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

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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

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…
Measuring, monitoring, and reporting on health inequities: Canadian drivers
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
- Early Development Instrument
- Hospital Mental Health Database
- First Nations Regional Health Survey
Two Key Products of our Initiative

Health Inequalities Data Tool

Select item(s) from each list below:
- Geography
- Framework Components
- Indicator
- Stratifier
- Measure

More information is available about the indicators and their stratifiers. More information is also available about the measures of inequality.

For more information on the interpretation of the data please see the notes below.
Our Scope and Approach

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

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

<table>
<thead>
<tr>
<th>HEALTH STATUS</th>
<th>HEALTH DETERMINANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Including indicators for:</td>
<td>Including indicators for:</td>
</tr>
<tr>
<td>• Mortality &amp; life expectancy</td>
<td>• Health behaviours</td>
</tr>
<tr>
<td>• Morbidity &amp; disability</td>
<td>• Physical &amp; social environments</td>
</tr>
<tr>
<td>• Mental illness &amp; suicide</td>
<td>• Working conditions</td>
</tr>
<tr>
<td>• Perceived physical &amp; mental health</td>
<td>• Access to health care</td>
</tr>
<tr>
<td>• Infectious &amp; chronic diseases</td>
<td>• Social protection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOCI-ECONOMIC STATUS</th>
<th>6. INDIGENOUS PEOPLES</th>
<th>PLACE OF RESIDENCE</th>
<th>POPULATION GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Income</td>
<td>First Nations</td>
<td>7. Urban/rural</td>
<td>8. Age</td>
</tr>
<tr>
<td>2. Education</td>
<td>Inuit</td>
<td></td>
<td>9. Immigrant status</td>
</tr>
<tr>
<td>3. Employment</td>
<td>Métis</td>
<td></td>
<td>10. Sexual orientation</td>
</tr>
<tr>
<td>4. Occupation</td>
<td></td>
<td></td>
<td>11. Functional health</td>
</tr>
<tr>
<td>5. Material &amp; social deprivation</td>
<td></td>
<td></td>
<td>12. Cultural/racial background</td>
</tr>
</tbody>
</table>

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:

<table>
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<tr>
<th></th>
<th>For a given health issue, where are the greatest inequalities?</th>
<th>Indicators for <strong>mental health and illness</strong> can help to assess whether inequalities are most pronounced by income, cultural/racial background, Indigenous identity, sexual orientation, age, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>For which health issue(s) do vulnerable populations experience the greatest inequalities?</td>
<td>Examining inequalities data for <strong>Indigenous peoples</strong> or <strong>children</strong> can help to direct program and research resources to the health issues for which they experience the most disproportionate risk</td>
</tr>
</tbody>
</table>
| 2 | How can public health research, programs and services better address health inequalities? | 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 |
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
HEALTH INEQUALITIES DATA TOOL (HIDT)

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

3. Through a web search engine
Components

HOMEPAGE

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

<table>
<thead>
<tr>
<th>Sexual orientation (aged 18-59)</th>
<th>Both sexes</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesbian/Gay</td>
<td>2.5</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Bisexual</td>
<td>4.5</td>
<td>4</td>
<td>4.5</td>
</tr>
<tr>
<td>Heterosexual [reference]</td>
<td>2.5</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Missing</td>
<td>3.5</td>
<td>3</td>
<td>3.5</td>
</tr>
</tbody>
</table>

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.

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

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

Ongoing evaluation
Questions?

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