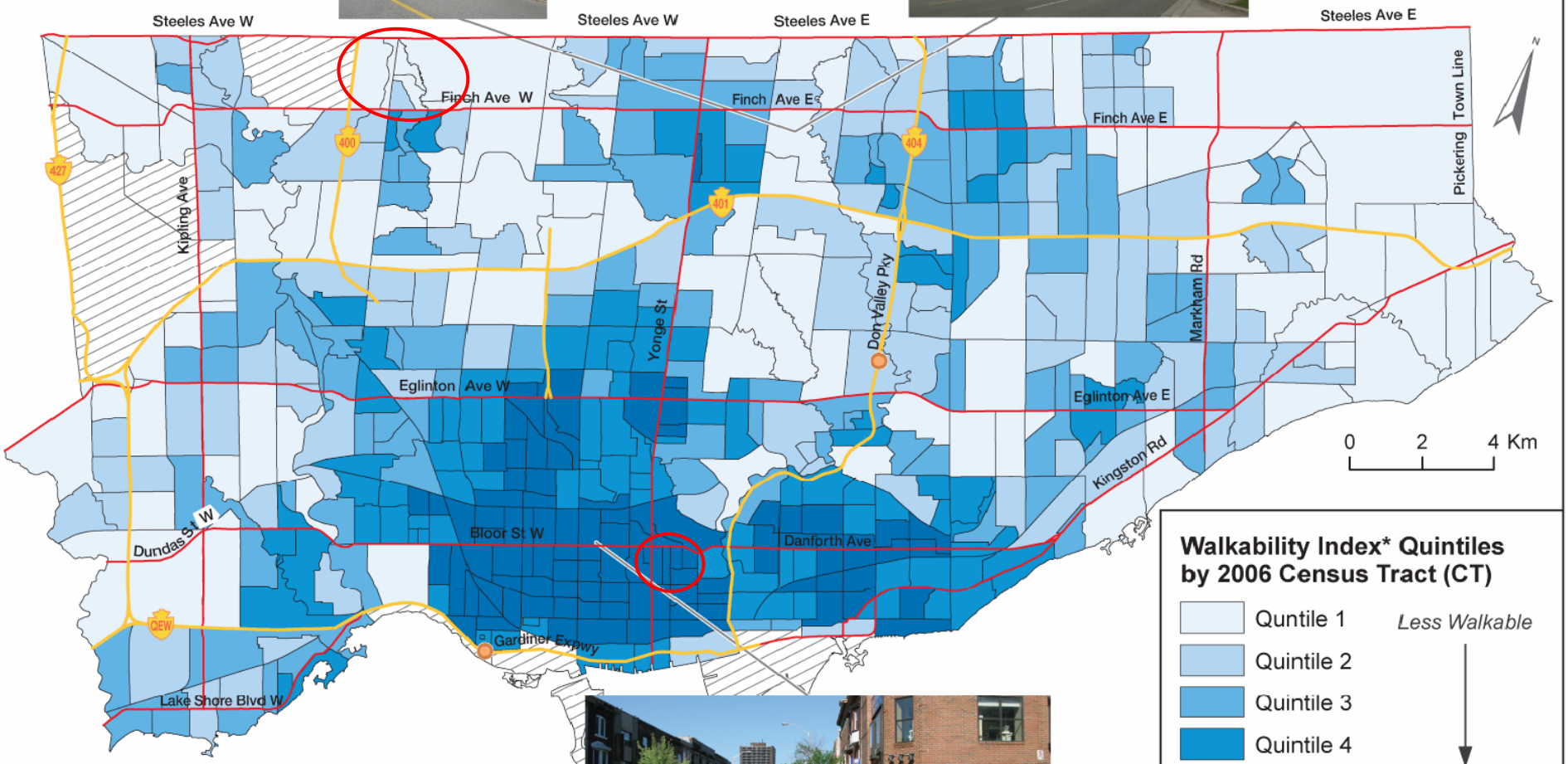
- Both individual income and area income have explanatory power for many conditions.
- Income heterogeneity was one of the factors used in creating neighbourhoods.
- Neighbourhoods with similar SES and different health outcomes – what are alternative explanations?

Neighbourhood Diabetes Rates



Neighbourhood Environments and Resources for Healthy Living: A Focus on Diabetes in Toronto (2007)

Walkability Index* for the City of Toronto, by Census Tract



*Walkability Index comprised of:
1. Population density
2. Residential dwelling density
3. Street connectivity
4. Number of retail outlets in a 10 minute walk

Walkability Index* Quintiles by 2006 Census Tract (CT)

- Quntile 1 — *Less Walkable*
- Quintile 2
- Quintile 3
- Quintile 4
- Quintile 5 — *More Walkable*
- CT excluded from analysis
- Census Tract boundary
- Major street
- Highway/expressway

How to Use & Interpret the Maps

Peter Gozdyra

Maps, to put it simply, are just a visual depiction of location of things, numeric or categorical data, concepts, or the results of analyses.

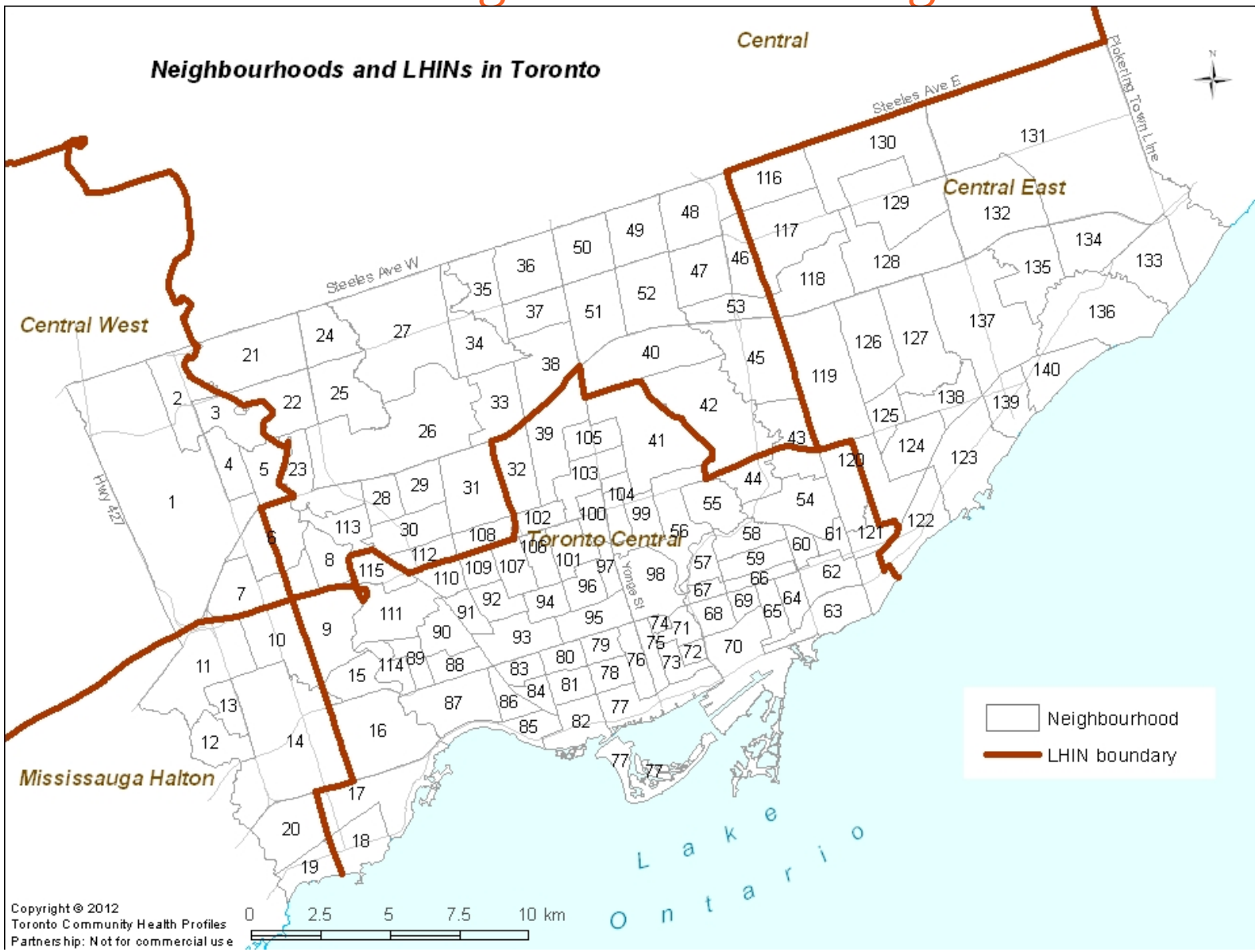
Two main types of maps:

1. Reference – locations of things

2. Thematic (or statistical) – maps depicting magnitudes or categories of data

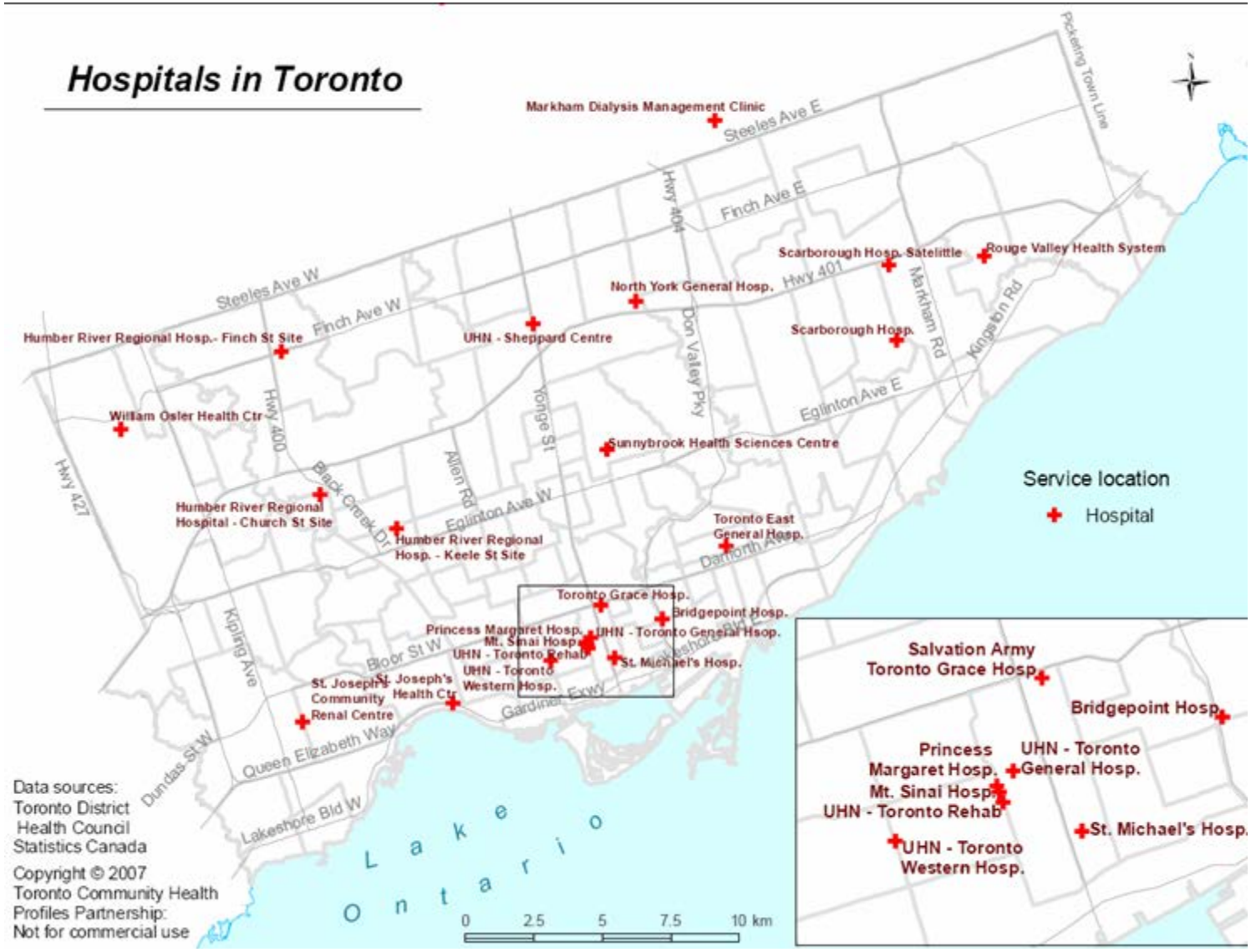
Reference Maps

Showing locations of things



Reference Maps

Showing locations of things

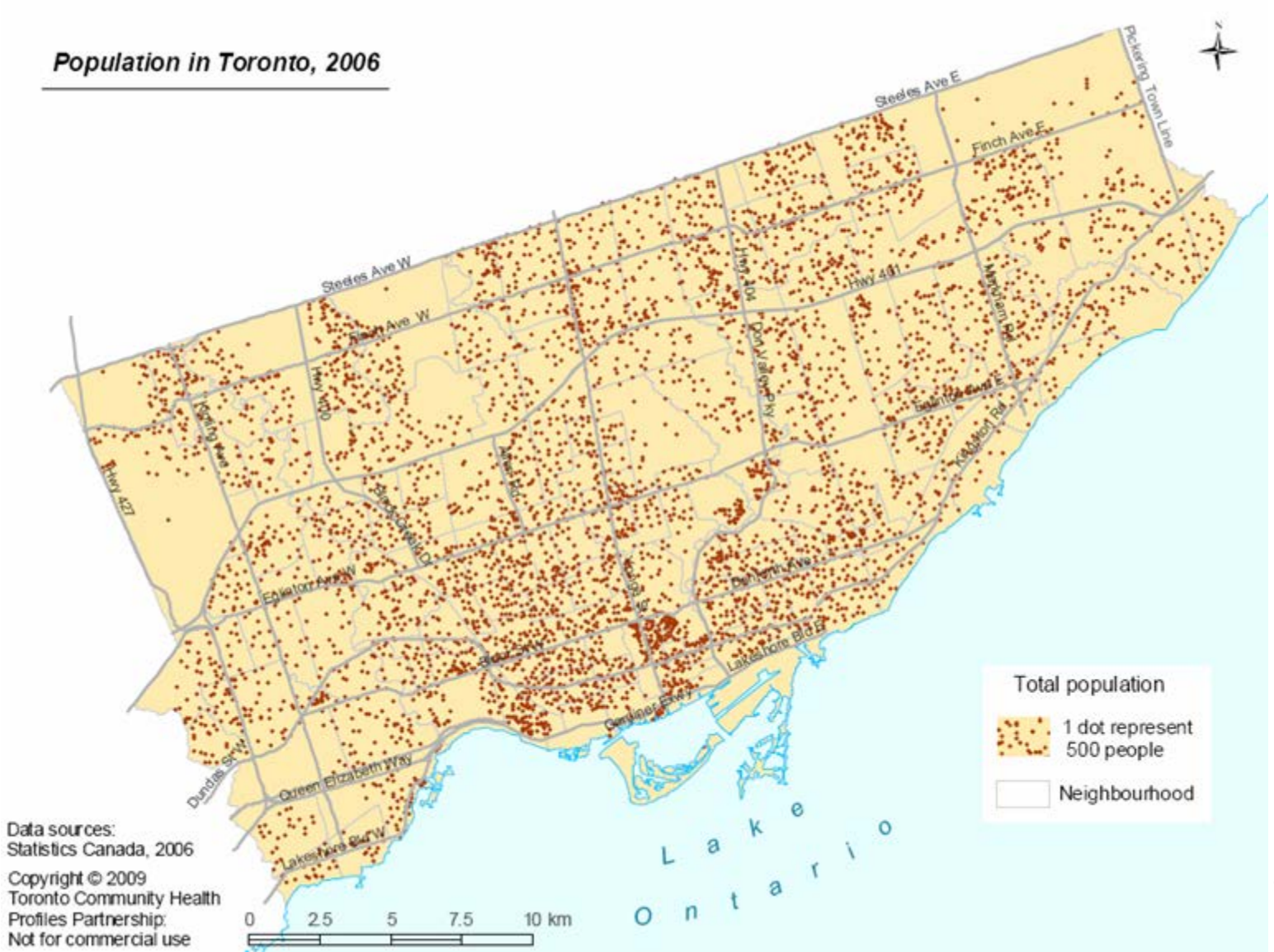


Thematic Maps

- Depict data attributes in a visual way
- Help identify spatial patterns (e.g. ‘hot spots’)
- Help make associations among various elements in space
- Great exploratory and hypothesis-generating tool

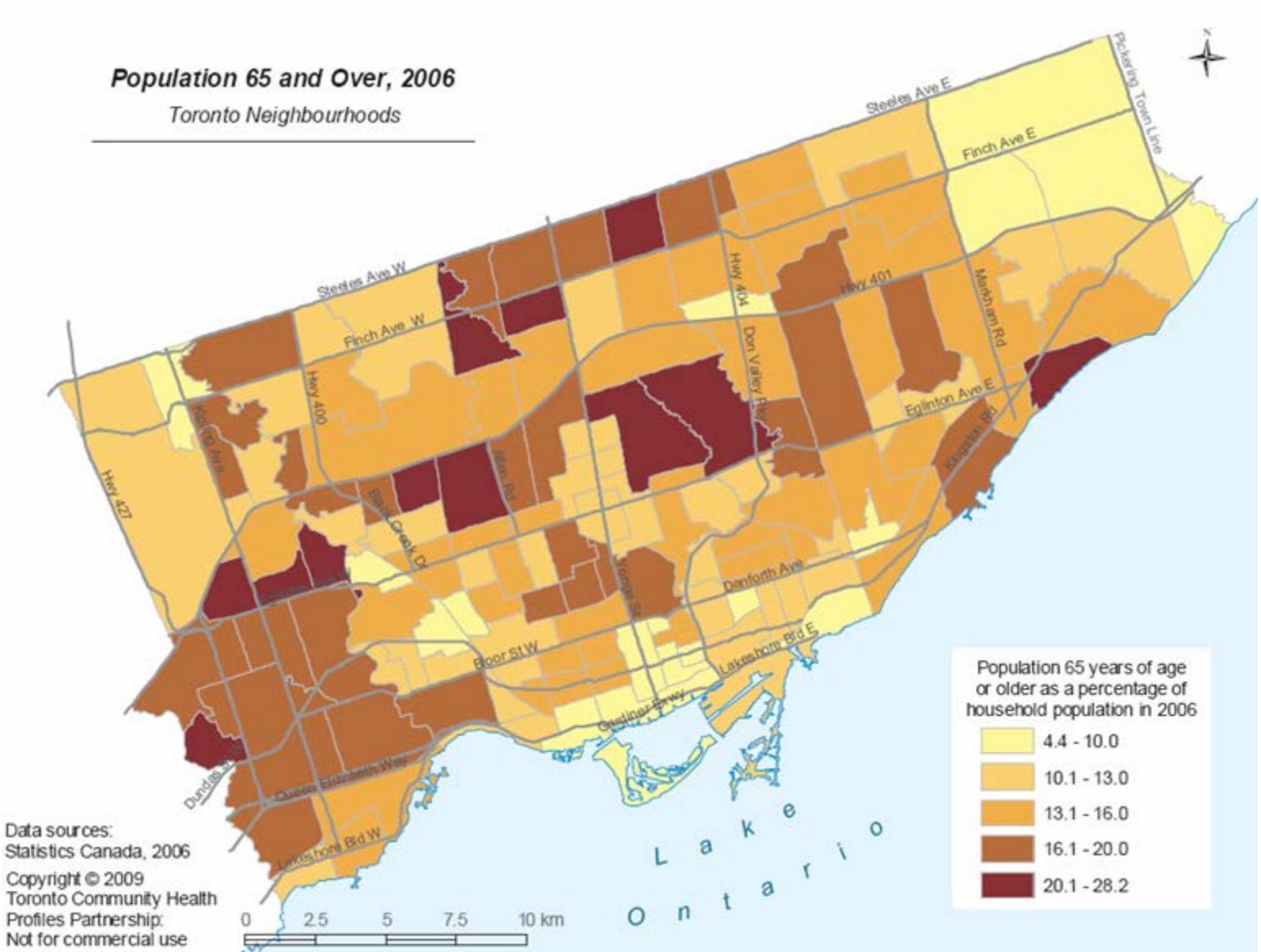
Common Types of Thematic Maps

Dot Density



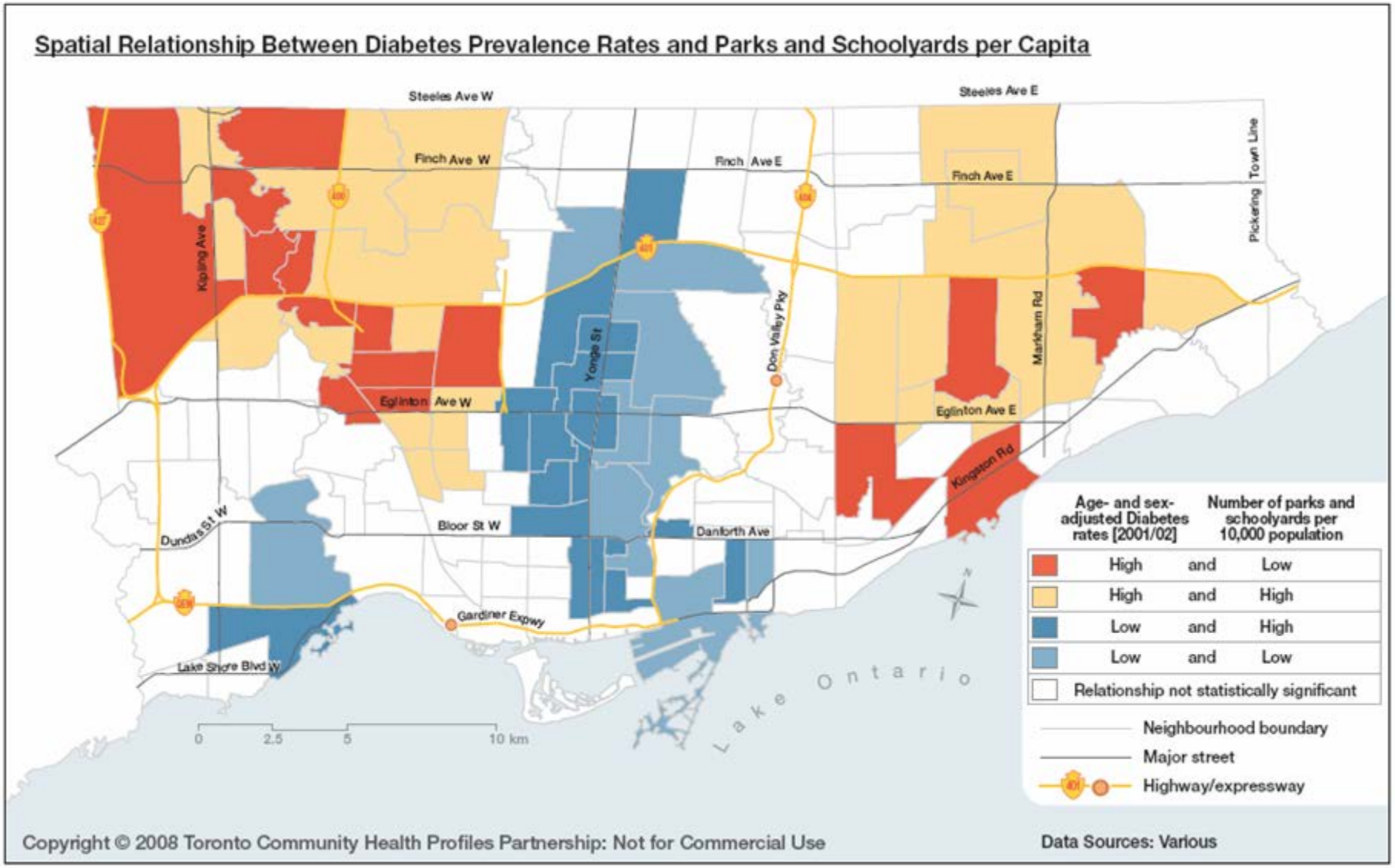
Common Types of Thematic Maps

Choropleth (shaded)



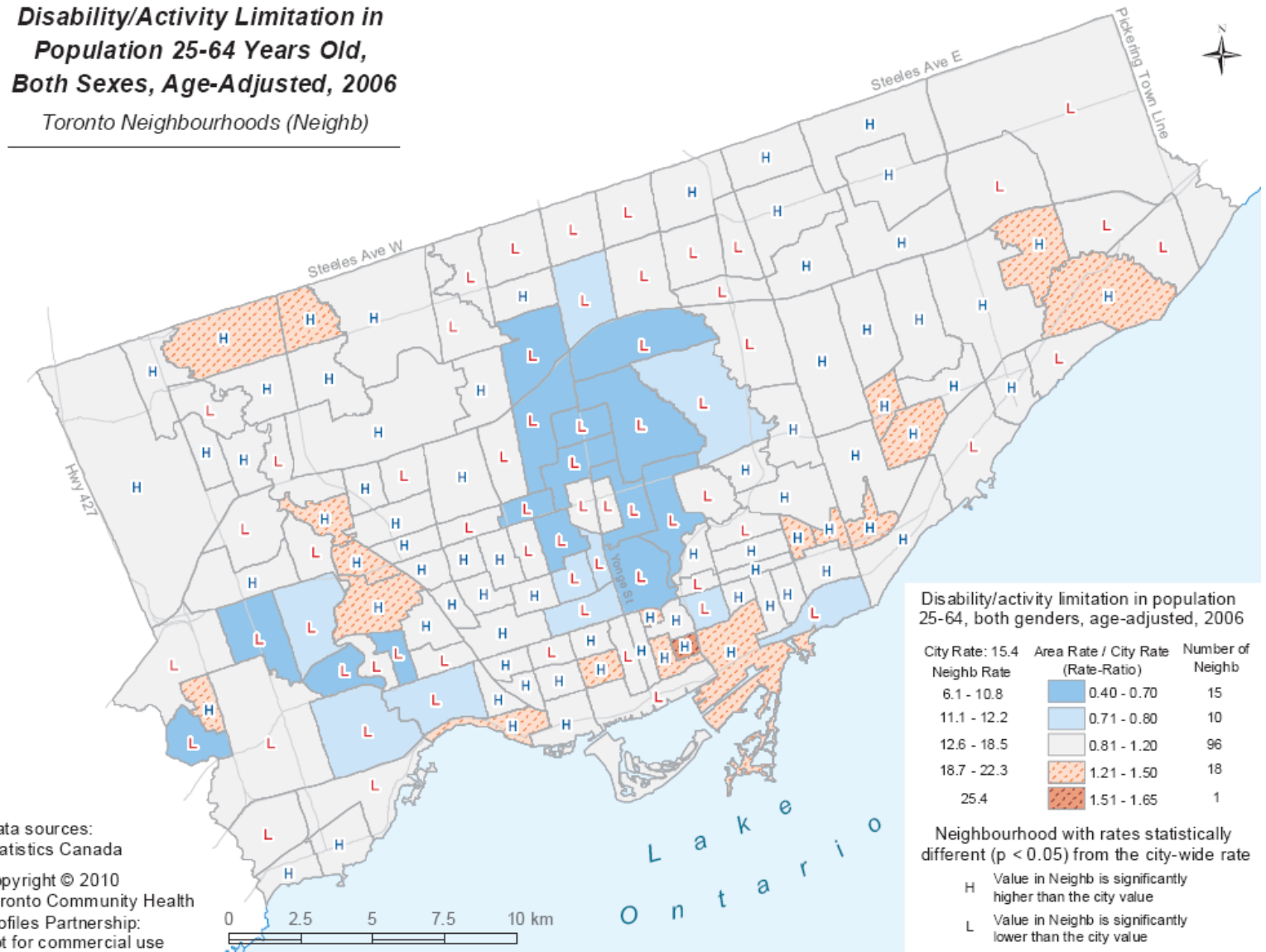
Common Types of Thematic Maps

Choropleth (shaded) – LISA map



Common Types of Thematic Maps

Choropleth (shaded) – Rate-Ratio map

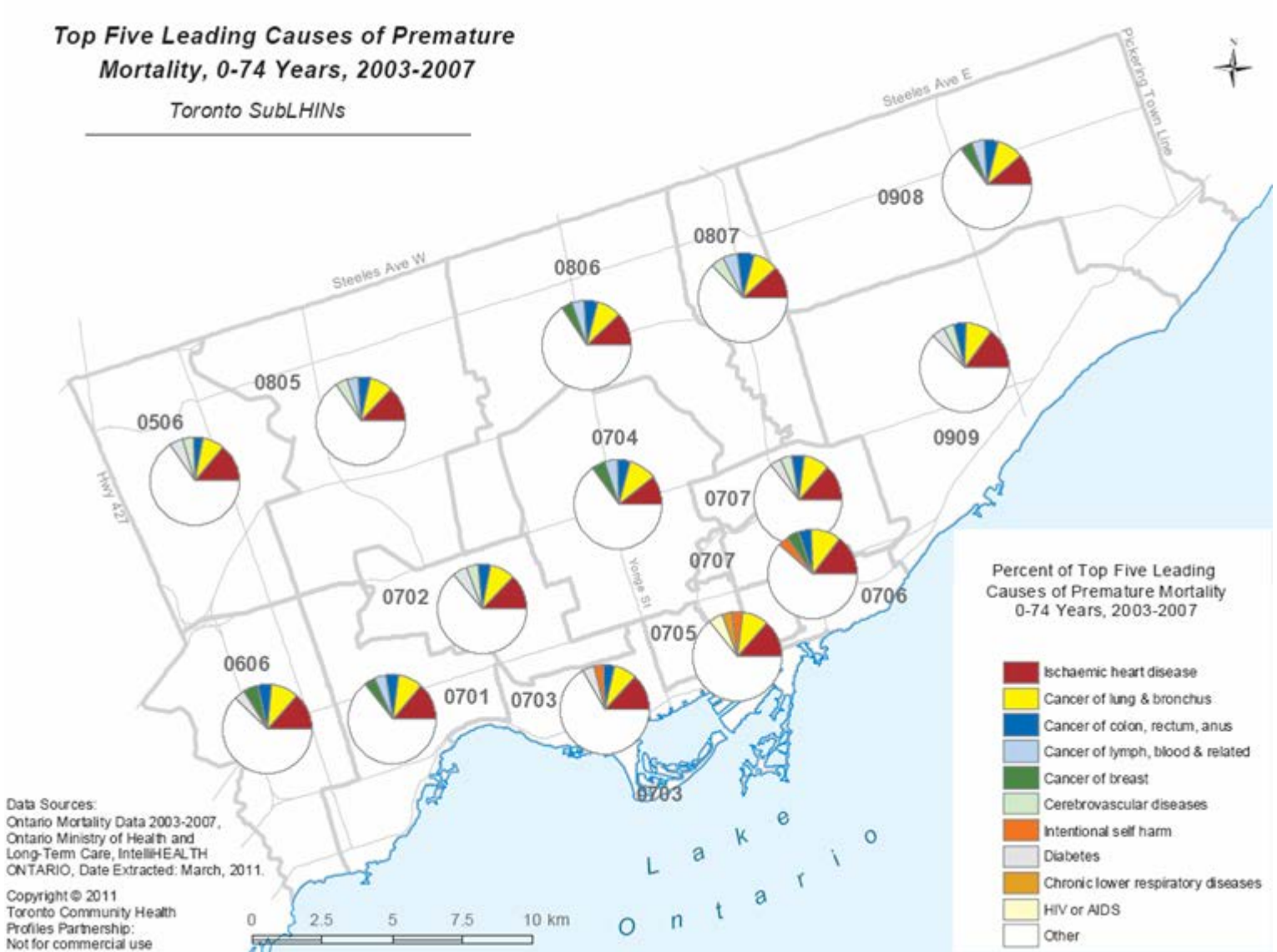


Common Types of Thematic Maps

Proportional symbol

Common Types of Thematic Maps

Proportional symbol

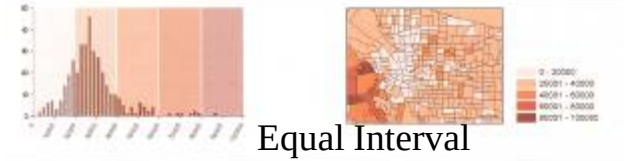


What's Important on Maps

Data Classification

Natural Breaks

Quintile

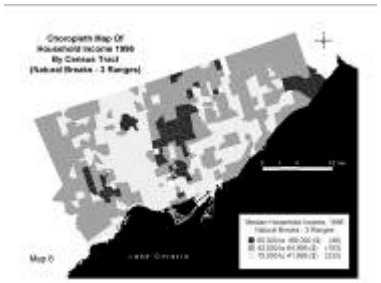


Equal Interval

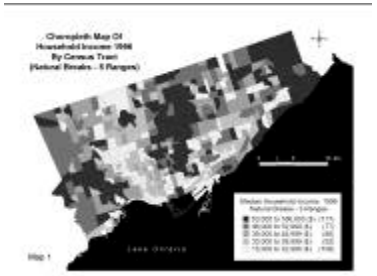
Std. Dev

No. of Ranges

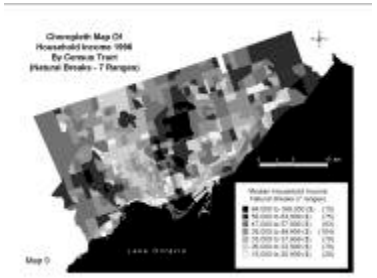
n=3



n=5

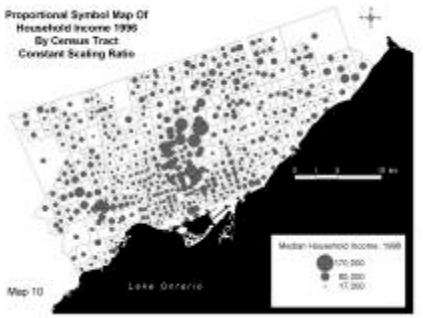


n=7

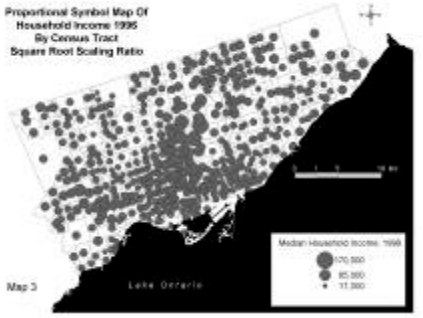


Scaling of Symbols

Square root scaling



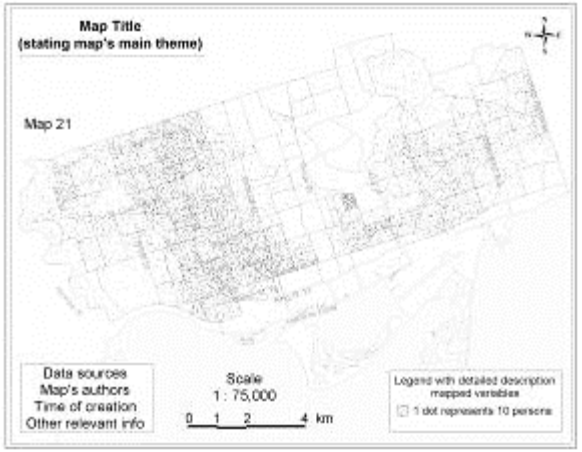
Constant scaling



What's Important on Maps

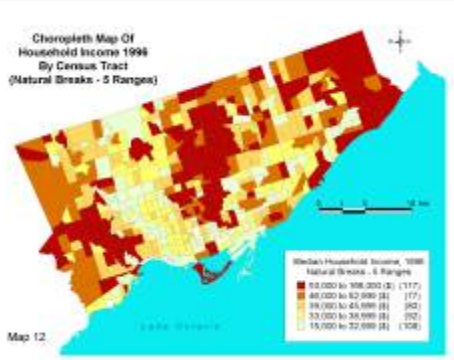
Basic Map Elements

Title | legend | scale
data | sources
authorship | date |
north arrow

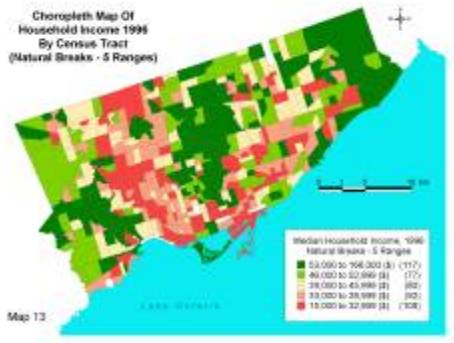


Colours

Red: "negative" impression



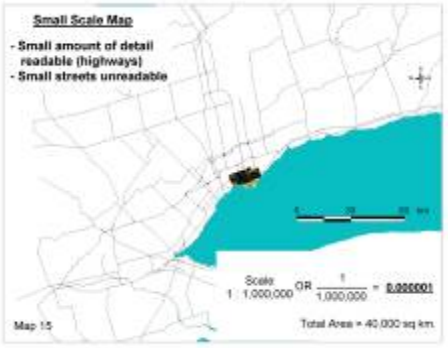
…plus green: 'positive"



Scale

Medium scale 1 : 75,000

Small scale 1 : 1,000,000



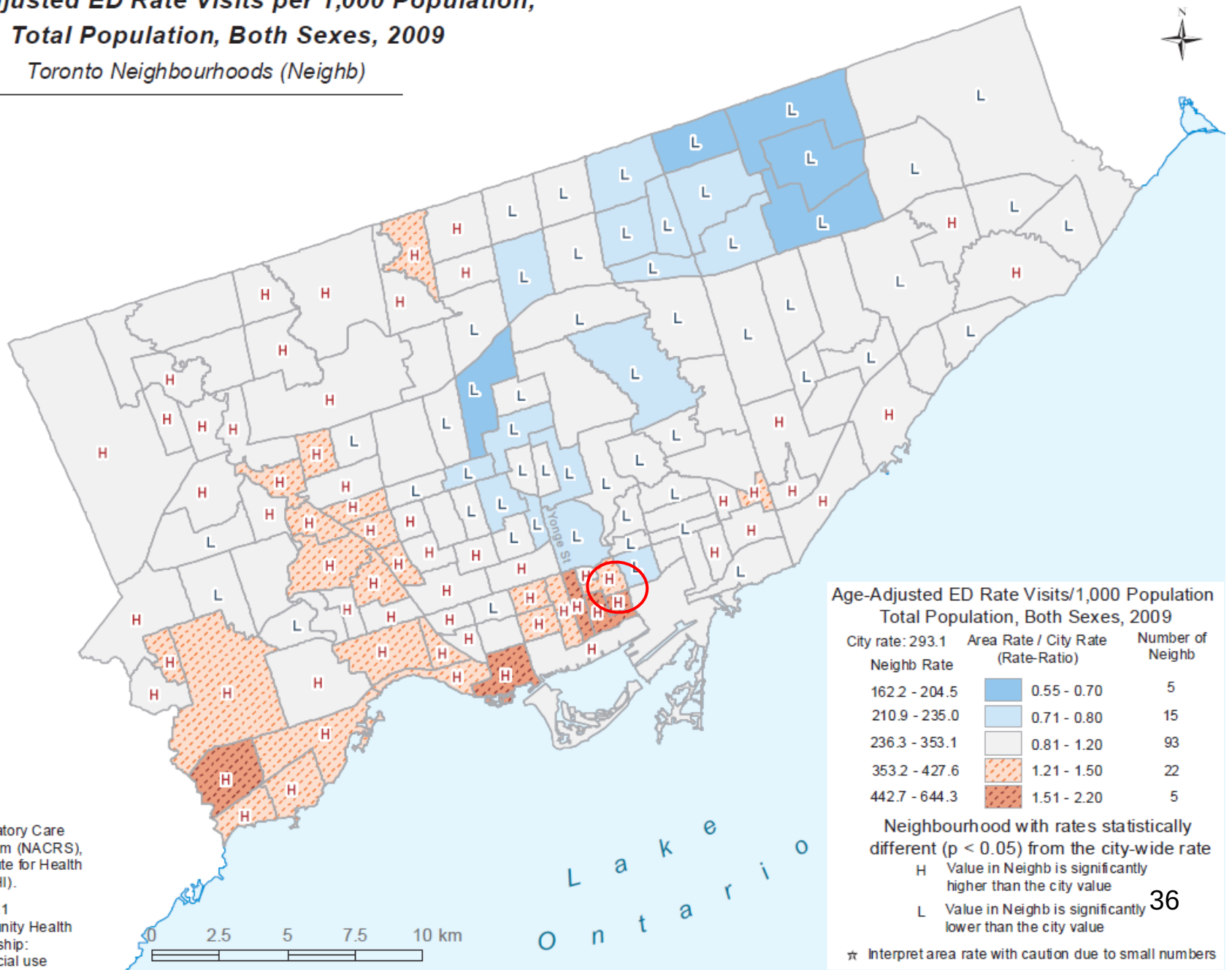
"Real world" Examples of how the data can be used for planning

Regent Park Analysis: Hospital ED Visits

- **Objective** - to assess patterns of Emergency Department visits/admissions to assist Regent Park CHC with strategic planning around access to primary care in the community.

Age-Adjusted ED Rate Visits per 1,000 Population, Total Population, Both Sexes, 2009

Toronto Neighbourhoods (Neighb)



Age-Adjusted ED Rate Visits/1,000 Population
Total Population, Both Sexes, 2009

City rate: 293.1 Neighb Rate	Area Rate / City Rate (Rate-Ratio)	Number of Neighb
162.2 - 204.5	0.55 - 0.70	5
210.9 - 235.0	0.71 - 0.80	15
236.3 - 353.1	0.81 - 1.20	93
353.2 - 427.6	1.21 - 1.50	22
442.7 - 644.3	1.51 - 2.20	5

Neighbourhood with rates statistically different ($p < 0.05$) from the city-wide rate

H Value in Neighb is significantly higher than the city value

L Value in Neighb is significantly lower than the city value

☆ Interpret area rate with caution due to small numbers

Data Sources:
National Ambulatory Care Reporting System (NACRS), Canadian Institute for Health Information (CIHI).

Regent Park Analysis: Hospital ED Visits

N72 – Regent Park Profile: Emergency Department Care

Indicators	City of Toronto			Toronto Central LHIN			Regent Park			
	Males	Females	Both sexes	Males	Females	Both sexes	Males (95% CI)	Females (95% CI)	Both sexes (95% CI)	Rate Ratio**
All Emergency Department (ED) visits (2009) ±										
Total Population										
# of ED visits	362,166	387,652	749,818	170,548	173,142	343,690	2,184	1,745	3,929	
Rate of ED visits per 1,000 population per year	301.9	299.8	300.8	325.8	310.5	317.9	425.7 (402.2-449.3)	334.0 (314.8-353.2)	379.4 (364.4-394.5)	1.26 H
Age-Adjusted rate of visits per 1,000 †	293.9	292.3	293.1	319.1	303.5	311.2	568.5 (364.6-772.4)	384.3 (367.7-400.9)	475.6 (465.5-485.7)	1.62 H
% of the population with one or more ED visits per year	18.9	19.0	18.9	19.5	19.2	19.3	22.1 (18.4-21.1)	19.8 (20.6-23.6)	20.9 (19.9-21.9)	1.11 H
Age-Adjusted % of the population with an ED visit †	19.2	19.3	19.2	19.0	19.5	19.3	23.6 (22.3-24.9)	22.2 (20.9-23.4)	23.0 (22.1-23.9)	1.20 H

- Hospital ED use significantly higher (62%) than Toronto average
- Numbers of visits and numbers of patients both higher
- Nearly a quarter (23%) of residents used the ED in 2009

Regent Park Analysis: Hospital ED Visits

N72 – Regent Park Profile: Emergency Department Care

Indicators	City of Toronto			Toronto Central LHIN			Regent Park			
	Males	Females	Both sexes	Males	Females	Both sexes	Males (95% CI)	Females (95% CI)	Both sexes (95% CI)	Rate Ratio**
All Emergency Department (ED) visits (2009) ±										
Population Age 0-4										
# of ED visits	36,999	28,846	65,845	15,132	11,909	27,041	197	188	385	
Rate of ED visits per 1,000 population per year	537.9	439.7	490.0	523.8	431.5	478.7	498.7 (449.4-548.0)	453.0 (405.1-500.9)	475.3 (440.9-509.7)	0.97 NS
% of the population with one or more ED visits per year	34.1	29.2	31.7	33.2	28.6	31.0	27.3 (21.3-33.4)	28.0 (22.0-33.9)	27.7 (23.4-31.9)	0.87 NS
Low Triage [a] Emergency Department (ED) visits (2009) ±										
Population Age 0-4										
# of ED visits	36,999	28,846	65,845	15,132	11,909	27,041	197	188	385	
# of Low Triage visits	10,135	8,471	18,606	4,310	3,726	8,036	66	78	144	
Ratio of low to high Triage visits	0.38	0.42	0.40	0.41	0.46	0.43	0.52 (0.38-0.66)	0.72 (0.53-0.90)	0.61 (0.50-0.72)	1.53 H
% of all ED visits that are Low Triage	27.4	29.4	28.3	28.5	31.3	29.7	33.5 (23.6-43.4)	41.5 (29.5-53.5)	37.4 (29.7-45.1)	1.32 H

- Hospital ED use for children not different from the Toronto average
- However, low triage visits are significantly higher (32%)

Regent Park Analysis: Hospital ED Visits

N72 – Regent Park Profile: Emergency Department Care

Indicators	City of Toronto			Toronto Central LHIN			Regent Park			
	Males	Females	Both sexes	Males	Females	Both sexes	Males (95% CI)	Females (95% CI)	Both sexes (95% CI)	Rate Ratio**
All Emergency Department (ED) visits (2009) ±										
Population Age 65-74										
# of ED visits	28,857	32,242	61,099	12,838	13,486	26,324	89	69	158	
Rate of ED visits per 1,000 population per year	357.2	328.5	341.5	404.3	352.3	375.9	659.3 (579.3-739.2)	475.9 (394.6-557.2)	564.3 (506.2-622.4)	1.65 H
% of the population with one or more ED visits per year	20.7	20.1	20.4	22.4	21.0	21.7	28.9 (18.1-39.6)	26.2 (16.5-35.9)	27.5 (20.3-34.7)	1.35 NS
Population Age 75+										
# of ED visits	43,187	61,793	104,980	17,504	25,792	43,296	54	67	121	
Rate of ED visits per 1,000 population per year	634.5	590.7	608.0	663.4	595.2	621.0	720.0 (618.4-821.6)	893.3 (823.5-963.2)	806.7 (743.5-869.9)	1.33 H
% of the population with one or more ED visits per year	34.1	33.4	33.7	34.8	33.1	33.7	37.3 (19.9-54.8)	45.3 (24.7-65.9)	41.3 (27.9-54.8)	1.23 NS

- Percent of seniors visiting the ED not different from Toronto average
- Proportion of visits that are low triage is not different (data not shown)
- However, the rate of visits are significantly higher (33-65% higher)

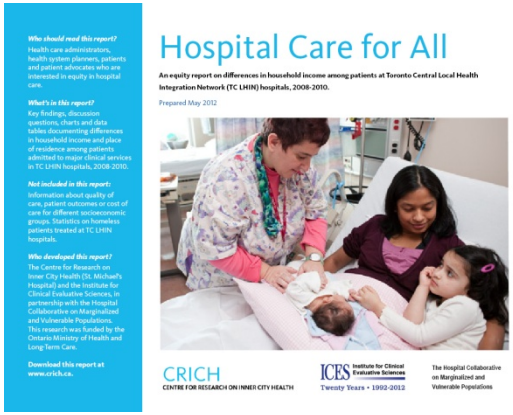
Regent Park Analysis: Hospital ED Visits

Selected Findings:

- Overall ED use higher in Regent Park
- Young children have similar rates of use, but a higher proportion of visits that could potentially be treated in the community
- # of seniors that use ED is similar, but repeat visits are common in this group and higher than the City average

Other Recent Examples:

- Hospital Care for All – an equity report



- St. James Town Health Access Initiative
- Top 5% High Users of Health Services

Ontario Marginalization Index (ON-Marg)

CENTRE FOR RESEARCH ON INNER CITY HEALTH
St. Michael's
Inspired Care. Inspiring Science.

RRASP
Réseau de recherche sur l'amélioration de la santé des populations

PHIRN
Population Health Improvement Research Network

McMaster University
SOCIAL SCIENCES

crunch
Chair in Research on Urban Neighbourhoods, Community Health & Housing

Social Sciences and Humanities Research Council of Canada

Conseil de recherches en sciences humaines du Canada

Canada

Area-Based Measures

- Usually based on aggregated personal information (e.g. from the census)
- Assumed to be capturing group characteristics that are more than the sum of individual characteristics

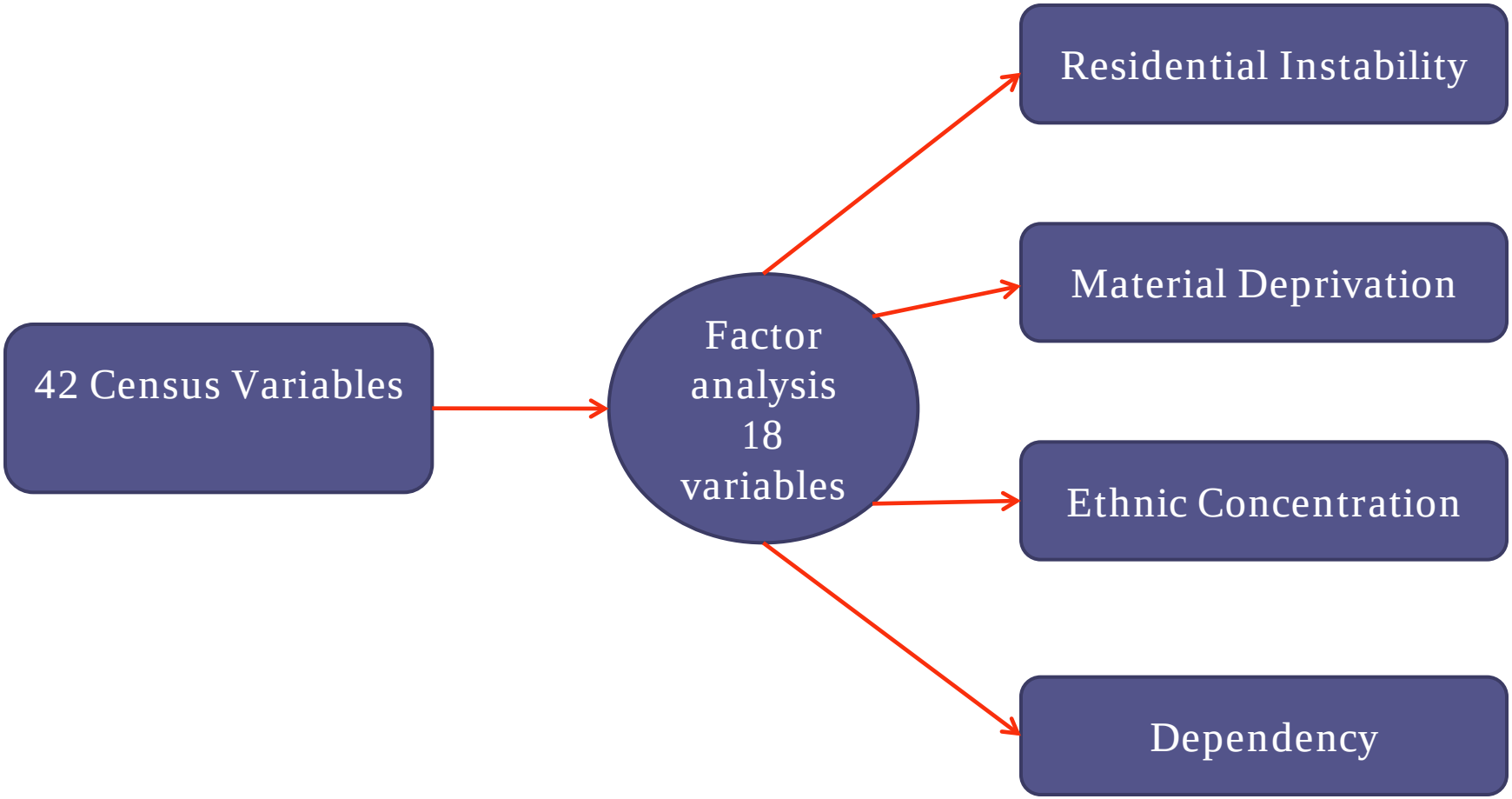
Purpose of ON-Marg

- To show differences in marginalization between areas
- To understand inequities in various measures of *health and social well-being*, either between population groups or between geographical areas

Creating ON-Marg

- Census-based, geographically derived index
- Developed originally as CAN-Marg in 2001 with census tracts (urban areas)
- 42 census measures used in principal components factor analysis
- Measures with low factor loadings were removed on an iterative basis
- Four factors emerged with 18 CT measures
- Validated

Dimensions of ON-Marg



Dimensions and Census Indicators

Residential Instability	Material Deprivation	Dependency	Ethnic Concentration^
Proportion of the population living alone Proportion of the population who are non -youth (16+)* Crowding - average number of persons per dwelling* Proportion of dwellings that are apartment buildings Proportion of the population that is single/ divorced/ widowed* Proportion of dwellings that are not owned* Proportion of the population who moved within the past 5 years	Proportion of the population aged 20+ without a high-school diploma ** Proportion of families who are single parent families Proportion of the population receiving government transfer payments Proportion of the population 15+ who are unemployed Proportion of households that are low-income** Proportion of households living in dwellings that are in need of major repair	Proportion of the population who are aged 65 and older Dependency ratio (total population 0-14 and 65+/total population 15-64) Proportion of the population not participating in labour force (15+)	Proportion of the population who are recent immigrants (5yr) Proportion of the population who self-identified as visible minority

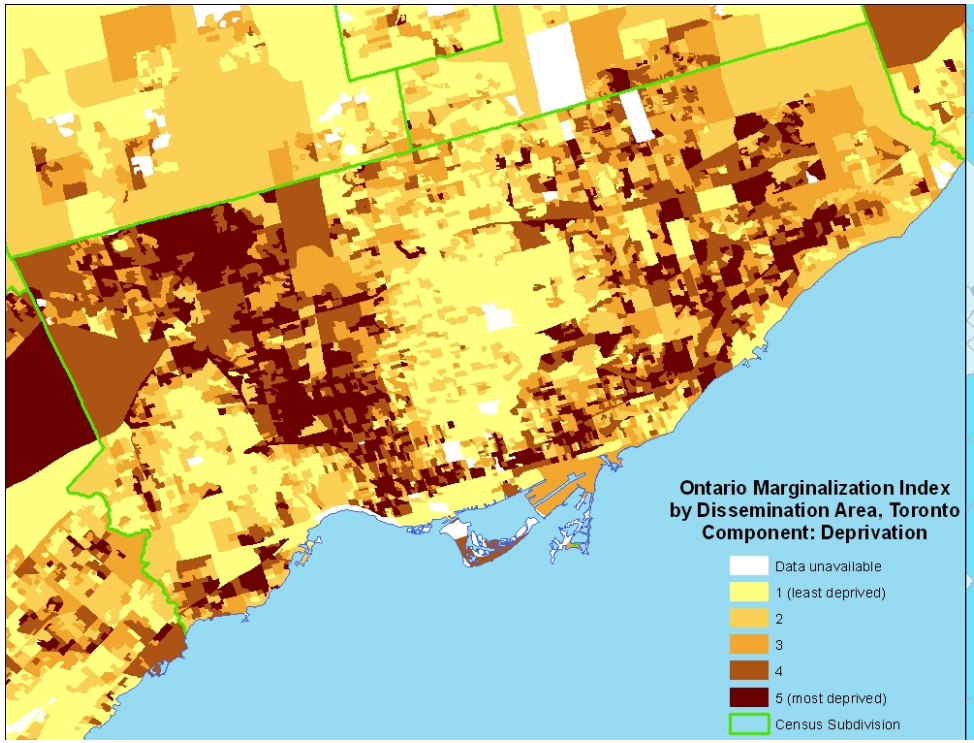
Using ON-Marg

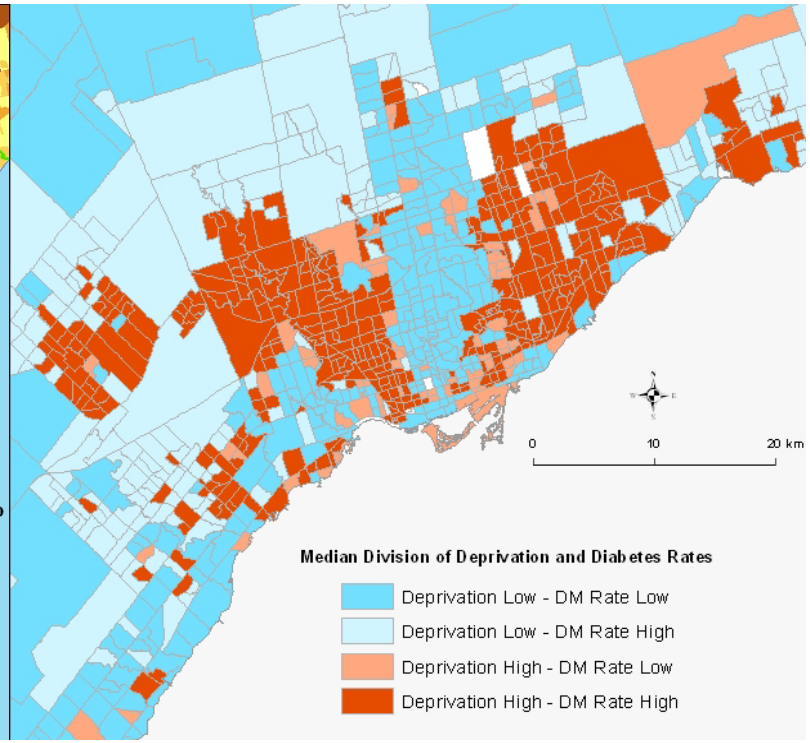
- Each dimension represents a *separate index* with a standardized factor score for each area
  - E.g. the material deprivation index ranges from a score of -2 (low deprivation) to +6 (high deprivation)

- Each dimension/index is also available in quintiles
  - Q1 represents least deprived and Q5 the most deprived

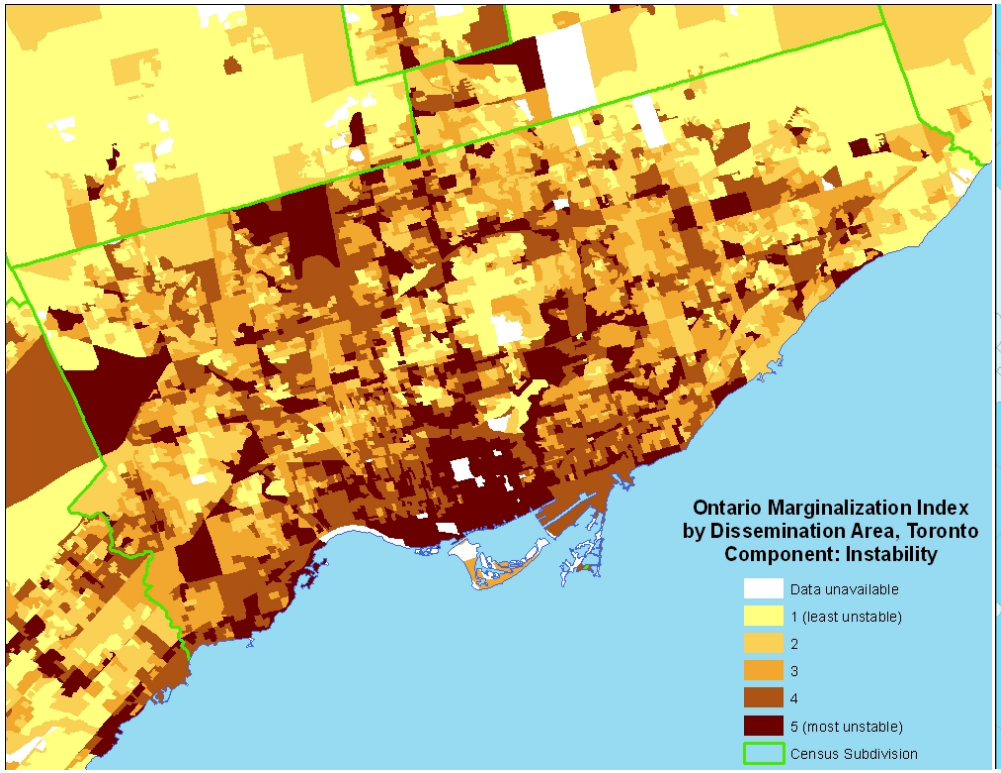
ON-Marg is available for public health units, sub-LHINs, LHINs, census divisions, census sub-divisions, and consolidated municipal service manager areas.

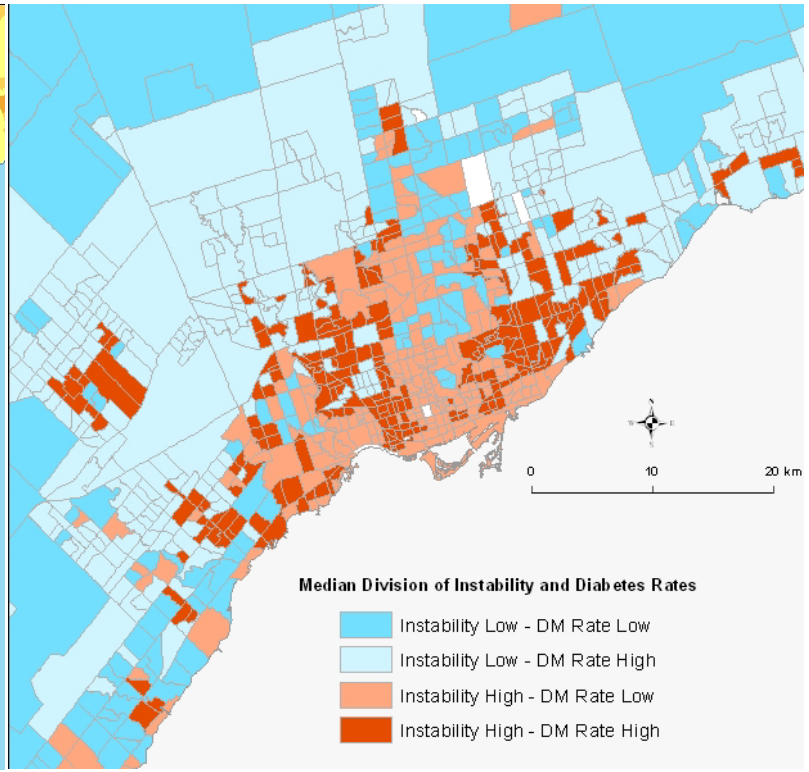
Deprivation in Toronto (DAs)



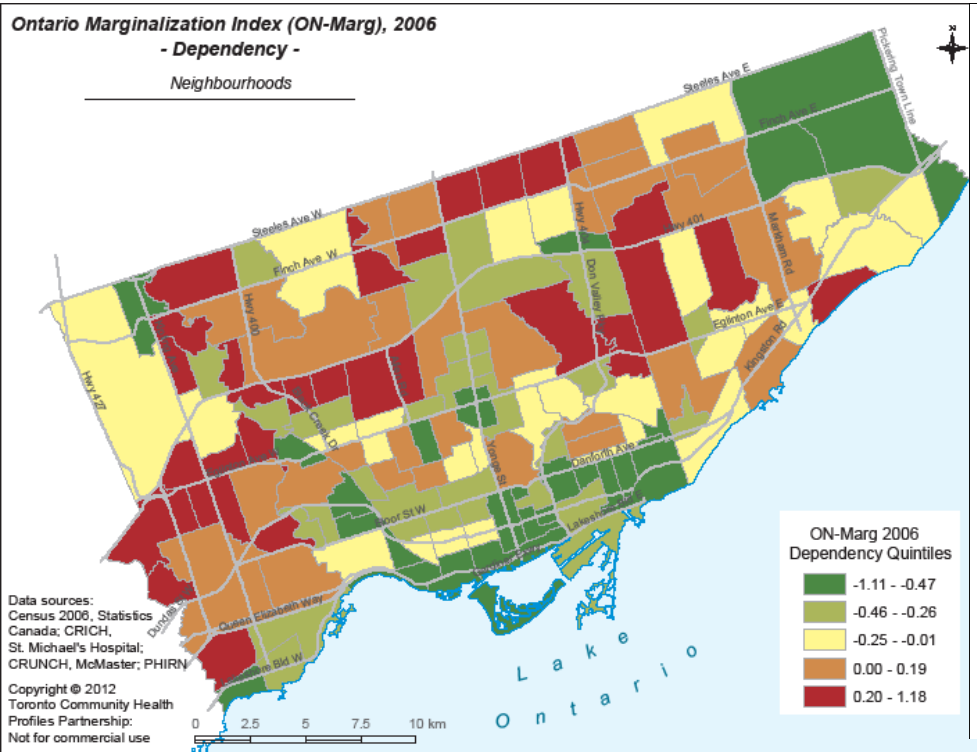


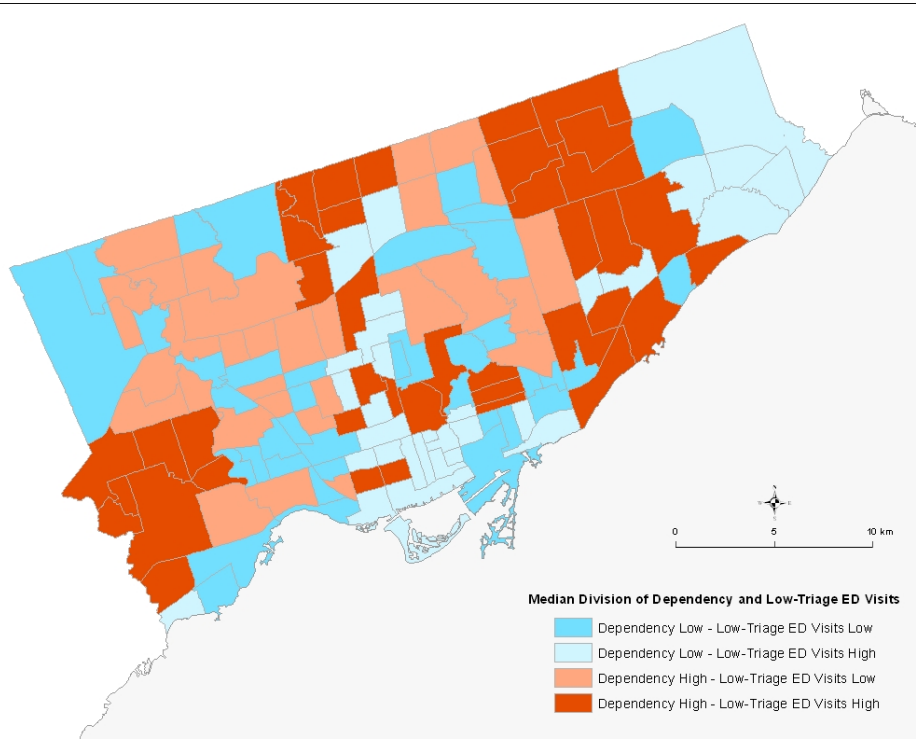
Instability in Toronto (DAs)



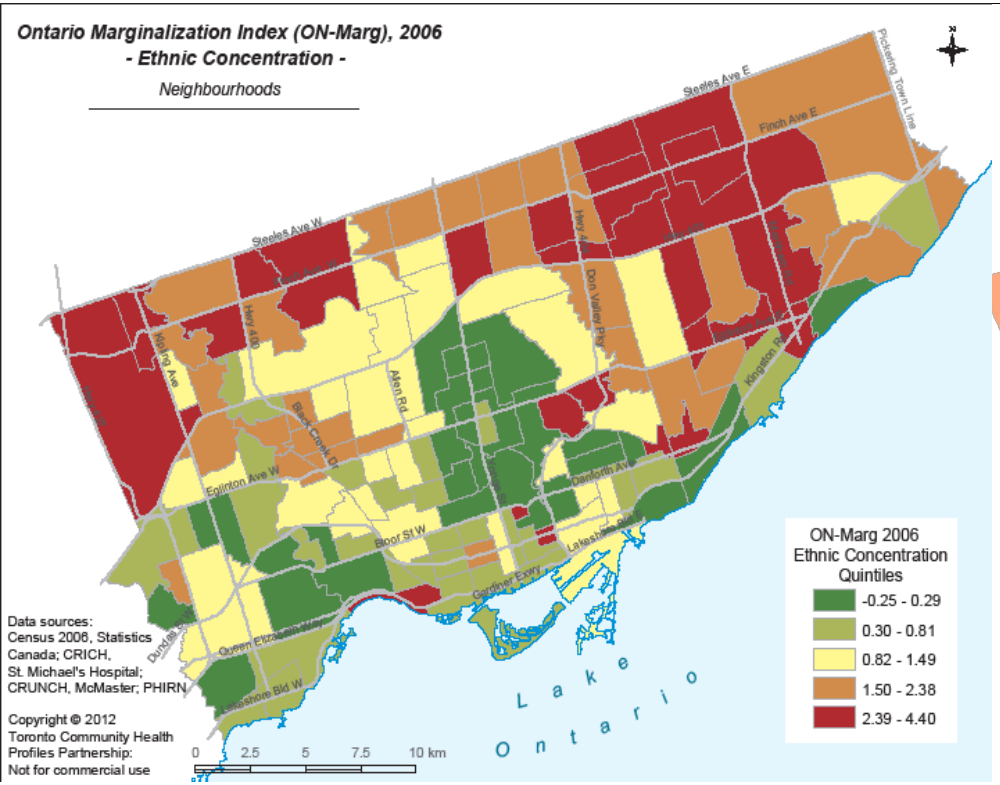


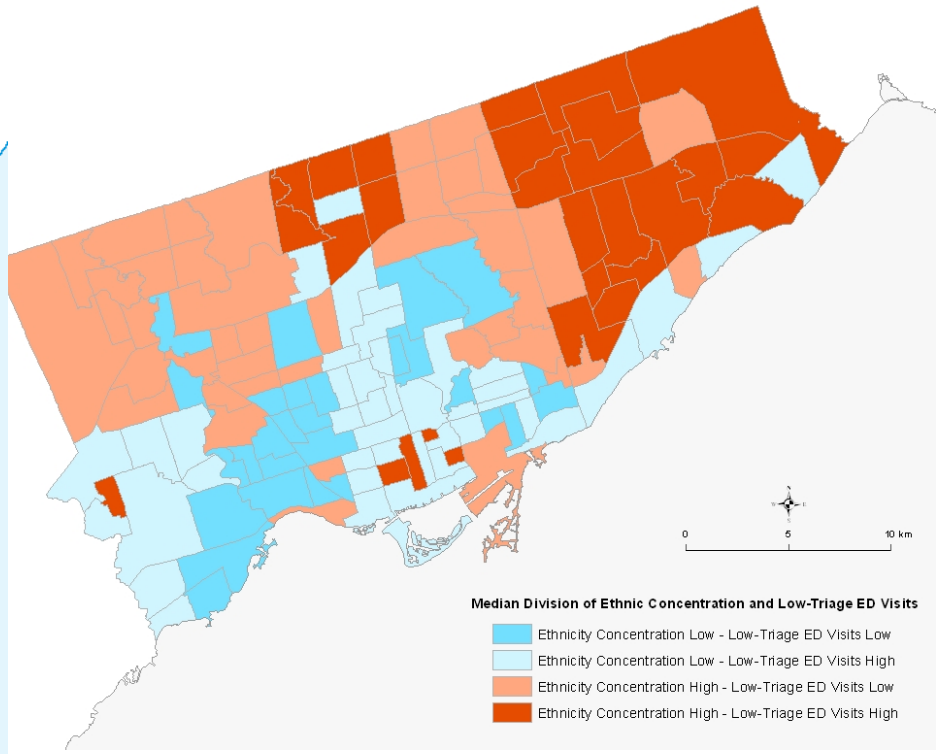
Dependency in Toronto (Neighbourhoods)





Ethnic concentration (Neighbourhoods)





Potential Uses of the ONMarg

1. Planning and needs assessment
2. Monitoring inequities
3. Resource allocation
4. Advocacy
5. Research

- *The benefit to ON-Marg is that it allows comparability across studies in Ontario*

Questions?
Comments?

www.torontohealthprofiles.ca

Workshop

1) Please find a seat (you can sit with a partner)
2) Please go to the url:

www.torontohealthprofiles.ca

3) Quick website refresher: walk-through together

www.torontohealthprofiles.ca

Workshop Exercise Summary:

- How does your neighbourhood **compare** with the city of Toronto average?
  - For your socio-demographic characteristic?
  - For your health outcome?
- Do these **patterns** suggest a relationship?
- What are **differences and similarities** between your neighbourhood and the neighbourhood with higher / lower rates of the health outcome?