



Public Health
Agency of Canada

Agence de la santé
publique du Canada

Canada

Measuring and Monitoring Health Inequalities in Canada: The Pan-Canadian Health Inequalities Reporting Initiative Data Tool

Health Promotion Ontario Conference
Toronto, ON
November 22nd, 2018

Shermeen Farooqi, MPH
Analyst, Public Health Agency of Canada
Ontario Region

PROTECTING AND EMPOWERING CANADIANS
TO IMPROVE THEIR HEALTH



Objectives

- Acquire an overview of the Health Inequalities Data Tool
- Learn how to interpret measures of inequality used in the Data Tool
- Acquire an understanding of how the Data Tool can be used in health promotion work, including program planning, evaluation, and policy development and analysis
- Through a hands-on, interactive 20 minute case study, learn how to use the Data Tool to access and interpret health inequalities data relevant to priority health issues and population groups in Ontario

Health Inequalities

Health inequalities refer to **differences in health status between groups in society**

These differences can be due to biological factors, individual choices, or chance.....

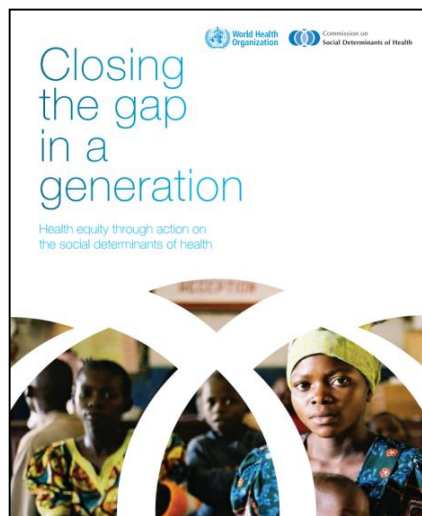
But public health evidence suggests that many health inequalities are attributable to the **unequal distribution** of the **social and economic factors** that influence health (e.g. income, education, employment, social supports)

When Health Inequalities are unjust, unfair and avoidable, we call them “Health Inequities”

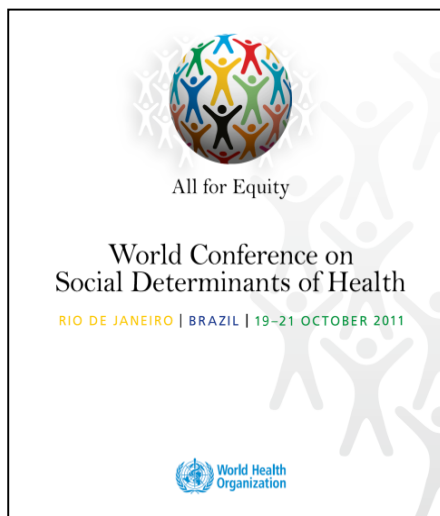


Measuring, monitoring, and reporting on health inequities: a global call-to-action

2008



2011



2015



In order to redress the legacy of residential schools and advance the process of Canadian reconciliation, the Truth and Reconciliation Commission makes the following calls to action...



BOX 16.3: TOWARDS A COMPREHENSIVE NATIONAL HEALTH EQUITY SURVEILLANCE FRAMEWORK

HEALTH INEQUITIES
Include information on:
health outcomes stratified by:
- sex
- at least two socioeconomic strata (education, income/wealth, occupational class)
- ethnic group/race/Indigeneity

physical and social environment:
- water and sanitation;
- housing conditions;
- infrastructure, transport, and urban design;
- air quality;
- social capital;
working conditions

152 We pledge to:

(i) Establish, strengthen and maintain monitoring systems that provide disaggregated data to assess inequities in health outcomes as well as in allocations and use of resources;

(ii) Develop and implement robust, evidence-based, reliable measures of health equity indicators and tools

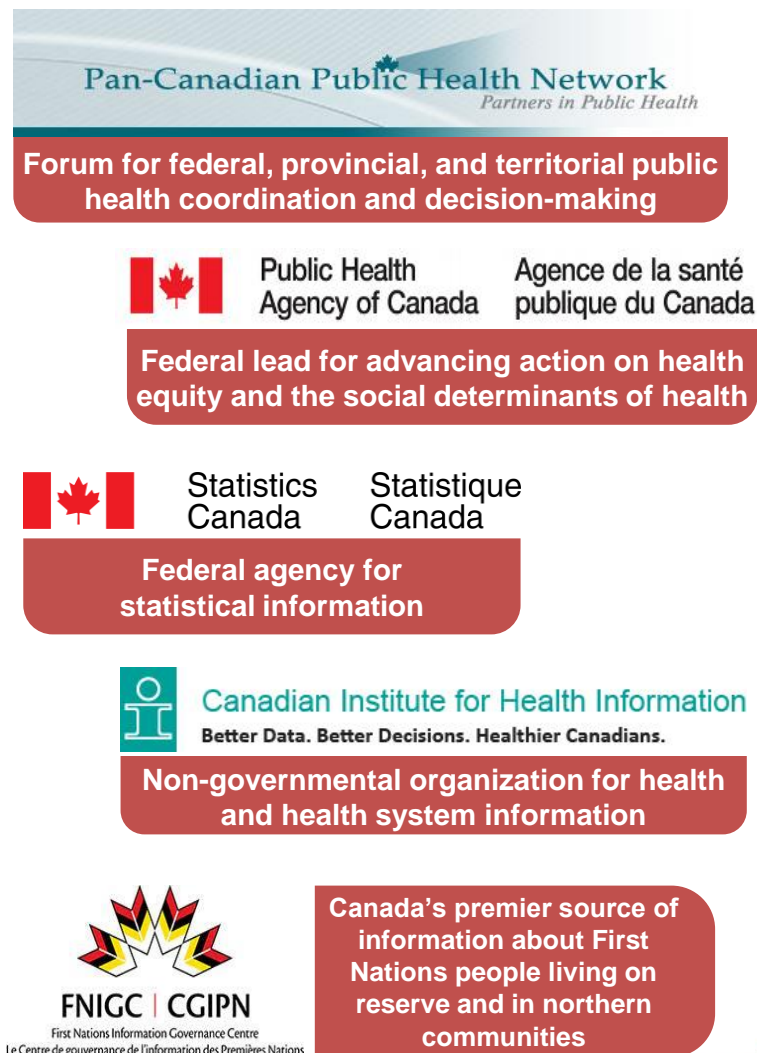
Measuring, monitoring, and reporting on health inequities: Canadian drivers



AGENCY PLAN TO ADVANCE HEALTH EQUITY
(2013-2016)

Joint Federal/Provincial/Territorial Response

- Objective: To strengthen knowledge and action on health inequalities in Canada through improved data infrastructure and reporting
- Collaborative initiative between federal, provincial, and territorial governments
- Allows us to measure and monitor health inequalities that inform efforts to reduce health inequities to advance health equity



Pan-Canadian Health Inequalities Reporting Initiative: Data Sources and Custodians



- Canadian Community Health Survey
- Vital Statistics databases
- Canadian Cancer Registry
- Census data
- National Household Survey
- Canadian Health Measures Survey
- Canadian Survey on Disability
- Survey of Young Canadians
- Employment Insurance Coverage Survey



- Canadian Tuberculosis Reporting System
- National HIV/AIDS Surveillance System



- Early Development Instrument



- Hospital Mental Health Database



- First Nations Regional Health Survey

Two Key Products of our Initiative

Pan-Canadian Health Inequalities Reporting Initiative

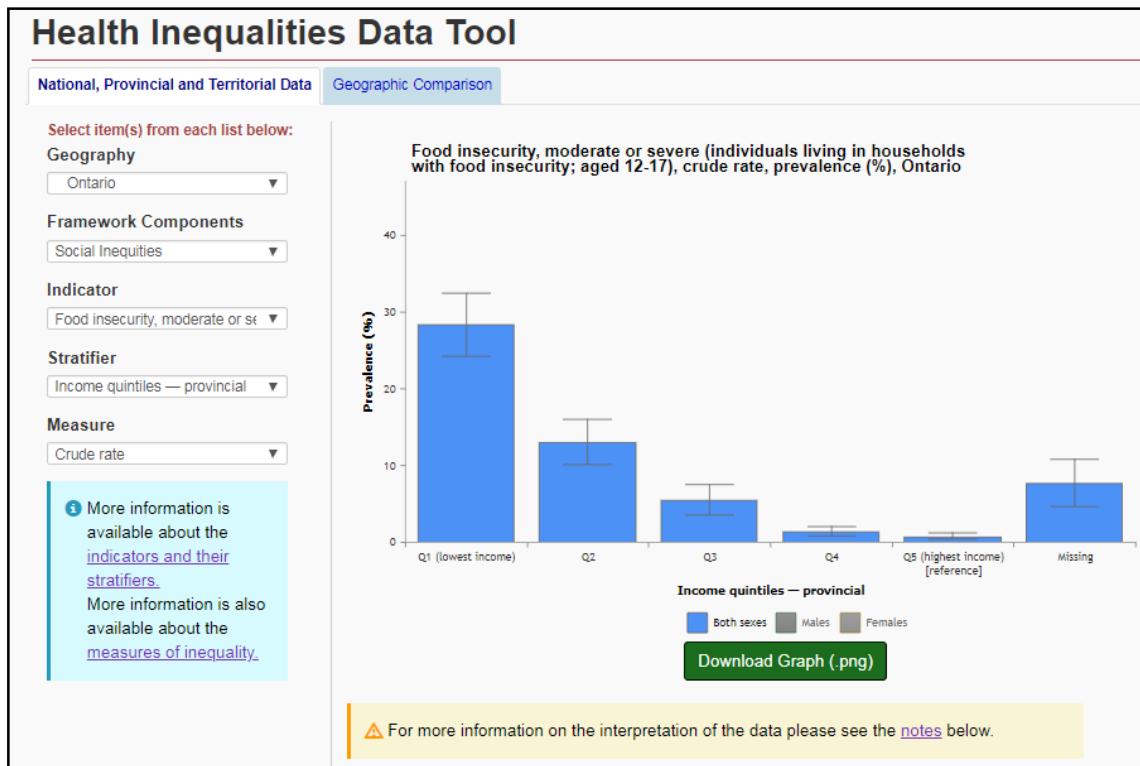
Key Health Inequalities in Canada

A National Portrait



Public Health Agency of Canada
Agence de la santé publique du Canada

Pan-Canadian Public Health Network
Réseau de santé publique



Our Scope and Approach

Data for
OVER 70 HEALTH INDICATORS
from 14 national data sources...

HEALTH STATUS

Including indicators for:

- Mortality & life expectancy
- Morbidity & disability
- Mental illness & suicide
- Perceived physical & mental health
- Infectious & chronic diseases

HEALTH DETERMINANTS

Including indicators for:

- Health behaviours
- Physical & social environments
- Working conditions
- Access to health care
- Social protection
- Social inequities
- Early childhood development

...disaggregated by each of
14 SOCIAL AND DEMOGRAPHIC STRATIFIERS
meaningful to health equity.*

SOCIO-ECONOMIC STATUS

1. Income
2. Education
3. Employment
4. Occupation
5. Material & social deprivation

6. INDIGENOUS PEOPLES

- First Nations
- Inuit
- Métis

PLACE OF RESIDENCE

7. Urban/rural

POPULATION GROUP

8. Age
9. Immigrant status
10. Sexual orientation
11. Functional health
12. Cultural/racial background

13. SEX: Male or Female

14. JURISDICTION: National or Provincial/Territorial

* Where data allow

Key contribution: enhanced analytical capacity to support policy and planning

- Access to data and related reporting products can strengthen action on health inequalities by addressing three types of questions:

1

For a given health issue, where are the greatest inequalities?

E.g.

Indicators for **mental health and illness** can help to assess whether inequalities are most pronounced by income, cultural/racial background, Indigenous identity, sexual orientation, age, etc.

2

For which health issue(s) do vulnerable populations experience the greatest inequalities?

E.g.

Examining inequalities data for **Indigenous peoples** or **children** can help to direct program and research resources to the health issues for which they experience the most disproportionate risk

3

How can public health research, programs and services better address health inequalities?

E.g.

Access to data can facilitate health equity integration by:

- Improving **policy, program, and planning** decisions
- Prioritizing **science, intervention research, and surveillance** investments
- Supporting **program evaluation**, including relevance and effectiveness for vulnerable populations
- Enabling **monitoring of progress** in reducing health inequalities

<https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/science-research/key-health-inequalities-canada-national-portrait-executive-summary/hir-full-report-eng.pdf>

KEY HEALTH INEQUALITIES IN CANADA: A NATIONAL PORTRAIT

The Report



- National results for 22 key indicators of health status and determinants of health
 - Cover downstream health outcomes and upstream determinants of health
 - Approved at federal/provincial/territorial levels for monitoring over time
- Highlight some of the most pronounced and widespread health inequalities in Canada
- Partnership with FNIGC

<https://infobase.phac-aspc.gc.ca/health-inequalities/>

HEALTH INEQUALITIES DATA TOOL (HIDT)

Accessing the Health Inequalities Data Tool

1. Direct link:

<https://infobase.phac-aspc.gc.ca/health-inequalities/>

2. Public Health Infobase - PHAC:

<https://infobase.phac-aspc.gc.ca/>

Data Tools

The Data Tools help users visualize public health data through simple drop-down menus. Users can access geographic comparisons, trends, age distributions, and disaggregated data layered by socioeconomic and sociodemographic variables.

Search the Data Tools:

Sort search results by:



Canadian Chronic Disease Surveillance System (CCDSS)

The Canadian Chronic Disease Surveillance System (CCDSS) Data Tool is a collaborative network of provincial and territorial surveillance systems supported by the Public Health Agency of Canada (PHAC). Each province/territory submits aggregate administrative data with which PHAC calculates the incidence and prevalence of chronic conditions in Canada.



Health Inequalities

The Health Inequalities Data Tool supports Canada's domestic and international commitments to measure and monitor health inequalities. This tool contains data on indicators of health outcomes and health determinants, stratified by a range of social and economic characteristics meaningful to health equity. It identifies where health inequalities exist across different groups at national and provincial/territorial levels, and the magnitude of inequalities.



Data Cubes

Data Cubes allow users to create tables and graphs. These online analytical processing cubes produce outputs displayed in a table format with a corresponding graph.

3. Through a web search engine

Health Inequalities | Public Health Infobase - Canada.ca

<https://infobase.phac-aspc.gc.ca/health-inequalities/> ▼

Sep 13, 2017 - The Health Inequalities Data Tool contains data on indicators of health status and health determinants, stratified by a range of social and ...

Components

HOMEPAGE



Government of Canada / Gouvernement du Canada

Search Canada.ca

Jobs Immigration Travel Business Benefits Health Taxes More services

Home → Health → Science, research & data → Public Health Infobase → Data Tools → Health Inequalities

Health Inequalities Data Tool

Health inequalities refer to differences in health status between groups in society. These differences can be due to biological factors, individual choices, or chance, but public health evidence suggests that many are attributable to the unequal distribution of the social and economic factors that influence health (e.g. income, education, employment, social supports) and exposure to societal conditions and environments largely beyond the control of the individuals concerned.

In 2012, Canada, along with other World Health Organization (WHO) Member States, endorsed the Rio Political Declaration on Social Determinants of Health, pledging to take action to promote health equity (defined by the WHO as "the absence of avoidable or remediable differences among groups of people"). Strengthening the capacity to monitor and report on health inequalities was recognized as a critical foundation for achieving meaningful progress towards this goal.

The Health Inequalities Data Tool supports Canada's pledges under the Rio Declaration. This resource is a collaborative effort of the Public Health Agency of Canada, the Pan-Canadian Public Health Network (PHN), Statistics Canada, and the Canadian Institute for Health Information, and builds on a [set of indicators of health inequalities](#) proposed by the PHN in 2010.

The Health Inequalities Data Tool contains data on indicators of health status and health determinants, stratified by a range of social and economic characteristics (i.e. social stratifiers) meaningful to health equity. Indicators are grouped into twelve framework components.

[Map of Available Indicators \(pdf document\)](#)

[Go to the Health Inequality Data](#)

[Expand All](#) [Collapse All](#)

More Information

For more information about each indicator, click on the framework components below:

Health Status

a) Mortality and Life Expectancy



DATA



The Health Inequalities Data Tool (Infobase.phac-aspc.gc.ca/HealthInequalities)

PUBLIC ACCESS

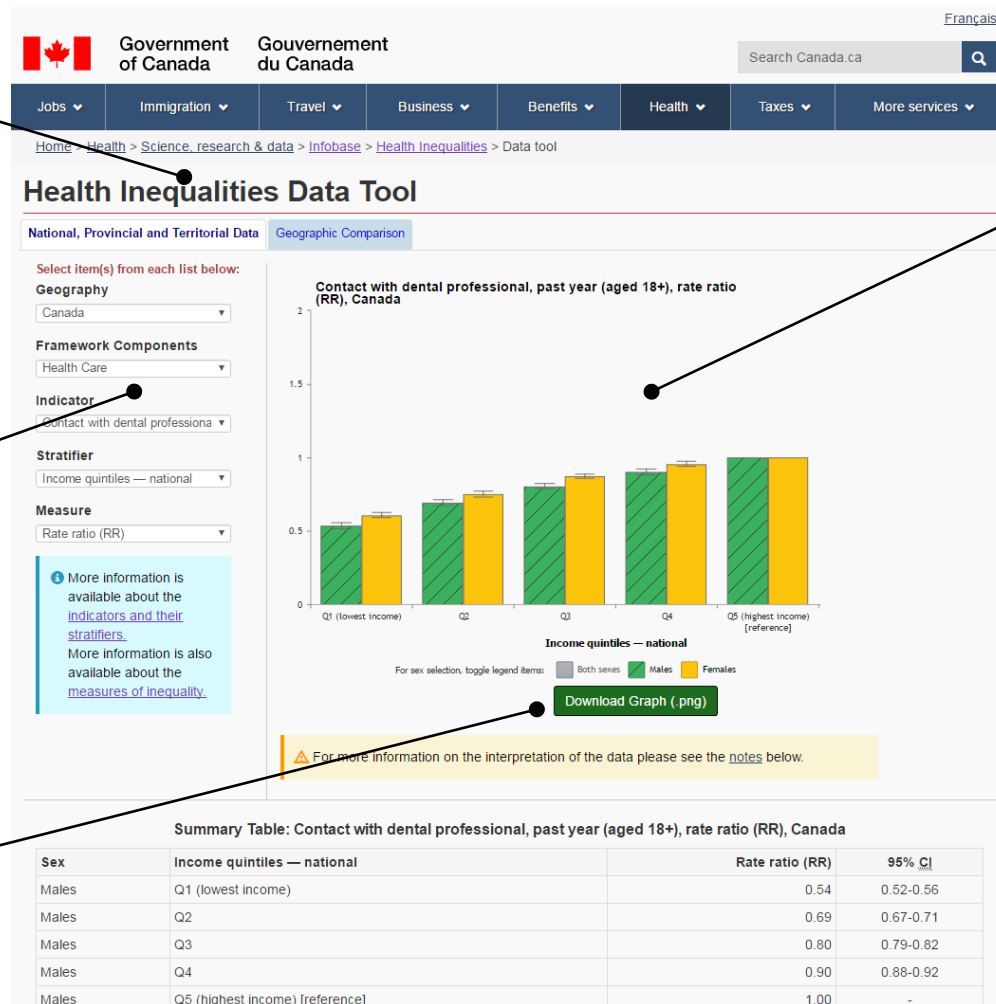
Hosted on PHAC's online data platform, *Public Health Infobase*

USER-FRIENDLY

Retrieve, visualize, and explore the data by topic and population of interest using easy-to-navigate menus

OPEN CONTENT

Data and charts can be downloaded for further dissemination



BETTER POLICY AND PROGRAM DECISIONS

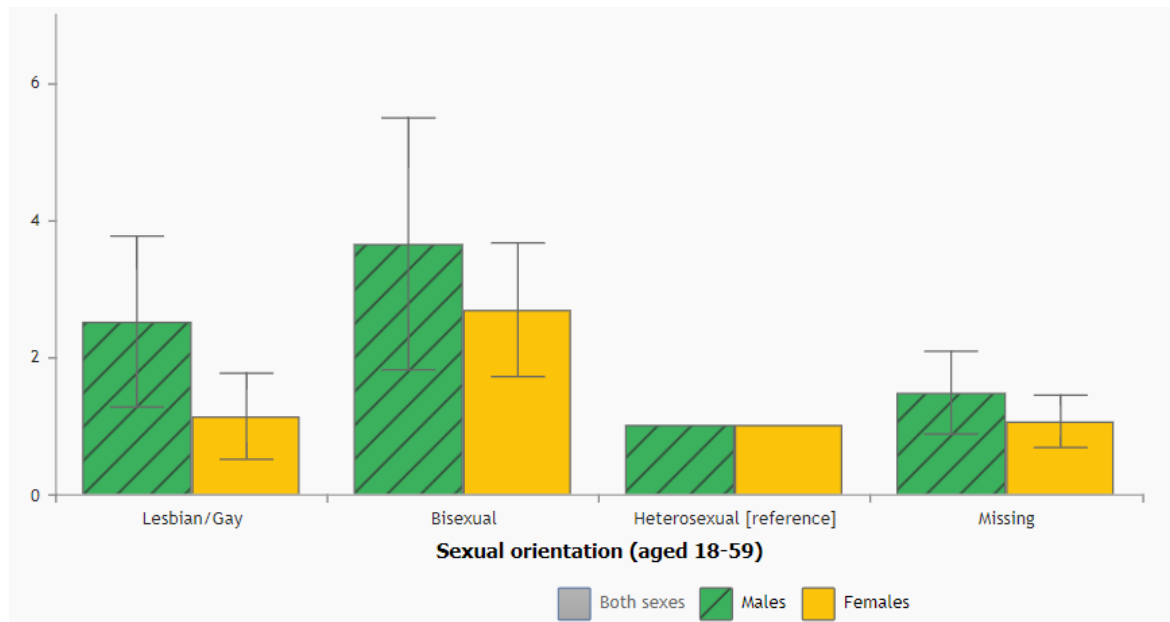
Disaggregated health data can help policy-makers and program officials to:

- identify those most affected by a health issue, and
- direct resources at the health issues for which different groups experience the most disproportionate risk

Includes relative measures of inequality (e.g. Rate Ratio)...

PERCEIVED MENTAL HEALTH (FAIR OR POOR) BY SEXUAL ORIENTATION

Rate ratio, aged 18-59, Ontario, 2010-2013



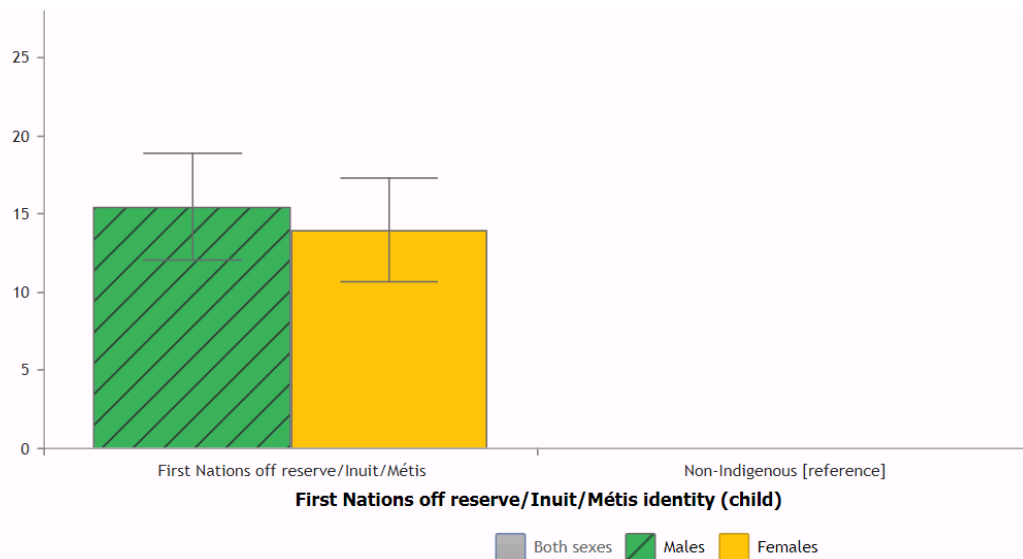
Low self-rated mental health is **3.65 times higher among Ontarian men who identify as bisexual** than among Ontarian men who identify as heterosexual

Source: Pan-Canadian Health Inequalities Data Tool, 2017 Edition. A joint initiative of the Public Health Agency of Canada, the Pan-Canadian Public Health Network, Statistics Canada and the Canadian Institute of Health Information. Data from the Canadian Community Health Survey - Annual Component (2010-2013).

...And absolute measures of inequality (e.g. proportion (%) difference)

KINDERGARTEN CHILDREN VULNERABLE IN AT LEAST ONE DOMAIN OF EARLY DEVELOPMENT BY INDIGENOUS IDENTITY

Proportion (%) difference, Ontario, 2011-12



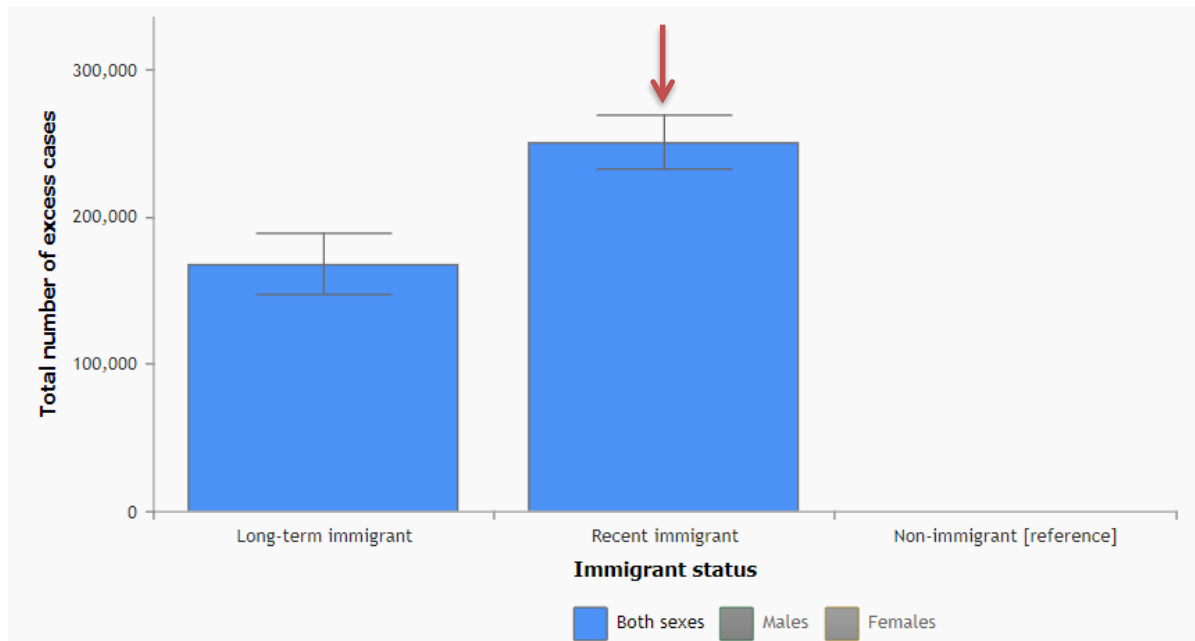
The proportion of children vulnerable in at least one domain of early development is **15.4 percentage points higher among Indigenous boys in Ontario** compared to non-Indigenous boys in Ontario

Source: Pan-Canadian Health Inequalities Data Tool, 2017 Edition. A joint initiative of the Public Health Agency of Canada, The Pan-Canadian Public Health Network, Statistics Canada and the Canadian Institute of Health Information. Data from Early Development Instrument (McMaster University, Offord Centre for Child Studies; PE 2007/08; NB 2008/09; BC, MB, SK 2010/11; NT, ON, QC, YT 2011/12)

Also available: measures that illustrate the magnitude of inequality in population terms (e.g. population impact number)

HOUSING BELOW STANDARDS BY IMMIGRANT STATUS


Population impact number (total number of excess cases), Ontario, 2011



If recent immigrants in Ontario had the same rate of housing below standards as non-immigrants, there would be **250,497 fewer Ontarians experiencing housing below standards**

Source: Pan-Canadian Health Inequalities Data Tool, 2017 Edition. A joint initiative of the Public Health Agency of Canada, the Pan-Canadian Public Health Network, Statistics Canada and the Canadian Institute of Health Information. Data from the National Household Survey (2011)

Summary Measures

- Numerator
 - Crude rate
 - Age-adjusted rate
 - Rate ratio
 - Rate difference
 - Attributable fraction
 - Population attributable fraction
 - Population attributable rate
 - Population impact number
- 
- Descriptive measures
(describe population)
- Effect measures
(magnitude of the inequality between
2 population groups)
- Population impact measures
(impact of the inequality on
total population)

Measures of Inequality

- **Effect measures** – Estimate the magnitude of the inequality between two population groups
 - Rate Ratio (Relative inequality)
 - Rate Difference (Absolute inequality)
 - Attributable Fraction (Percent rate reduction in a sub-population)
- **Population Impact Measures** - Estimate the impact of the magnitude of the inequality between two population groups within the total population
 - Population Attributable Rate (Absolute rate reduction in the total population)
 - Population Attributable Fraction (Percent rate reduction in the total population)
 - Population Impact Number (Absolute number of cases reduced in the total population)

Health Inequalities Data Tool:

LIVE DEMO

Health Inequalities Data Tool:

CASE STUDY

The Scenario

Scenario:

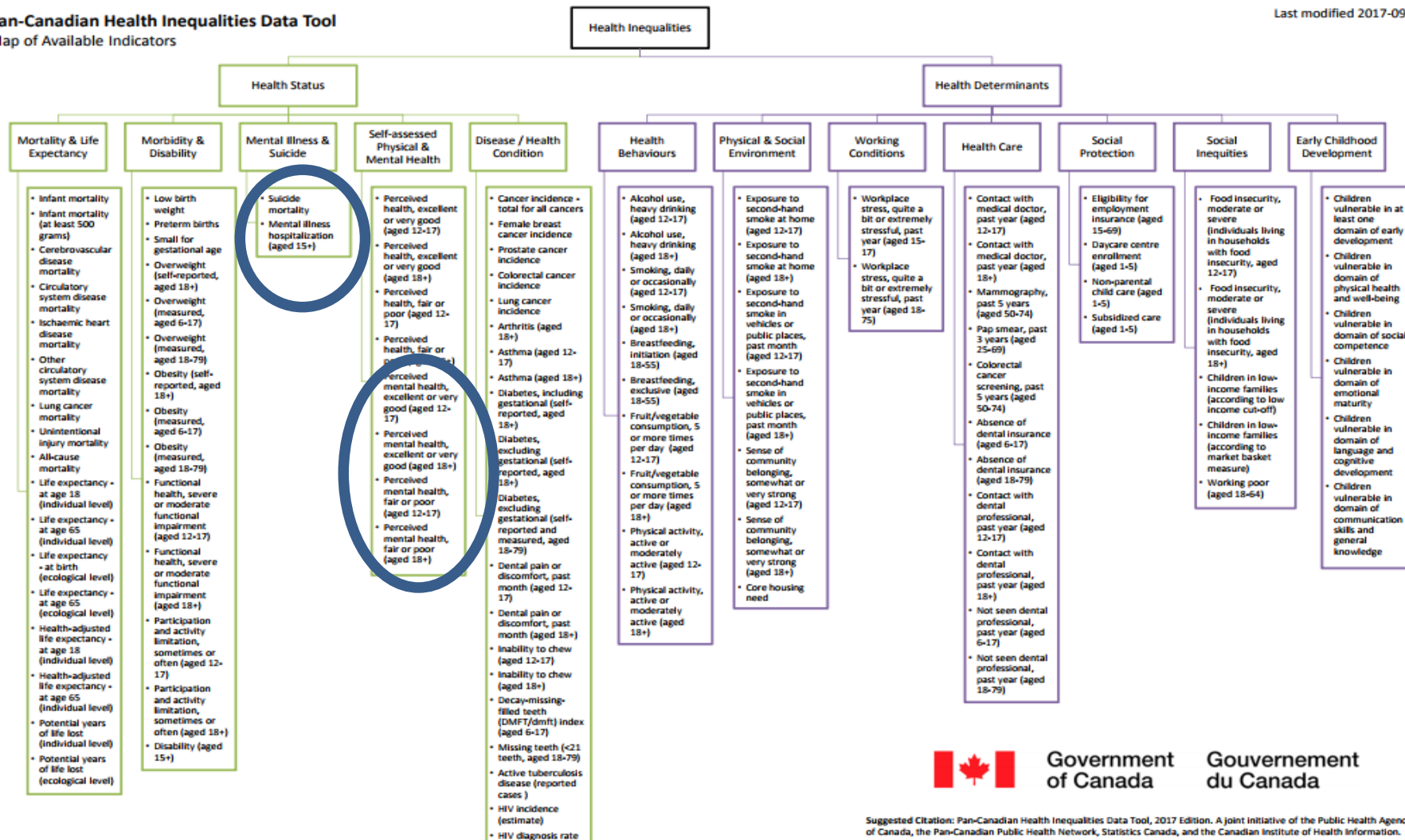
Your organization has received funding to start a health promotion program to address inequalities in mental illness.

Your Executive Director has tasked you with preparing a briefing note to inform her about inequalities in mental illness in Ontario.

Indicators

Pan-Canadian Health Inequalities Data Tool Map of Available Indicators

Last modified 2017-09-14



Possible Indicators

- Suicide mortality
- Mental illness hospitalizations (aged 15+)
- Perceived mental health, excellent or very good (aged 12-17)
- Perceived mental health, excellent or very good (aged 18+)
- Perceived mental health, fair or poor (aged 12-17)
- Perceived mental health, fair or poor (aged 18+)

Possible Stratifiers

Age group

Deprivation index quintiles - material & social (regional version) (area-based measure)

Deprivation index quintiles - material (regional version) (area-based measure)

Deprivation index quintiles - social (regional version) (area-based measure)

Education quintiles (area-based measure)

First Nations/Inuit/Métis identity (area-based measure)

Geography

Immigrant status terciles (area-based measure)

Income quintiles (area-based measure)

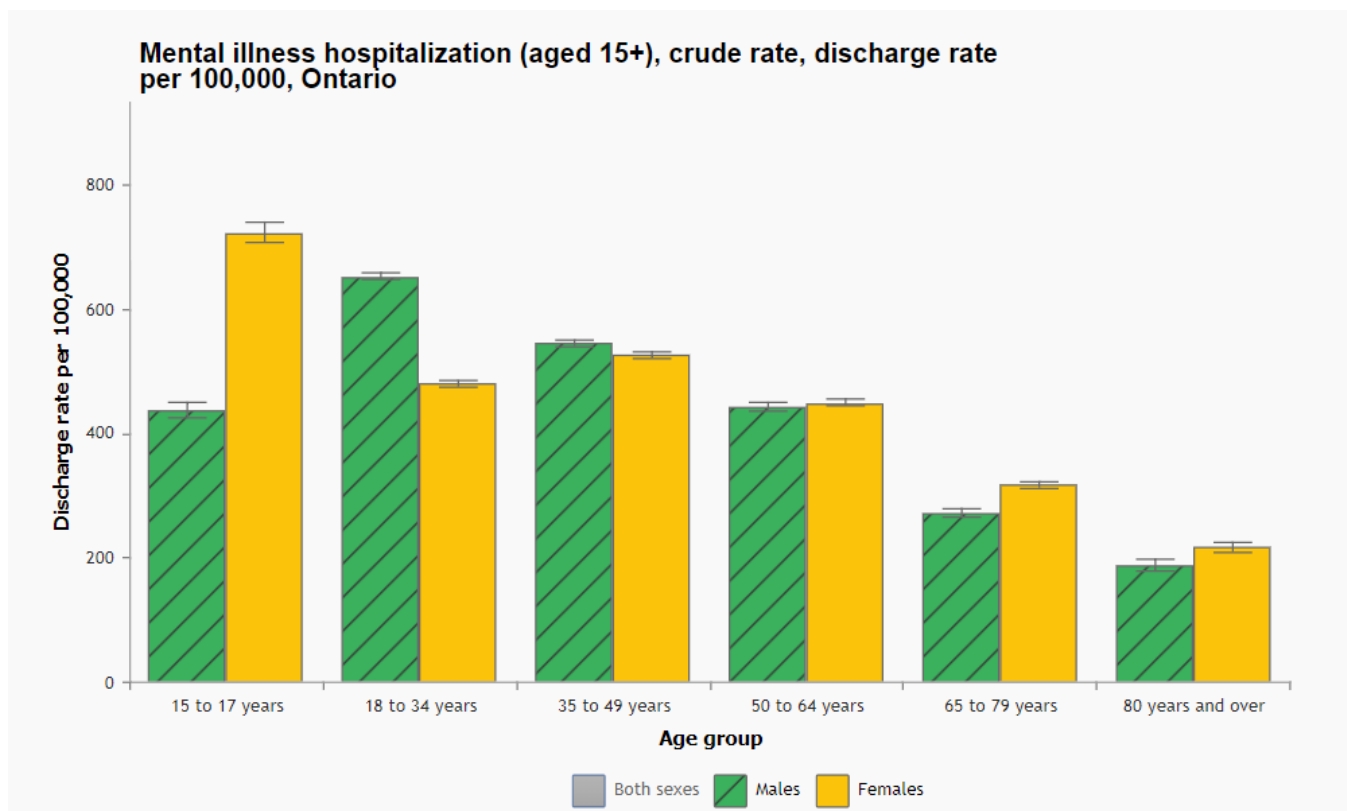
Predominant First Nations/Inuit/Métis group (area-based measure)

Rural/urban geography

Rural/urban geography (dichotomous)

Sex

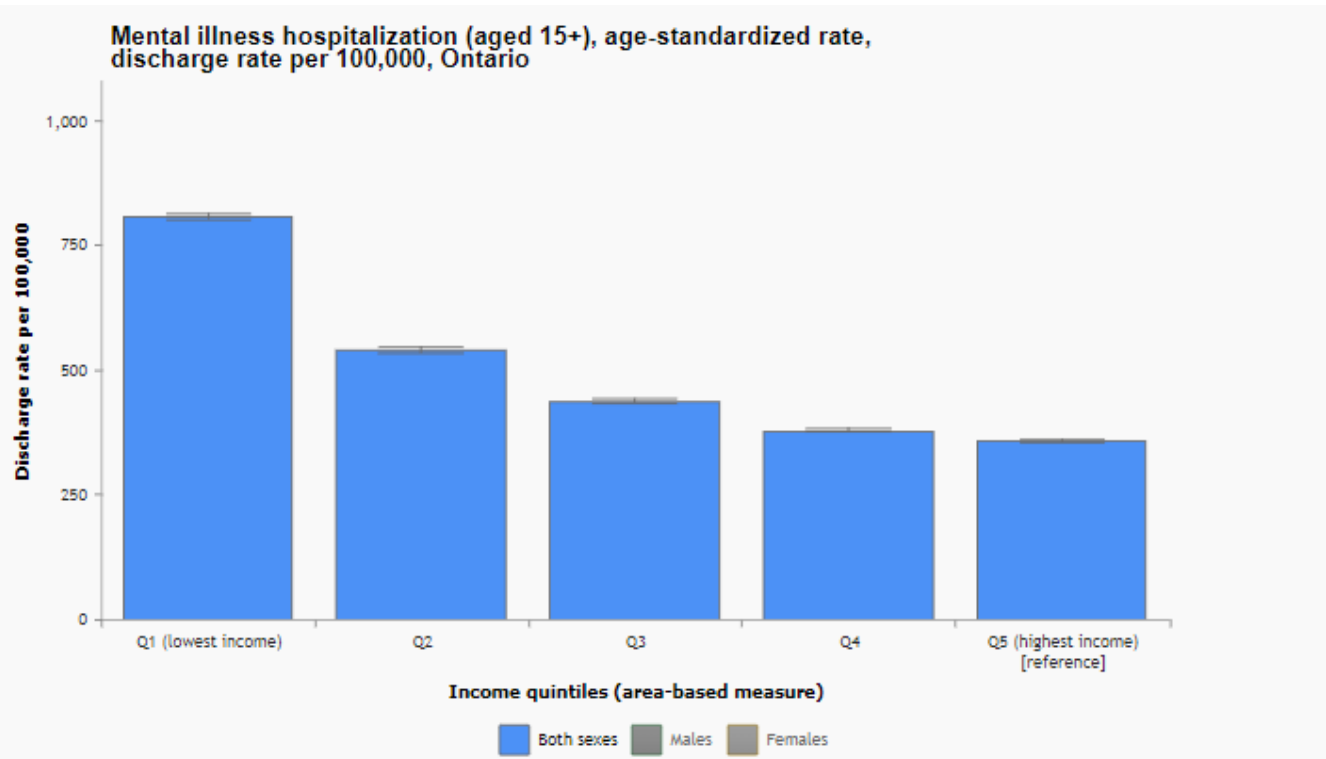
Mental Illness Hospitalization by Age (Crude Rate)



Females aged 15-17 have a mental illness hospitalization rate of 723 per 100,000

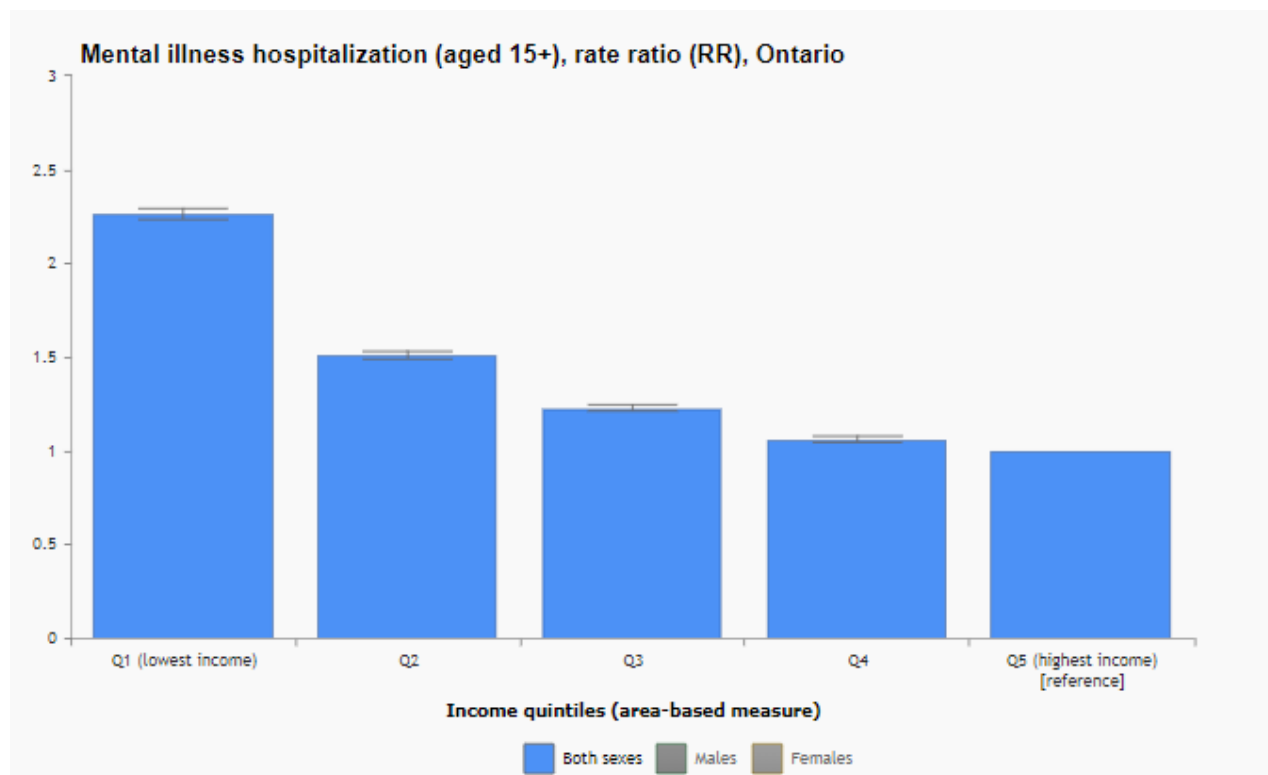
Males aged 18-24 have a mental illness hospitalization rate of 653 per 100,000

Mental Illness Hospitalization by Income (Age Standardized Rate)



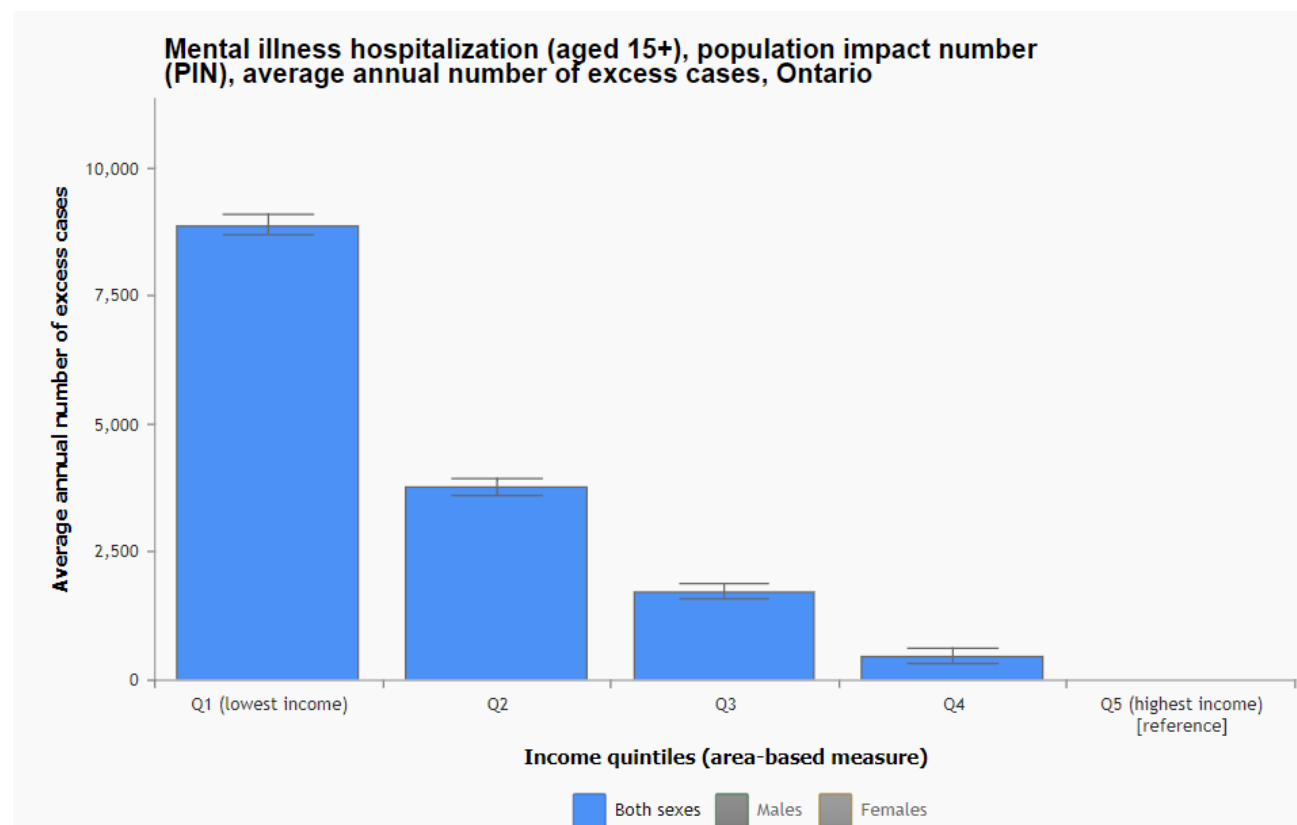
Ontarians in Q1
(Aged 15+)
have an
ASR for mental
illness
hospitalization
of 807 per
100,000

Mental Illness Hospitalization by Income (Rate Ratio)



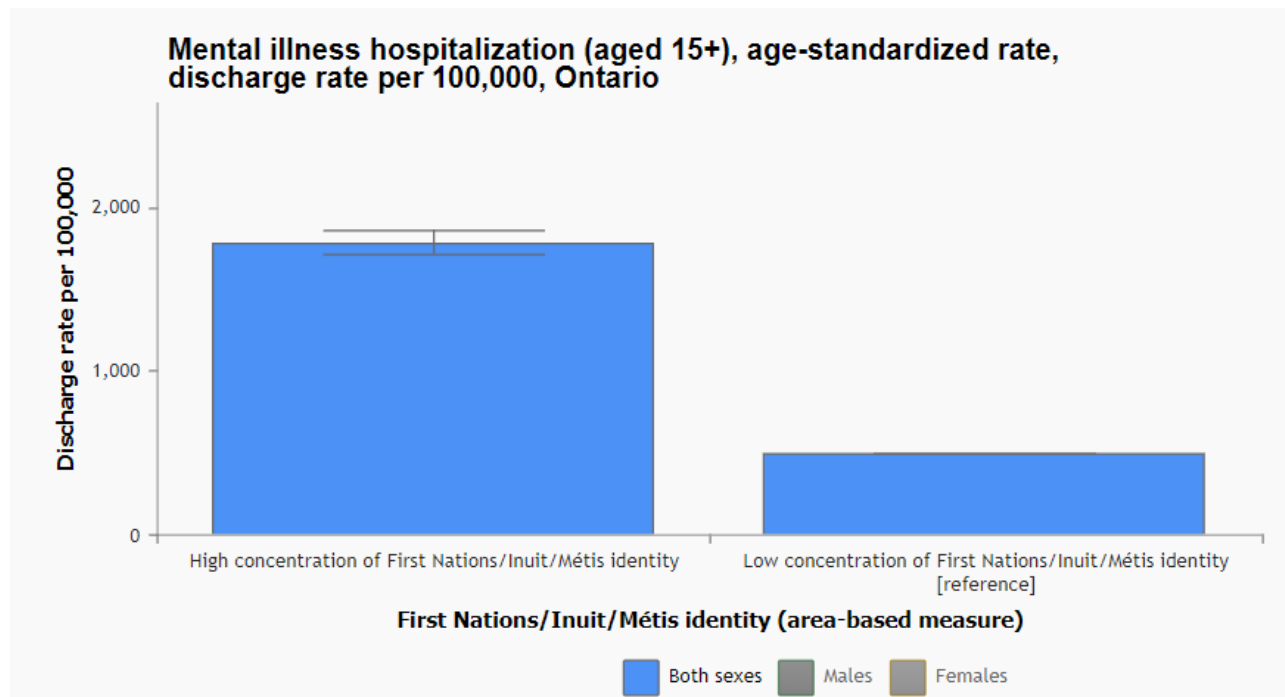
Rate of mental illness hospitalizations is 2.26 Times higher for Q1 compared to Q5

Mental Illness Hospitalization by Income (Population Impact Number)



If Q1 had the same rate of mental illness hospitalization as Q5, there would be 8,866 fewer Ontarians experiencing mental illness hospitalizations

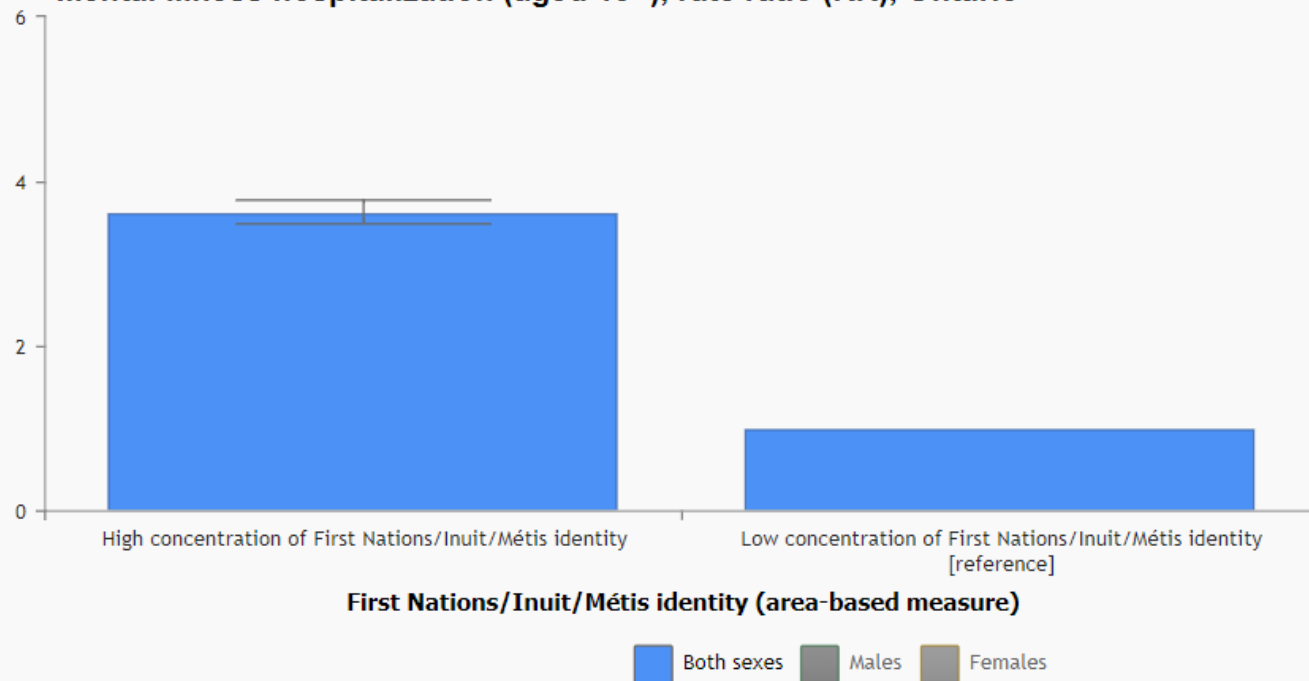
Mental Illness Hospitalization by Indigenous Identity (Age-standardized Rate)



Those living in areas with a high concentration of First Nations Inuit, Métis Identity have an ASR for mental illness hospitalization of 1784 per 100,000

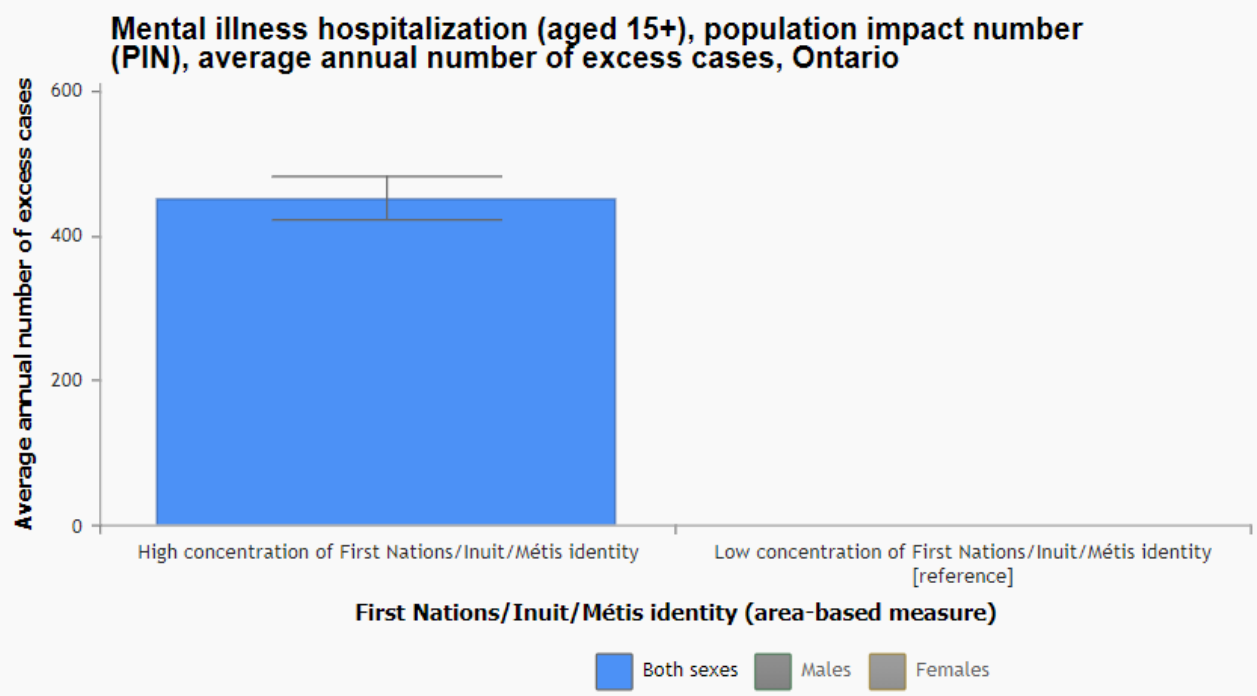
Mental Illness Hospitalization by Indigenous Identity (Rate Ratio)

Mental illness hospitalization (aged 15+), rate ratio (RR), Ontario



Rate of mental illness hospitalizations is 3.6 times higher people living in areas with a high concentration of First Nations/Inuit/Métis identity than the reference group

Mental Illness Hospitalization by Indigenous Identity (Population Impact Number)



If people living in areas with a high concentration of First Nations/Inuit/Métis identity had the same rate of mental illness hospitalization as the reference group, there would be 450 fewer Ontarians experiencing mental illness hospitalizations

Using the Health Inequalities Data Tool

The Data Tool can be used to:

- Describe a range of health outcomes, health-related behaviours and upstream determinants of health for vulnerable populations
- Set research, programmatic, and funding priorities
- Support the design and evaluation of programs and interventions
- Prompt additional research questions
- Reveal data gaps and areas for improvement in the current data infrastructure

Knowledge mobilization products for policy and general audiences (in development)

Diverse activities for a wide reach

Targeted to specific audience needs

Knowledge Mobilization Working Group provides guidance and helps co-create some products

Ongoing evaluation



Conferences & targeted webinars/trainings across Canada



Static and interactive infographics for selected key indicators



YouTube videos (for product promotion and demonstration, results interpretation, etc.)



Web and social media notifications



Journal articles

Questions?

Shermeen Farooqi, MPH
Public Health Agency of Canada
Ontario Region
416-973-1808
shermeen.farooqi@canada.ca