



Income Stratifier: Guidance on Measuring and Reporting Health Inequalities

Definition

Construct: Relative income

The Canadian Institute for Health Information (CIHI) uses relative income for measuring and reporting income-related inequality in the population. Relative income refers to a person's or household's income compared with that of others in society. It captures differences in socio-economic status and purchasing power.

Measure: Income quintiles

CIHI uses income quintiles for measuring relative income. Income quintiles are created by ranking individuals or households according to their income, from lowest to highest. The ranked population is divided into 5 equal groups called quintiles (see the table below).

Table Reporting categories for income quintiles

Category	Percentage of population
Quintile 1 (lowest income)	20%
Quintile 2	20%
Quintile 3	20%
Quintile 4	20%
Quintile 5 (highest income)	20%

How can I access or create income quintiles?

If your health database does not already include individual- or household-level income measures, you have 2 options for obtaining income quintiles:





Equity Stratification

1. **Link individual-level health data to area-level income data:** This method uses a person's postal code to link their individual-level health data to area-level income quintiles (e.g., neighbourhood-level income quintiles defined at the dissemination area level).¹ In many cases, an area-level approach is the only available option for obtaining income quintiles because health administrative databases often lack income information, while residential postal codes are often available. To learn how to use the Postal Code Conversion File Plus (PCCF+)²⁻⁴ to obtain area-level income quintiles based on income per single-person equivalent, see [Measuring Health Inequalities: A Toolkit — Area-Level Equity Stratifiers Using PCCF and PCCF+](#).
 - **Consideration:** Use area-level income quintiles derived at the appropriate geographic level to account for differences in income distribution across Canada (e.g., quintiles derived by ranking income within a province account for the range of incomes within that province, as compared to quintiles derived at the national level).

See [Measuring Trends in Health Inequalities in Cities](#) for an example of how CIHI measures inequalities across cities by area-level income quintiles.

See [Asthma Hospitalizations Among Children and Youth in Canada: Trends and Inequalities](#) for an example of how CIHI measures inequalities across the provinces and territories by area-level income quintiles.



2. **Link individual-level health data to individual- or household-level income data:** Another option is to link individual-level health data to income data at the individual or household level and then use this data to create income quintiles. Statistics Canada provides options for accessing its pre-linked data files using linkage variables such as date of birth, sex and postal code. You can use a custom data request with Statistics Canada to purchase an analysis using these files, or you can access these files directly through the [Canadian Research Data Centre Network \(CRDCN\)](#). Statistics Canada provides a [search tool](#) to query data available in its Research Data Centres.
 - **Consideration:** If available, consider using household income adjusted for the number of people in the household, as income can be shared to cover expenses.

See [Asthma Hospitalizations Among Children and Youth in Canada: Trends and Inequalities](#) for an example of how CIHI measures inequalities across the provinces and territories using income quintiles based on total before-tax household income.





Equity Stratification

CIHI's [Measuring Health Inequalities: A Toolkit — Equity Stratifier Inventory](#) is periodically updated with a complete list of the stratifier information available in CIHI's databases, as well as in certain Statistics Canada databases.

Variations

Complementary approaches to income quintiles include more granular relative income categories such as income deciles. This can facilitate the use of inequality summary measures such as the concentration index, which is ideally calculated using a continuous value.

Key considerations

- Regardless of whether you use area- or individual-/household-level income, report whether before- or after-tax income was used to create the quintiles.
- When using income quintiles for health inequality reporting, include summary measures for each quintile, such as the median, standard error and range.
- When using household income, consider applying an equivalence scale to adjust income for household size. A scale that divides incomes by the square root of household size is commonly used.⁵

Statistics Canada's standards

- [Adjusted after-tax income of private household](#)
- [Adjusted total income of private household](#)
- [After-tax income of person](#)
- [After-tax income of private household](#)
- [Income sources of person](#)
- [Total income of person](#)
- [Total income of private household](#)

The above standards were approved as of March 21, 2016.

Related resources

Visit the [Equity stratifiers page](#) for guidance on additional stratifiers.



Version history

June 2022	Updated text and format for information sheet.
April 2018	Initial definition released as part of In Pursuit of Health Equity: Defining Stratifiers for Measuring Health Inequality (PDF) .

References

1. Statistics Canada. [Dictionary, Census of Population, 2016: Dissemination area \(DA\)](#). Accessed January 27, 2022.
2. Statistics Canada. *Postal Code^{OM} Conversion File Plus (PCCF+) Version 7D. November 2020 Postal Codes*. 2021.
3. Statistics Canada. [Postal CodeOM Conversion File Plus \(PCCF+\)](#). Accessed January 27, 2022.
4. Canada Post. [Request for Licensed Data Products](#). 2022.
5. Dudel C et al. [Assessing differences in household needs: A comparison of approaches for the estimation of equivalence scales using German expenditure data](#). *Empirical Economics*. January 2020.

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