Trends in Income-Related Health Inequalities in Canada

Indicator Definitions   Revised April 2016

Factors Influencing Health

Our vision
Better data. Better decisions.
Healthier Canadians.

Our mandate
To lead the development and
maintenance of comprehensive
and integrated health information
that enables sound policy and
effective health system management
that improve health and health care.

Our values
Respect, Integrity, Collaboration,
Excellence, Innovation

Correction to *Trends in Income-Related Health Inequalities in Canada: Indicator Definitions*

The following correction has been made to page 38 of the *Trends in Income-Related Health Inequalities in Canada: Indicator Definitions*, first published on November 18, 2015. The correction is specific to the Mental Illness Hospitalization indicator definition.

Original:

Geographic Assignment: Patient's province of residence according to postal code in the database.

Correction:

Geographic Assignment: Patient's place of service.[i]

The document is updated, please see the section Indicator: Mental Illness Hospitalization on page 38.

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i.   Results calculated by using the patient's province of residence to assign geography are also available on request.

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Indicator: Individual After-Tax Income

Data Years: 1976 to 2011

Indicator Description: Average after-tax household income per adult in 2011 constant Canadian dollars

Note: "After-tax income" refers to total income from all sources minus federal, provincial and territorial income taxes paid for each calendar year.

Rationale: Income affects health by influencing the amount and quality of material resources that can be acquired to support health, such as access to high-quality housing, education and nutritious foods.[1]

Data Source: Survey of Labour and Income Dynamics (SLID), Income Statistics Division, Statistics Canada

Inequality Disaggregator: Quintiles (based on the distribution of individual after-tax income)

Geographic Assignment: Respondent's province of residence according to postal code

Geographic Coverage: All 10 provinces (territories excluded)

Interpretation: Higher incomes are desirable.

Data Source Description:

Survey of Labour and Income Dynamics: The SLID was a key source of income data on Canadian families, households and individuals. The SLID had a longitudinal design; sampled households were interviewed annually over a 6-year period. The SLID target population included all Canadians except residents of the territories, institutions and Indian reserves.[2]

Response Rate (2011): 67.3%

Note: The last SLID was last conducted in 2011; from 2012 onward, cross-sectional income estimates will be available from the Canadian Income Survey.

References

1. World Health Organization. *A Conceptual Framework for Action on the Social Determinants of Health*. Geneva, Switzerland: WHO; 2010. http://www.who.int/sdhconference/resources/ ConceptualframeworkforactiononSDH_eng.pdf. Accessed December 19, 2014.

2. Statistics Canada. Survey of Labour and Income Dynamics (SLID). http://www23.statcan.gc.ca/ imdb/p2SV.pl?Function=getSurvey&SDDS=3889. Updated June 26, 2013. Accessed February 2, 2015.

Indicator: University Participation

Data Years: 1993 to 2011

Indicator Description: Proportion of Canadians age 18 to 24 who attended university in the reference year among all Canadians age 18 to 24 living with at least 1 parent (per 100)[1]

Rationale: University participation captures 1 component of educational attainment after high school completion. Educational attainment is a component of socio-economic status. Higher educational attainment increases employment opportunities and the potential to earn income. Increasing income security and opportunities for upward social mobility is associated with reduced stress and better health.[2, 3] Education can also influence health through its effects on health practices, such as nutrition or exercise.[2]

Data Source: Survey of Labour and Income Dynamics (SLID), Income Statistics Division, Statistics Canada

Inequality Disaggregator: Parental income quintiles were based on income in 2011 constant dollars from tax files for the year preceding the survey data collection (if permission for access to tax files was granted). Otherwise, income was derived from respondents' self-reported income.

Denominator Description: SLID respondents age 18 to 24 who were no longer attending elementary or high school and who were living with at least 1 parent

Exclusions:

1. Non-respondents (for some previous analyses, many non-respondents were considered "not attending")
2. Respondents who had ever received a post-secondary certificate or diploma

Numerator Description: SLID respondents age 18 to 24 who attended university in the reference year and were no longer attending elementary or high school and were living with at least 1 parent

Survey Weight: Person-level cross-sectional

Geographic Assignment: Grouped nationally

Geographic Coverage: All 10 provinces (territories excluded)

Interpretation: Higher rates are desirable.

Data Source Description

Survey of Labour and Income Dynamics: The SLID was a key source of income data on Canadian families, households and individuals. The SLID had a longitudinal design; sampled households were interviewed annually over a 6-year period. The SLID target population included all Canadians except residents of the territories, institutions and Indian reserves.[4]

Sample Size (Denominator): 3,000 respondents from 1993 to 1995; 6,500 and 7,100 respondents from 1996 to 2001[1]

***Response Rate (2011):* 67.3%**

Note: The last SLID was last conducted in 2011; from 2012 onward, cross-sectional income estimates will be available from the Canadian Income Survey.

References

1. Drolet M. *Participation in Post-Secondary Education in Canada: Has the Role of Parental Income and Education Changed Over the 1990s?* Ottawa, ON: Statistics Canada; 2005. http://publications.gc.ca/Collection/Statcan/11F0019MIE/11F0019MIE2005243.pdf. Accessed February 20, 2015.

2. Clark D, Royer H. *The Effect of Education on Adult Health and Mortality: Evidence From Britain*. Cambridge, US: National Bureau of Economic Research; 2010.

3. Organisation for Economic Co-operation and Development. *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*. Paris, France: OECD; 2012. http://www.oecd.org/edu/school/50293148.pdf. Accessed October 15, 2014.

4. Statistics Canada. Survey of Labour and Income Dynamics (SLID). http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3889. Updated June 26, 2013. Accessed February 2, 2015.

Indicator: Unemployment Rate

Indicator Description: The unemployment rate is the percentage of those in the labour force who are not working. The labour force is limited to those who are able to work. In this report, unemployment rates are derived from both the census and the Labour Force Survey (LFS), as described below. Precise definitions of the concept of unemployment vary slightly between the census and the LFS. Unemployment as measured by the census records the percentage of the labour force unemployed in the week prior to census day. In the LFS, the Unemployment Rate indicator also includes those who were on temporary layoff during the reference week with an expectation of recall, those who were without work but had been looking for work within the past 4 weeks and were available for work, and those who anticipated starting a new job within 4 weeks and who were available for work.[1, 2]

Inequality Disaggregators: Educational attainment by sex; Aboriginal identity

Educational Attainment

Data Years: 1990 to 2013

Indicator Description: Unemployment rate of Canadians age 25 and older by educational attainment, expressed as a percentage of the labour force

Data Source: Statistics Canada. Labour force survey estimates (LFS), by educational attainment, sex and age group. CANSIM table 282-0004. http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=2820004. Accessed June 16, 2014.

Aboriginal Identity

Data Years: 2001, 2006

Indicator Description: Unemployment rate of Canadians age 25 to 54 by Aboriginal identity (First Nations, Métis, Inuit, non-Aboriginal), expressed as a percentage

Data Source: Census of Population, Statistics Canada

Rationale: Unemployment has been associated with specific health outcomes such as higher risks of premature mortality, poorer self-reported health and lower life expectancy.[3, 4] Unemployed individuals may lack an adequate income and thus have reduced means to support their health and well-being.[3]

Geographic Assignment: Grouped nationally

Geographic Coverage: All 10 provinces (territories excluded)

Note: Only the Indian reserves and settlements that participated in both censuses are included when comparing data between 2001 and 2006.

Interpretation: Lower rates are desirable.

Data Source Description:

Labour Force Survey: The LFS is a cross-sectional survey conducted monthly to provide timely estimates and descriptions of the employment status and labour force participation of Canadians. The target population is civilian, non-institutionalized Canadians age 15 and older. It is conducted nationwide in the provinces and the territories. Excluded from the survey's coverage are persons living on reserves and other Aboriginal settlements in the provinces, full-time members of the Canadian Armed Forces and the institutionalized population. These groups together represent an exclusion of less than 2% of the Canadian population age 15 and older.[5]

Sample Size: Approximately 17,000 households, or 34,000 adults each year

Census of Population: The census is Canada's largest survey, enumerating the country's total population and collecting demographic and linguistic information every 5 years. The census provides nationally comparable data on the population and is the main source of data available in a standardized format for small areas. Due to the discontinuation of the mandatory long-form census in 2010, long-term trends are not available for certain indicators.[6]

Response Rate (2006): 96.5%

References

1. Statistics Canada. Determining labour force status. http://www.statcan.gc.ca/pub/71-543-g/2010001/part-partie2-eng.htm. Updated 2010. Accessed February 19, 2015.

2. Statistics Canada. Canada's changing labour force, 2006 census: Definitions and notes. https://www12.statcan.gc.ca/census-recensement/2006/as-sa/97-559/note-eng.cfm#nt6. Updated 2009. Accessed February 19, 2015.

3. Mustard CA, Bielecky A, Etches J, et al. Mortality following unemployment in Canada, 1991–2001. *BMC Public Health*. 2013;13:441.

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5. Statistics Canada. Labour Force Survey (LFS). http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3701. Updated January 27, 2015. Accessed February 2, 2015.

6. Statistics Canada. Census of Population. http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SurvId=30216&InstaId=30219&SDDS=3901. Updated October 24, 2007. Accessed February 2, 2015.

Indicator: Individual After-Tax Income (Median)

Data Years: 2000, 2005

Indicator Description: Median after-tax income of persons age 15 and older in 2005 constant dollars, by Aboriginal identity (First Nations, Métis, Inuit, non-Aboriginal)

Note: "After-tax income" refers to total income from all sources minus federal, provincial and territorial income taxes paid for each calendar year.

Rationale: Median income is less susceptible to being significantly altered by extremely low or extremely high incomes. Income affects health by influencing the amount and quality of material resources that can be acquired to support health, such as access to high-quality housing, education and nutritious foods.[1]

Data Sources:

- Statistics Canada. 2006 Census topic-based tabulations. Catalogue number 97-563-XCB2006008.
- Census of Population, 2001 and 2006, Statistics Canada

Note: Income estimates provided by the census are for the previous year (i.e., the income estimates from the 2001 and 2006 censuses are for the years 2000 and 2005, respectively).

Inequality Disaggregator: Aboriginal identity (single responses)

Note: "North American Indian" identity responses are presented in the data as "First Nations."

Geographic Assignment: Grouped nationally

Geographic Coverage: All provinces and territories

Interpretation: Higher income is desirable.

Total income refers to the total money income received from

- Wages and salaries (total);
- Net farm self-employment income;
- Net non-farm income from an unincorporated business and/or professional practice;
- Child benefits;
- Old Age Security and Guaranteed Income Supplement;
- Benefits from Canada Pension Plan or Quebec Pension Plan;
- Benefits from Employment Insurance;
- Other income from government sources;
- Dividends; interest on bonds, deposits and savings certificates; and other investment income;

- Retirement pensions, superannuation and annuities, including those from RRSPs and RRIFs; and
- Other money income.

Receipts not counted as income are

- Gambling gains and losses;
- Lottery prizes;
- Money inherited during the year in a lump sum;
- Capital gains or losses;
- Receipts from the sale of property;
- Income tax refunds;
- Loan payments received;
- Lump-sum settlements of insurance policies;
- Rebates received on property taxes;
- Refunds of pension contributions; and
- Any income received in kind, such as free meals and living accommodations, or agricultural products produced and consumed on the farm.

Data Source Description:

Census of Population: The census is Canada's largest survey, enumerating the country's total population and collecting demographic and linguistic information every 5 years. The census provides nationally comparable data on the population and is the main source of data available in a standardized format for small areas. Due to the discontinuation of the mandatory long-form census in 2010, long-term trends are not available for certain indicators.[2]

Response Rate (2006): **96.5%**

References

1. World Health Organization. *A Conceptual Framework for Action on the Social Determinants of Health*. Geneva, Switzerland: WHO; 2010. http://www.who.int/sdhconference/resources/ ConceptualframeworkforactiononSDH_eng.pdf. Accessed December 19, 2014.

2. Statistics Canada. Census of Population. http://www23.statcan.gc.ca/imdb/ p2SV.pl?Function=getSurvey&SurvId=30216&InstaId=30219&SDDS=3901. Updated October 24, 2007. Accessed February 2, 2015.

Indicator: Core Housing Need

Data Years: 2002 to 2011 (urban households); 2001, 2006, 2011 (all households)

Indicator Description: The Core Housing Need indicator identifies the percentage of households that live in unacceptable housing and that do not have sufficient income to meet the expenses of acceptable housing in their local housing market.[1] To be considered acceptable, housing must meet the following criteria:

1. Be affordable (median rent, including utility costs, must be less than 30% of before-tax household income)

2. Be suitable in size (the housing must have enough bedrooms, according to the National Occupancy Standard)

3. Be adequate (the housing must not be in need of major repairs as reported by household respondents)

Rationale: Core Housing Need is a measure of the proportion of Canadians who do not have access to affordable and good-quality housing. It can be used to inform housing programs and policies. Housing is considered to be acceptable when it is affordable (costs less than 30% of before-tax household income), suitable (has enough space for the inhabitants) and adequate (is not in need of major repairs).[1] The characteristics of unacceptable housing can significantly influence health. Housing inadequacy, for example, can include dampness and mould, which increase the risk of bronchitis in children.[2] Other health risks can also result from poorly designed stairs, poor lighting, dangerous electrical or heating systems, and other hazards such as previous use of lead paint or asbestos in older homes.[2]

Data Sources:

Core Housing Need (Urban Households): Survey of Labour and Income Dynamics (SLID), Statistics Canada; Canada Mortgage and Housing Corporation

Core Housing Need (All Households): Census of Population, 2001 and 2006, and National Household Survey (NHS), 2011, Statistics Canada

Income Disaggregator: Income quintiles

Core Housing Need (Urban Households): Income from tax files for the year preceding the survey data collection (if permission for access to tax files was granted). Otherwise, income was derived from respondents' self-reported income.

Core Housing Need (All Households): Self-reported income or tax files (if permission for access was granted) for the year preceding the survey year

Note: SLID income estimates are for the reference year, while census/NHS income estimates are for the previous year. Therefore, the 2005 and 2010 estimates for urban households align best with the 2006 and 2011 estimates for all households, respectively.

Denominator Description:

Core Housing Need (Urban Households): Total number of Canadian private households in provincial census metropolitan areas (CMAs) or census agglomerations (CAs) with incomes greater than 0 and a shelter-cost-to-income ratio (STIR) of less than 100%

Exclusion:

1. Farm households, band households and households living on reserve

Core Housing Need (All Households): Total number of Canadian private households with incomes greater than 0 and a STIR of less than 100%

Exclusions:

1. Farm households, band households and households living on reserve
2. Households in collective dwellings, such as hotels, nursing homes, military bases and jails

Numerator Description:

Core Housing Need (Urban Households): Total number of private households in provincial CMAs and CAs with income greater than 0 and a STIR of less than 100% who live in unacceptable housing and who would have to spend 30% or more of their before-tax income for acceptable housing in their local housing markets

Exclusion:

1. Farm households, band households and households living on reserve

Core Housing Need (All Households): Total number of private households with income greater than 0 and a STIR of less than 100% who live in unacceptable housing and who would have to spend 30% or more of their before-tax income for acceptable housing in their local housing markets

Exclusions:

1. Farm households, band households and households living on reserve
2. Households in collective dwellings, such as hotels, nursing homes, military bases and jails

Geographic Assignment: Grouped nationally

Geographic Coverage: All 10 provinces (urban households); all provinces and territories (all households)

Interpretation: Lower rates are desirable.

Data Source Descriptions:

Survey of Labour and Income Dynamics: The SLID was a key source of income data for Canadian families, households and individuals. The SLID had a longitudinal design; sampled households were interviewed annually over a 6-year period. The SLID target population included all Canadians except residents of the territories, institutions and Indian reserves.[3]

Response Rate (2011): 67.3%

Note: The last SLID was last conducted in 2011; from 2012 onward, cross-sectional income estimates will be available from the Canadian Income Survey.

Sample Size: Approximately 17,000 households, or 34,000 adults each year

Census of Population: The census is Canada's largest survey, enumerating the country's total population and collecting demographic and linguistic information every 5 years. The census provides nationally comparable data on the population and is the main source of data available in a standardized format for small areas. Due to the discontinuation of the mandatory long-form census in 2010, long-term trends are not available for certain indicators.[4]

Response Rate (2006): 96.5%

National Household Survey: Between May and August 2011, Statistics Canada conducted the NHS for the first time. This voluntary, self-administered survey was introduced as a replacement for the long-form census questionnaire, to be administered every 5 years. The NHS is designed to collect social and economic data about the Canadian population and is now the main source of data available in a standardized format for small geographic areas and population groups.[5]

Sample Size: 4,500,000 households

References

1. Canada Mortgage and Housing Corporation. *Canadian Housing Observer*. Ottawa, ON: CMHC; 2014. http://www.cmhc-schl.gc.ca/odpub/pdf/68189.pdf. Accessed November 26, 2014.

2. Canadian Institute for Health Information. *Housing and Population Health*. Ottawa, ON: CIHI; 2004. https://secure.cihi.ca/free_products/HousingPopHealth_e.pdf. Accessed February 6, 2014.

3. Statistics Canada. Survey of Labour and Income Dynamics (SLID). http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3889. Updated June 26, 2013. Accessed February 2, 2015.

4. Statistics Canada. Census of Population. http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SurvId=30216&InstaId=30219&SDDS=3901. Updated October 24, 2007. Accessed February 2, 2015.

5. Statistics Canada. National Household Survey User Guide—Chapter 1—Introduction. http://www12.statcan.gc.ca/nhs-enm/2011/ref/nhs-enm_guide/index-eng.cfm. Updated May 2, 2013. Accessed February 2, 2015.

Indicator: Household Food Insecurity

Data Years: 2005, 2007–2008, 2009–2010, 2011–2012

Indicator Description: Prevalence rate of household food insecurity (per 100 households)

Rationale: Food insecurity refers to inadequate or uncertain access to food due to financial constraints; it is recognized as an important public health challenge in Canada.[1] Persons living in food insecure households are at increased risk of inadequate nutrient intake and compromised dietary quality.[2–6] Adults living in food insecure households are also more likely to report poorer self-rated health (physical and mental health), higher levels of stress and a greater number of multiple chronic conditions, including diabetes, cardiovascular disease and depression.[7–10]

Data Source: Household Food Security Survey Module (HFSSM), Canadian Community Health Survey (CCHS), Statistics Canada

Income Disaggregator: Self-reported adjusted household income from the CCHS

Denominator Description: CCHS households (using household sampling weights)

Exclusions:

1. Non-response categories ("refusal," "don't know" and "not stated")
2. Respondents from the 3 territories (as income quintile data is unavailable)

Numerator Description: Households that reported experiencing moderate or severe food insecurity in the previous 12 months

The HFSSM defines 2 types of income-related food insecurity:

1. Moderately food insecure: Indication of compromise in quality and/or quantity of food consumed
2. Severely food insecure: Indication of reduced food intake and disrupted eating patterns

Combined food insecurity was defined as the sum of households reporting any moderate or severe food insecurity.

Survey Weight: Household level

Geographic Assignment: Household's province of residence according to postal code in the CCHS

Geographic Coverage: Since 2005, the HFSSM has been administered as an optional or core module in alternating survey cycles. Available coverage for survey cycles is as follows:

Survey Cycle	Participating Provinces
2005	Prince Edward Island, Nova Scotia, Quebec, Ontario, Alberta, British Columbia
2007–2008	All 10 provinces
2009–2010	Newfoundland and Labrador, Nova Scotia, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia
2011–2012	All 10 provinces

Interpretation: Lower rates are desirable.

Case Selection Criteria: All derived variables listed below defined the level of food insecurity as none, moderate or severe. Cases were households that reported moderate or severe food insecurity.

Survey Cycle	Derived Variable Name	Specification of Recalculation, if Applicable
2005	FSCEDHFS (Household Food Security Status)	Variable was recalculated to achieve comparability with derived variable version FSCDHFS2 (Household Food Security Status, Modified Version), which was introduced in subsequent survey cycles.
2007–2008	FSCDHFS2 (Household Food Security Status, Modified Version)	Due to a specification error identified by Statistics Canada in the original calculation of this derived variable in 2007–2008,[11] this variable was recalculated to correct the error and to achieve comparability with subsequent cycles.
2009–2010; 2011–2012	FSCDHFS2 (Household Food Security Status, Modified Version)	No recalculation was done.

Specific Survey Questions: The derived variable is based on 18 survey questions and indicates whether households both with and without children were able to afford the food they needed in the previous 12 months.

Percentage Missing Due to Income:

	2007–2008	2011–2012
Percentage Missing*	15.5	12.9

Note

* Percentage missing refers to the proportion of CCHS respondents that did not report income for this indicator and therefore are excluded from analyses based on self-reported adjusted household income quintiles. Missing values are indicated for only those survey cycles when the HFSSM was core content (i.e., administered in all 10 provinces).

Data Source Descriptions:

Household Food Security Survey Module: The HFSSM is the measure of household food security included in the CCHS. It focuses on self-reported food-related behaviours, experiences and conditions due to limited financial resources. The HFSSM contains 18 questions that form a 10-item Adult Food Security Scale and an 8-item Child Food Security Scale. Based on responses on each scale, households are characterized as having food security, moderate food insecurity or severe food insecurity.[12]

Sample Size: Approximately 35,000 households

Canadian Community Health Survey: The CCHS is a cross-sectional survey that collects information related to health status, health care utilization and health determinants for the community-dwelling Canadian population on an ongoing basis. The primary purpose of data collection is health surveillance and population health research. The CCHS target population is Canadians age 12 and older in all provinces and territories. Excluded from the sampling frame are individuals living on Indian reserves and Crown lands, institutional residents, full-time members of the Canadian Armed Forces and residents of certain remote regions (Région du Nunavik and Région des Terres-Cries-de-la-Baie-James). Altogether, these exclusions represent less than 3% of the target population.[13]

Sample Size: 130,000 annually (prior to 2007); 65,000 annually (2007 onward)

References

1. Public Health Agency of Canada. *The Chief Public Health Officer's Report on the States of Public Health in Canada*. Ottawa, ON: PHAC; 2008. http://www.phac-aspc.gc.ca/cphorsphc-respcacsp/2008/fr-rc/index-eng.php. Accessed December 19, 2014.

2. Mark S, Lambert M, O'Loughlin J, Gray-Donald K. Household income, food insecurity, and nutrition in Canadian youth. *Can J Public Health*. 2012;103(2):94-99. http://journal.cpha.ca/index.php/cjph/article/viewFile/2888/2608.

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6. Tarasuk VS, Beaton GH. Women's dietary intakes in the context of household food insecurity. *J Nutr*. 1999;129(3):672-679. http://jn.nutrition.org/content/129/3/672.long.

7. Gucciardi E, Vogt J, DeMelo M, Stewart D. Exploration of the relationship between household food insecurity and diabetes in Canada. *Diabetes Care*. 2009;32(12):2218-2224.

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11. Statistics Canada. *Canadian Community Health Survey—Annual Component Errata*. Ottawa, ON: Statistics Canada; 2014.

12. Health Canada. The Household Food Security Survey Module (HFSSM). http://www.hc-sc.gc.ca/fn-an/surveill/nutrition/commun/insecurit/hfssm-mesam-eng.php. Updated July 25, 2012. Accessed February 2, 2015.

13. Statistics Canada. Canadian Community Health Survey—Annual Component (CCHS). http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3226. Updated July 30, 2014. Accessed February 2, 2015.

Indicator: Small for Gestational Age

Data Years: 2000 to 2002, 2005 to 2007, 2009 to 2011

Note: Years were grouped: 2001 = 2000 to 2002; 2006 = 2005 to 2007; 2011 = 2009 to 2011.

Indicator Description: Crude rate of singleton babies classified as being born small for their gestational age (per 100)

Note: Small for gestational age (SGA) is defined as being in the bottom 10% of birth weight in relation to a standard reference population of the same gestational age and sex.[1]

Rationale: Babies who are classified as SGA at birth are at increased risk of infant, neonatal and post-neonatal mortality,[2] as well as adverse health outcomes in later life, such as mortality from ischemic heart disease,[3] reduced insulin sensitivity[4] and poorer educational performance.[5] SGA is preferable to low birth weight (LBW) as an indicator of perinatal health as it suffers from fewer limitations; for example, babies who are classified as LBW may be born preterm or SGA, which are associated with different factors and outcomes.[6]

Data Source: Canadian Vital Statistics, Birth Database, Statistics Canada

Income Disaggregator: Neighbourhood-level income from Postal Code Conversion File Plus, Statistics Canada

Denominator Description: Live singleton births with gestational ages from 22 to 43 weeks

Numerator Description: Live singleton births with a birth weight less than the 10th percentile of birth weights of the same sex and the same gestational age in weeks (gestational ages 22 to 43 weeks only)[1]

Geographic Assignment: Province of residence according to postal code

Geographic Coverage: All provinces and territories

Interpretation: Lower rates are desirable.

Data Source Description:

Canadian Vital Statistics, Birth Database: This is an administrative registry that collects demographic information annually from all provincial and territorial vital statistics registries on all live births in Canada. Some data is also collected on live births to Canadian residents in some American states. The data is used to calculate basic indicators (such as counts and rates) on births of residents of Canada.[7]

References

1. Kramer MSM, Platt RWP, Wen SWMP, et al. A new and improved population-based Canadian reference for birth weight for gestational age. *Pediatrics*. 2001;108(2):e35.

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5. Larroque B, Bertrais S, Czernichow P, Leger J. School difficulties in 20-year-olds who were born small for gestational age at term in a regional cohort study. *Pediatrics*. 2001;108(1):111-115.

6. Canadian Institute for Health Information. *Too Early, Too Small: A Profile of Small Babies Across Canada*. Ottawa, ON: CIHI; 2009.

7. Statistics Canada. Vital Statistics—Birth Database. http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3231. Updated May 21, 2014. Accessed February 2, 2015.

Indicator: Children Vulnerable in Areas of Early Development

Data Years:

- 2004–2005 to 2006–2007 until 2009–2010 to 2010–2011 (British Columbia)
- 2005–2006 until 2010–2011 (Manitoba)
- 2006–2007 to 2008–2009 until 2009–2010 to 2011–2012 (Ontario)

Indicator Description: The percentage of children who are considered vulnerable in at least 1 area of development at school entry (age 5), as measured by the Early Development Instrument (EDI).[1] Vulnerability rates are defined as the proportion of children whose scores fall within the bottom 10th percentile of EDI scores, as derived using Canadian standardized cut-off scores.[1, 2]

Rationale: Healthy child development and educational success are important determinants of health and well-being in later life.[3, 4] They are the outcome of available services and supports for families, effective parenting, and the social and economic circumstances in which children live and grow up, such as their housing, neighbourhood and community environment; family income and parents' level of education; and access to nutritious foods and physical recreation.[5]

The indicator Children Vulnerable in Areas of Early Development as measured using data collected by the EDI is a reflection of health and well-being among 5-year-olds (the average age of children in kindergarten).[6]

Data Source: Early Development Instrument, Offord Centre for Child Studies, McMaster University

Income Disaggregator: Neighbourhood-level income from the Postal Code Conversion File Plus, Statistics Canada

Denominator Description: Total number of kindergarten children with valid EDI data

Exclusion:

1. Cases where the child was in the classroom for less than 1 month, was identified as having special needs or was not in senior kindergarten

Numerator Description: Total number of kindergarten children who are considered vulnerable in at least 1 area of development. The cut-off score used to identify vulnerability for each area of development for this indicator was established using the 10th percentile score of the national baseline.

Geographic Assignment: Province of residence according to postal code

Geographic Coverage: British Columbia, Manitoba, Ontario[i]

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i.   Although Newfoundland and Labrador, Prince Edward Island, New Brunswick, Nova Scotia, Quebec, Saskatchewan, Alberta, Yukon and the Northwest Territories also administer the EDI, trend-over-time data was not available for these provinces and territories for this report.

Interpretation: Lower rates are desirable.

Percentage Missing Due to Income:

	British Columbia (2010–2011)	Ontario (2010, 2011, 2012)	Manitoba (2011)
Percentage Missing*	1.0%	1.7%	0.4%

Note

* Percentage missing refers to the proportion of EDI surveys that have missing or invalid postal codes for the child's place of residence and therefore are excluded from analyses based on neighbourhood-level income quintiles. Missing information is not available for other years.

Data Source Description:

Early Development Instrument: The EDI is a measure of children's readiness to learn at school in 5 domains: physical health and well-being; social knowledge and competence; emotional health/maturity; language and cognitive development; and general knowledge and communication skills. Teachers complete the questionnaire for each student in the kindergarten year. The EDI is designed to

- Report on populations of children in different communities;
- Assess students' strengths and deficits; and
- Predict how children will do in elementary school.

The instrument's domains are predictive of adult education, health and social outcomes.[1, 2]

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Indicator: Smoking

Data Years: 2003, 2005, 2007–2008, 2009–2010, 2011–2012, 2013

Indicator Description: Age-standardized prevalence rate of population age 18 and older who reported current cigarette smoking, either daily or occasionally (per 100)

Rationale: Smoking and exposure to second-hand smoke are recognized as major risk factors for lung cancer, respiratory diseases and other health problems. Smoking is an important and preventable cause of morbidity and death in Canada.[1, 2]

Data Source: Canadian Community Health Survey (CCHS), Statistics Canada

Income Disaggregator: Self-reported adjusted household income from the CCHS

Denominator Description: CCHS respondents age 18 and older

Exclusions:

1. Non-response categories ("refusal," "don't know" and "not stated")
2. Respondents from the 3 territories (as income quintile data is unavailable)

Numerator Description: CCHS respondents age 18 and older who reported current smoking, either daily or occasionally

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

Survey Weight: Person level

Age Groupings for Standardization: 18–19; 20–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74; 75–79; 80–84; 85–89; 90–94; 95–99; 100+

Geographic Assignment: Respondent's province of residence according to postal code in the CCHS

Geographic Coverage: All 10 provinces (territories excluded)

Interpretation: Lower rates are desirable.

Case Selection Criteria: Respondents who reported current smoking, either daily or occasionally

Variable: SMK_202

Specific Survey Question: "At the present time, do you smoke cigarettes daily, occasionally or not at all?" (SMK_Q202)

Percentage Missing Due to Income:

	2003	2005	2007–2008	2009–2010	2011–2012	2013
Percentage Missing*	14.9	14.6	15.1	17.3	12.7	11.6

Note

* Percentage missing refers to the proportion of CCHS respondents who did not report income for this indicator and are therefore excluded from analyses based on self-reported adjusted household income quintiles.

Data Source Description:

Canadian Community Health Survey: The CCHS is a cross-sectional survey that collects information related to health status, health care utilization and health determinants for the community-dwelling Canadian population on an ongoing basis. The primary purpose of data collection is health surveillance and population health research. The CCHS target population is Canadians age 12 and older in all provinces and territories. Excluded from the sampling frame are individuals living on Indian reserves and Crown lands, institutional residents, full-time members of the Canadian Armed Forces and residents of certain remote regions (Région du Nunavik and Région des Terres-Cries-de-la-Baie-James). Altogether, these exclusions represent less than 3% of the target population.[3]

Sample Size: 130,000 (prior to 2007); 65,000 (2007 onward)

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Indicator: Obesity

Data Years: 2003, 2005, 2007–2008, 2009–2010, 2011–2012, 2013

Indicator Description: Age-standardized prevalence rate of population age 18 and older who were classified as obese based on self-reported height and weight (per 100)

Rationale: The prevalence of obesity has been increasing in Canada,[1] and obesity is a risk factor for type 2 diabetes, cardiovascular disease and cancer.[2] The rise in obesity prevalence has been associated with increased economic burden in Canada (direct health care costs as well as indirect costs due to loss of productivity), with the annual costs estimated to have increased from $3.9 billion to $4.6 billion between 2000 and 2008.[3] Factors associated with obesity include dietary behaviours,[4] physical inactivity[5] and characteristics of the environment, such as residential density and street connectivity.[6]

Data Source: Canadian Community Health Survey (CCHS), Statistics Canada

Income Disaggregator: Self-reported adjusted household income from the CCHS

Denominator Description: CCHS respondents age 18 and older

Exclusions:

1. Pregnant females

2. Persons less than 3 feet (0.914 metres) tall or greater than 6 feet 11 inches (2.108 metres) tall

3. Non-response categories ("refusal," "don't know" and "not stated")

4. Respondents from the 3 territories (as income quintile data is unavailable)

Numerator Description: CCHS respondents age 18 and older with a body mass index (BMI) greater than or equal to 30.00 kg/m^2, based on self-reported height and weight. BMI is calculated by dividing the respondent's body weight (in kilograms) by his or her height (in metres) squared.

According to Health Canada[7] guidelines, the index for body weight classification is as follows:

- Less than 18.50: Underweight

- 18.50 to 24.99: Normal weight

- 25.00 to 29.99: Overweight

- 30.00 to 34.99: Obese, Class I

- 35.00 to 39.99: Obese, Class II

- 40.00 or greater: Obese, Class III

Survey Weight: Person level

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

Age Groupings for Standardization: 18–19; 20–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74; 75–79; 80–84; 85–89; 90–94; 95–99; 100+

Geographic Assignment: Respondent's province of residence according to postal code in the CCHS

Geographic Coverage: All 10 provinces (territories excluded)

Interpretation: Lower rates are desirable.

Case Selection Criteria: Respondents with a calculated BMI greater than or equal to 30.00 kg/m^2

Self-reported height variable (metres): HWTDHTM

Self-reported weight variable (kilograms): HWTCDWTK

Specific Survey Question: N/A

Percentage Missing Due to Income:

	2003	2005	2007–2008	2009–2010	2011–2012	2013
Percentage Missing*	14.7	14.6	14.7	16.9	12.4	11.3

Note

* Percentage missing refers to the proportion of CCHS respondents who did not report income for this indicator and are therefore excluded from analyses based on self-reported adjusted household income quintiles.

Data Source Description:

Canadian Community Health Survey: The CCHS is a cross-sectional survey that collects information related to health status, health care utilization and health determinants for the community-dwelling Canadian population on an ongoing basis. The primary purpose of data collection is health surveillance and population health research. The CCHS target population is Canadians age 12 and older in all provinces and territories. Excluded from the sampling frame are individuals living on Indian reserves and Crown lands, institutional residents, full-time members of the Canadian Armed Forces and residents of certain remote regions (Région du Nunavik and Région des Terres-Cries-de-la-Baie-James). Altogether, these exclusions represent less than 3% of the target population.[8]

Sample Size: 130,000 (prior to 2007); 65,000 (2007 onward)

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Indicator: Influenza Immunization for Seniors

Data Years: 2003, 2005, 2007–2008, 2009–2010, 2011–2012, 2013

Indicator Description: Age-standardized prevalence rate of population age 65 and older who reported being immunized against influenza in the last 12 months (per 100)

Rationale: Influenza is common and affects people of all ages worldwide. Elderly people and those with chronic conditions face a greater risk of complications and death from influenza.[1] The National Advisory Committee on Immunization recommends vaccination for influenza for all persons age 6 months and older, in particular those at high risk of influenza-related complications or hospitalization and those capable of spreading influenza to high-risk people.[2]

Data Source: Canadian Community Health Survey (CCHS), Statistics Canada

Income Disaggregator: Self-reported adjusted household income from the CCHS

Denominator Description: CCHS respondents age 65 and older

Exclusions:

1. Non-response categories ("refusal," "don't know" and "not stated")
2. Respondents from the 3 territories (as income quintile data is unavailable)

Numerator Description: CCHS respondents age 65 and older who reported being immunized against influenza in the last 12 months

Survey Weight: Person level

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

Age Groupings for Standardization: 65–69; 70–74; 75–79; 80–84; 85–89; 90–94; 95–99; 100+

Geographic Assignment: Respondent's province of residence according to postal code in the CCHS

Geographic Coverage: All 10 provinces (territories excluded)

Interpretation: Higher rates are desirable.

Case Selection Criteria: Respondents who reported having a flu shot less than 1 year ago

Variable: Flu_162

Response: Less than 1 year ago

Survey Question: "When did you have your last seasonal flu shot?" (Flu_Q162)

Percentage Missing Due to Income:

	2003	2005	2007–2008	2009–2010	2011–2012	2013
Percentage Missing*	22.5	22.3	21.7	22.5	18.0	16.0

Note

* Percentage missing refers to the proportion of CCHS respondents who did not report income for this indicator and are therefore excluded from analyses based on self-reported adjusted household income quintiles.

Data Source Description:

Canadian Community Health Survey: The CCHS is a cross-sectional survey that collects information related to health status, health care utilization and health determinants for the community-dwelling Canadian population on an ongoing basis. The primary purpose of data collection is health surveillance and population health research. The CCHS target population is Canadians age 12 and older in all provinces and territories. Excluded from the sampling frame are individuals living on Indian reserves and Crown lands, institutional residents, full-time members of the Canadian Armed Forces and residents of certain remote regions (Région du Nunavik and Région des Terres-Cries-de-la-Baie-James). Altogether, these exclusions represent less than 3% of the target population.[3]

Note: Results from the 2009–2010 CCHS may not be comparable to those from other cycles, because the survey results for this year likely over-estimate the proportion of respondents who received the seasonal flu shot by capturing respondents who received the H1N1 vaccine but not the seasonal flu shot. The H1N1 vaccine was first administered in Canada in 2009 as a separate vaccination from the seasonal flu vaccine, but it was not until the 2010 CCHS cycle that the word "seasonal" was added to collect data on the 2 types of vaccines (seasonal and H1N1). After 2010, the seasonal and H1N1 vaccines were combined into 1 vaccination.[4]

Sample Size: 130,000 (prior to 2007); 65,000 (2007 onward)

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Indicator: Chronic Obstructive Pulmonary Disease (COPD) Hospitalization for Canadians Younger Than Age 75

Data Years: 2001 to 2012

Indicator Description: Age-standardized rate of hospitalization due to COPD for patients younger than age 75 (per 100,000)

Rationale: COPD is a leading cause of morbidity and mortality in Canada.[1, 2] COPD is largely attributable to smoking, and it has been estimated that approximately 80% of COPD deaths are related to smoking.[3] For persons with COPD age 74 and younger, the disease may be considered an ambulatory care sensitive condition (ACSC) because timely and effective primary health care can usually prevent the onset of health complications and related hospitalizations.[4] Therefore, higher rates of COPD hospitalizations are thought to reflect poorer access to appropriate and effective primary health care.[5, 6]

Data Sources: Discharge Abstract Database (DAD) and Hospital Morbidity Database (HMDB), Canadian Institute for Health Information

Income Disaggregator: Neighbourhood-level income from the Postal Code Conversion File Plus, Statistics Canada

Denominator Description: Total population younger than age 75 based on the 2001 and 2006 census counts, with linear-based extrapolation to derive population estimates for between-census years, as well as for 2011 and 2012[ii]

Numerator Description: Total number of separations from acute care hospitals (including discharges, sign-outs and transfers) for COPD for patients younger than age 75

Inclusions:

1. Age at admission younger than 75

2. Admission to an acute care institution

Exclusions:

1. Newborn, stillbirth or cadaveric donor records

2. Records where the sex is not recorded as male or female

3. Records with death discharge

4. Records with invalid postal code or unassigned income information

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

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ii.   Population counts are available upon request (cphi@cihi.ca).

Age Groupings for Standardization: 0–4; 5–9; 10–14; 15–19; 20–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74

Geographic Assignment: Patient's province of residence according to postal code in the database

Geographic Coverage: All provinces and territories

Interpretation: Lower rates are desirable.

Case Selection Criteria:

Descriptor	ICD-10 Codes	ICD-9 Codes (Quebec, Manitoba)	Qualifier
COPD	J41, J42, J43, J44, J47	491, 492, 494, 496	Most Responsible Diagnosis
	J10.0, J11.0, J12–J16, J18, J20, J21, J22	466, 480, 481, 482, 483, 484, 485, 486, 4870	Most Responsible Diagnosis when a secondary diagnosis of J44 (ICD-10) or 496 (ICD-9) is also present

Notes
Quebec: ICD-9 is used for years prior to 2006.
Manitoba: ICD-9 is used for years prior to 2004.

Percentage Missing Due to Income:

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Percentage Missing*	1.6	1.7	1.6	1.6	1.7	1.5	1.5	1.3	1.4	1.4	1.6	1.6

Note
*   Percentage missing refers to the proportion of hospital separation records for this indicator that are missing or have invalid postal code information for patient's place of residence and are therefore excluded from analyses based on neighbourhood-level income quintiles.

Data Source Descriptions:

Discharge Abstract Database: The DAD is a national-level database that captures administrative and clinical information from inpatient separation records (discharges, deaths, sign-outs and transfers) from acute care hospitals within a fiscal year (April 1 to March 31) from all provinces and territories in Canada, with the exception of Quebec. Selected day surgery, rehabilitation, psychiatric, long-term care and other data is also captured in the DAD.[7]

Hospital Morbidity Database: The HMDB captures administrative, clinical and demographic information on inpatient separation records from acute care hospitals across Canada (including Quebec). Data sources include the DAD and the ministère de la Santé et des Services sociaux du Québec.[8]

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Indicator: Fall Injury Hospitalization for Seniors

Data Years: 2001 to 2012

Indicator Description: Age-standardized rate of hospitalizations due to injury resulting from unintentional falls for patients age 65 and older (per 100,000)

Rationale: Falls are a leading cause of injury hospitalization for seniors in Canada[1] and are a major risk factor in seniors transitioning to a continuing care facility.[1–3] Among seniors, fall-related injuries also lead to longer hospital stays than the average length of stay for any cause, contributing a higher burden toward health care costs.[4]

Data Sources: Discharge Abstract Database (DAD) and Hospital Morbidity Database (HMDB), Canadian Institute for Health Information

Income Disaggregator: Neighbourhood-level income from the Postal Code Conversion File Plus, Statistics Canada

Denominator Description: Total population age 65 and older based on the 2001 and 2006 census counts, with linear-based extrapolation to derive population estimates for between-census years, as well as for 2011 and 2012[iii]

Numerator Description: Total number of separations from acute care hospitals (including discharges, deaths, sign-outs and transfers) resulting from unintentional fall injuries for patients age 65 and older

Inclusions:

1. Age at admission 65 and older
2. Admission to an acute care institution

Exclusions:

1. Stillborn or cadaveric donor records
2. Records where the sex is not recorded as male or female
3. Records with invalid postal code or unassigned income information

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

Age Groupings for Standardization: 65–69; 70–74; 75–79; 80–84; 85–89; 90+

Geographic Assignment: Patient's province of residence according to postal code in the database

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iii. Population counts are available upon request (cphi@cihi.ca).

Geographic Coverage: All provinces and territories

Interpretation: Lower rates are desirable.

Case Selection Criteria:

Descriptor	ICD-10 Codes	ICD-9 Codes	Qualifier
Unintentional Falls	W00–W19	E880–E886, E888	Diagnosis type 9 (external cause of injury)

Percentage Missing Due to Income:

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Percentage Missing*	2.2	2.1	2.0	1.7	1.5	1.4	1.4	1.3	1.4	1.3	1.3	1.4

Note

*   Percentage missing refers to the proportion of hospital separation records for this indicator that are missing or have invalid postal code information for patient's place of residence and are therefore excluded from analyses based on neighbourhood-level income quintiles.

Data Source Descriptions:

Discharge Abstract Database: The DAD is a national-level database that captures administrative and clinical information from inpatient separation records (discharges, deaths, sign-outs and transfers) from acute care hospitals within a fiscal year (April 1 to March 31) from all provinces and territories in Canada, with the exception of Quebec. Selected day surgery, rehabilitation, psychiatric, long-term care and other data is also captured in the DAD.[6]

Hospital Morbidity Database: The HMDB captures administrative, clinical and demographic information on inpatient separation records from acute care hospitals across Canada (including Quebec). Data sources include the DAD and the ministère de la Santé et des Services sociaux du Québec.[7]

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Indicator: Motor Vehicle Traffic Injury Hospitalization

Data Years: 2001 to 2012

Indicator Description: Age-standardized rate of hospitalization due to injury resulting from motor vehicle traffic accidents (per 100,000)

Rationale: Motor vehicle injuries are a leading cause of unintentional injury hospitalization, particularly among younger Canadians.[1] Motor vehicle injuries are also a leading cause of premature death, with approximately 2,100 Canadians killed in 2012.[2]

Data Sources: Discharge Abstract Database (DAD) and Hospital Morbidity Database (HMDB), Canadian Institute for Health Information

Income Disaggregator: Neighbourhood-level income from the Postal Code Conversion File Plus, Statistics Canada

Denominator Description: Total population based on the 2001 and 2006 census counts, with linear-based extrapolation to derive population estimates for between-census years, as well as for 2011 and 2012[iv]

Numerator Description: Total number of separations from acute care hospitals (including discharges, deaths, sign-outs and transfers) resulting from motor vehicle traffic accident injuries

Inclusion:

1. Admission to an acute care institution

Exclusions:

1. Newborn, stillbirth or cadaveric donor records
2. Records where the sex is not recorded as male or female
3. Records with invalid postal code or unassigned income information

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

Age Groupings for Standardization: 0–4; 5–9; 10–14; 15–19; 20–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74; 75–79; 80–84; 85–89; 90+

Geographic Assignment: Patient's province of residence according to postal code in the database

Geographic Coverage: All provinces and territories

Interpretation: Lower rates are desirable.

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iv. Population counts are available upon request (cphi@cihi.ca).

Case Selection Criteria:

Descriptors	ICD-10 Codes	ICD-9 Codes	Qualifier
Motor Vehicle Traffic — Driver	V30.5, V31.5, V32.5, V33.5, V34.5, V35.5, V36.5, V37.5, V38.5, V39.4, V40.5, V41.5, V42.5, V43.5, V44.5, V45.5, V46.5, V47.5, V48.5, V49.4, V50.5, V51.5, V52.5, V53.5, V54.5, V55.5, V56.5, V57.5, V58.5, V59.4, V60.5, V61.5, V62.5, V63.5, V64.5, V65.5, V66.5, V6.75, V68.5, V69.4, V70.5, V71.5, V72.5, V73.5, V74.5, V75.5, V76.5, V77.5, V78.5, V79.4, V83.0, V84.0, V85.0, V86.00, V86.08	E810.0, E811.0, E812.0, E813.0, E814.0, E815.0, E816.0, E818.0, E819.0	Diagnosis type 9 (external cause of injury code)
Motor Vehicle Traffic — Passenger	V30.6, V31.6, V32.6, V33.6, V34.6, V35.6, V36.6, V37.6, V38.6, V39.5, V40.6, V41.6, V42.6, V43.6, V44.6, V45.6, V46.6, V47.6, V48.6, V49.5, V50.6, V51.6, V52.6, V53.6, V54.6, V55.6, V56.6, V57.6, V58.6, V59.5, V60.6, V61.6, V62.6, V63.6, V64.6, V65.6, V66.6, V67.6, V68.6, V69.5, V70.6, V71.6, V72.6, V73.6, V74.6, V75.6, V76.6, V77.6, V78.6, V79.5, V83.1, V84.1, V85.1, V86.10, V86.18	E810.1, E811.1, E812.1, E813.1, E814.1, E815.1, E816.1, E818.1, E819.1	Diagnosis type 9 (external cause of injury code)
Motor Vehicle Traffic — Motorcycle Driver	V20.4, V21.4, V22.4, V23.4, V24.4, V25.4, V26.4, V27.4, V28.4, V29.4	E810.2, E811.2, E812.2, E813.2, E814.2, E815.2, E816.2, E818.2, E819.2	Diagnosis type 9 (external cause of injury code)
Motor Vehicle Traffic — Motorcycle Passenger	V20.5, V21.5, V22.5, V23.5, V24.5, V25.5, V26.5, V27.5, V28.5, V29.5	E810.3, E811.3, E812.3, E813.3, E814.3, E815.3, E816.3, E818.3, E819.3	Diagnosis type 9 (external cause of injury code)
Motor Vehicle Traffic — Pedestrian	V02.1, V02.9, V03.1, V03.9, V04.1, V04.9, V09.2	E810.7, E811.7, E812.7, E813.7, E814.7, E815.7, E816.7, E818.7, E819.7	Diagnosis type 9 (external cause of injury code)
Motor Vehicle Traffic — Pedal Cyclist	V12.4, V12.5, V12.9, V13.4, V13.5, V13.9, V14.4, V14.5, V14.9, V19.4, V19.5, V19.6	E810.6, E811.6, E812.6, E813.6, E814.6, E815.6, E816.6, E818.6, E819.6	Diagnosis type 9 (external cause of injury code)
Motor Vehicle Traffic — Other and Unspecified	V20.9, V21.9, V22.9, V23.9, V24.9, V25.9, V26.9, V27.9, V28.9, V29.6, V29.8, V29.9, V30.7, V30.9, V31.7, V31.9, V32.7, V32.9, V33.7, V33.9, V34.7, V34.9, V35.7, V35.9, V36.7, V36.9, V37.7, V37.9, V38.7, V38.9, V39.6, V39.8, V39.9, V40.7, V40.9, V41.7, V41.9, V42.7, V42.9, V43.7, V43.9, V44.7, V44.9, V45.7, V45.9, V46.7, V46.9, V47.7, V47.9, V48.7, V48.9, V49.6, V49.8, V49.9, V50.7, V50.9, V51.7, V51.9, V52.7, V52.9, V53.7, V53.9, V54.7, V54.9, V55.7, V55.9, V56.7, V56.9, V57.7, V57.9, V58.7, V58.9, V59.6, V59.8, V59.9, V60.7, V60.9, V61.7, V61.9, V62.7, V62.9, V63.7, V63.9, V64.7, V64.9, V65.7, V65.9, V66.7, V66.9, V67.7, V67.9, V68.7, V68.9, V69.6, V69.8, V69.9, V70.7, V70.9, V71.7, V71.9, V72.7, V72.9, V73.7, V73.9, V74.7, V74.9, V75.7, V75.9, V76.7, V76.9, V77.7, V77.9, V78.7, V78.9, V79.6, V79.8, V79.9, V82.1, V83.2, V83.3, V84.2, V84.3, V85.2, V85.3, V86.2, V86.30, V86.38, V87.0, V87.1, V87.2, V87.3, V87.4, V87.5, V87.6, V87.7, V87.8, V89.2	E810.4, E811.4, E812.4, E813.4, E814.4, E815.4, E816.4, E818.4, E819.4, E810.5, E811.5, E812.5, E813.5, E814.5, E815.5, E816.5, E818.5, E819.5, E810.8, E811.8, E812.8, E813.8, E814.8, E815.8, E816.8, E818.8, E819.8, E810.9, E811.9, E812.9, E813.9, E814.9, E815.9, E816.9, E818.9, E819.9	Diagnosis type 9 (external cause of injury code)

Percentage Missing Due to Income:

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Percentage Missing*	4.6	4.3	3.9	3.9	3.5	3.7	3.5	3.3	3.3	2.9	3.0	3.3

Note

*   Percentage missing refers to the proportion of hospital separation records for this indicator that are missing or have invalid postal code information for patient's place of residence and are therefore excluded from analyses based on neighbourhood-level income quintiles.

Data Source Descriptions:

Discharge Abstract Database: The DAD is a national-level database that captures administrative and clinical information from inpatient separation records (discharges, deaths, sign-outs and transfers) from acute care hospitals within a fiscal year (April 1 to March 31) from all provinces and territories in Canada, with the exception of Quebec. Selected day surgery, rehabilitation, psychiatric, long-term care and other data is also captured in the DAD.[3]

Hospital Morbidity Database: The HMDB captures administrative, clinical and demographic information on inpatient separation records from acute care hospitals across Canada (including Quebec). Data sources include the DAD and the ministère de la Santé et des Services sociaux du Québec.[4]

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Indicator: Mental Illness Hospitalization

Data Years: 2006 to 2012

Indicator Description: Age-standardized rate of hospitalization for selected mental illnesses (substance-related disorders; schizophrenic, delusional and non-organic psychotic disorders; mood/affective disorders; anxiety disorders; and personality disorders) for patients age 15 and older (per 100,000)

Rationale: Unemployment, underemployment and dependence on social assistance are more likely to be experienced by those with mental illness.[1] Mental illness hospitalizations are potentially avoidable through preventive care, social support and early disease management. This indicator provides a measure of hospital utilization and may reflect differences in the health of the population and mental health service delivery models, as well as variations in the availability and accessibility of specialized, residential and/or ambulatory and community-based health services.[1]

Data Sources: Hospital Mental Health Database (HMHDB) (contains data from the Hospital Mental Health Survey [HMHS], Discharge Abstract Database [DAD], Hospital Morbidity Database [HMDB] and Ontario Mental Health Reporting System [OMHRS])

Income Disaggregator: Neighbourhood-level income from the Postal Code Conversion File Plus, Statistics Canada

Denominator Description: Total population age 15 and older based on the 2001 and 2006 census counts, with linear-based extrapolation to derive population estimates for between-census years, as well as for 2011 and 2012[v]

Numerator Description: Total number of separations from general and psychiatric hospitals (including discharges, deaths, sign-outs and transfers) for selected mental illnesses

Inclusions:

1. Age at admission 15 and older

2. Admission to an acute care institution or psychiatric facility

Exclusions:

1. Records where the sex is not recorded as male or female

2. Records with invalid postal code or unassigned income information

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

Age Groupings for Standardization: 15–19; 20–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74; 75–79; 80–84; 85–89; 90+

Geographic Assignment: Patient's place of service[vi]

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v. Population counts are available upon request (cphi@cihi.ca).
vi. Results calculated using the patient's province of residence to assign geography are also available on request.

Geographic Coverage: All provinces and territories

Note: Due to inconsistencies in data availability and coverage between provinces and over time, the date range was restricted to 2006 onward, and both general and psychiatric hospitals were included. Due to variation in psychiatric hospital data capture and institution type coding, caution should be taken when comparing values across provinces.

Interpretation: Lower rates are desirable.

Case Selection Criteria: Selected mental illnesses coded as the most responsible diagnosis and/or diagnosis category

Descriptors	ICD-10 Codes	DSM-IV Codes
Substance-Related Disorders	F10–F19, F55	291, 292, 303, 304, 305
Schizophrenia, Delusional and Non-Organic Psychotic Disorders	F20–F29	295, 297, 298
Mood/Affective Disorders	F30–F34, F38.0, F38.1, F38.8, F39, F53.0	296, 300.4, 311
Anxiety Disorders	F40, F41, F42, F43.0, F43.1, F43.8, F43.9, F93.0, F93.1, F93.2	3000, 300.2, 300.3, 308.3, 309.8
Selected Disorders of Adult Personality and Behaviour	F60, F61, F62, F68, F69	301

Percentage Missing Due to Income:

	2006	2007	2008	2009	2010	2011	2012
Percentage Missing*	5.2	4.9	4.3	4.7	4.8	6.9	4.5

Note

*   Percentage missing refers to the proportion of hospital separation records for this indicator that are missing or have invalid postal code information for patient's place of residence and are therefore excluded from analyses based on neighbourhood-level income quintiles.

Data Source Description:

Hospital Mental Health Database: The HMHDB contains data from across Canada on hospitalizations for mental illness and addiction. It provides demographic, administrative and clinical information from all provinces and territories for inpatient hospital stays for psychiatric conditions. HMHDB data is gathered from administrative separation records (at discharge or death) from psychiatric and general hospitals from 4 sources[2]

- General and psychiatric hospitals: Selected extracts of the DAD for participating provinces and territories (1994 to 2013)

- General and psychiatric hospitals in Quebec: The HMDB (1994 to 2012)

- Some psychiatric hospitals: Data submitted by a small number of hospitals and ministries of health through the HMHS, an annual collection of data on separations

- Designated adult mental health beds in Ontario: Clinical and administrative records through OMHRS (2005 to 2013)

References

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Indicator: Alcohol-Attributable Hospitalization

Data Years: 2007 to 2012

Indicator Description: Age-standardized rate of hospitalization for alcohol-attributable conditions for patients age 15 and older (per 100,000). The Alcohol-Attributable Hospitalization indicator captures inpatient treatment at general hospitals for chronic diseases or conditions that have been classified as entirely attributable to alcohol,[1] excluding alcohol-related injuries (including motor vehicle–related injuries) and suicides. Using this definition, mental and behavioural disorders (e.g., acute intoxication, withdrawal, dependence syndrome) are the most common reason Canadians require hospitalization for an alcohol-attributable disease or condition, making up approximately 60% of all alcohol-attributable hospitalizations between 2007 and 2012. This is followed by acute pancreatitis and liver cirrhosis, each making up approximately 11% of all alcohol-attributable hospitalizations.

Rationale: There is a well-established and growing body of evidence demonstrating that certain patterns of alcohol consumption cause or contribute to the development of many health conditions and diseases.[2–4] Research has linked alcohol consumption to more than 60 disease conditions.[5] However, it is important to note that this Alcohol-Attributable Hospitalization indicator is restricted to conditions where alcohol is defined as the necessary cause (i.e., 100% attributable to alcohol).

Data Sources: Discharge Abstract Database (DAD), Hospital Morbidity Database (HMDB) and Ontario Mental Health Reporting System (OMHRS), Canadian Institute for Health Information

Income Disaggregator: Neighbourhood-level income from the Postal Code Conversion File Plus, Statistics Canada

Denominator Description: Total population age 15 and older based on the 2001 and 2006 census counts, with linear-based extrapolation to derive population estimates for between-census years, as well as for 2011 and 2012[vii]

Numerator Description: Total number of separations from acute care hospitals (including discharges, deaths, sign-outs and transfers) with a condition classified as 100% attributable to alcohol

Inclusions:

1. Age at admission 15 and older

2. Admission to an acute care institution

Exclusions:

1. Stillborn or cadaveric donor records

2. Records where the sex is not recorded as male or female

3. Records with invalid postal code or unassigned income information

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vii. Population counts are available upon request (cphi@cihi.ca).

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

Age Groupings for Standardization: 15–19; 20–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74; 75–79; 80–84; 85–89; 90+

Geographic Assignment: Patient's province of residence according to postal code in the database

Geographic Coverage: All provinces and territories

Note: Due to inconsistencies in data availability for Ontario, the date range was restricted to 2007 onward

Interpretation: Lower rates are desirable.

Case Selection Criteria: Alcohol-attributable conditions coded as the most responsible diagnosis or main condition

Table 1: Disease Conditions That Are by Definition Alcohol Attributable[1]	
Description	**ICD-10 Codes**
Mental and Behavioural Disorders Due to Use of Alcohol	F10
Degeneration of Nervous System Due to Alcohol	G31.2
Alcoholic Polyneuropathy	G62.1
Alcoholic Myopathy	G72.1
Alcoholic Cardiomyopathy	I42.6
Alcoholic Gastritis	K29.2
Alcoholic Liver Disease	K70
Alcohol-Induced Acute Pancreatitis	K85.2
Alcohol-Induced Chronic Pancreatitis	K86.0
Fetus and Newborn Affected by Maternal Use of Alcohol	P04.3
Fetal Alcohol Syndrome (Dysmorphic)	Q86.0

Table 2: Disease Conditions That Are by Definition Alcohol Attributable for Use With OMHRS	
Description	**DSM-IV Codes**
Alcohol Intoxication Delirium	291.0
Alcohol Withdrawal Delirium	
Alcohol Persisting Amnestic Disorder	291.1
Alcohol Persisting Dementia	291.2
Alcohol-Induced Psychotic Disorder, With Hallucinations	291.3
Alcohol-Induced Psychotic Disorder, With Delusions	291.5

Table 2: Disease Conditions That Are by Definition Alcohol Attributable for Use With OMHRS (cont'd)	
Description	**DSM-IV Codes**
Alcohol Withdrawal	291.81
Alcohol-Induced Sleep Disorder	291.82
Alcohol-Induced Mood Disorder	291.89
Alcohol-Induced Anxiety Disorder	
Alcohol-Induced Sexual Dysfunction	
Alcohol-Related Disorder Not Otherwise Specified	291.9
Alcohol Intoxication	303.00
Alcohol Dependence	303.90
Alcohol Abuse	305.00

Percentage Missing Due to Income:

	2007	2008	2009	2010	2011	2012
Percentage Missing*	0.2	0.2	0.5	0.3	0.2	0.2

Note

* Percentage missing refers to the proportion of hospital separation records for this indicator that are missing or have invalid postal code information for patient's place of residence and are therefore excluded from analyses based on neighbourhood-level income quintiles.

Data Source Description:

Discharge Abstract Database: The DAD is a national-level database that captures administrative and clinical information from inpatient separation records (discharges, deaths, sign-outs and transfers) from acute care hospitals within a fiscal year (April 1 to March 31) from all provinces and territories in Canada, with the exception of Quebec. Selected day surgery, rehabilitation, psychiatric, long-term care and other data is also captured in the DAD.[6]

Hospital Morbidity Database: The HMDB captures administrative, clinical and demographic information on inpatient separation records from acute care hospitals across Canada (including Quebec). Data sources include the DAD and the ministère de la Santé et des Services sociaux du Québec.[7]

Ontario Mental Health Reporting System: OMHRS captures administrative and clinical information on individuals admitted to designated adult mental health beds in Ontario. Data is collected on clients from 68 participating hospitals in Ontario using the Resident Assessment Instrument–Mental Health (RAI-MH). The database includes information about mental and physical health, social support and service use. Data is collected at admission, at discharge and every 3 months for patients with extended stays.[8]

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Indicator: Hospitalized Heart Attacks

Data Years: 2008 to 2012

Indicator Description: Age-standardized rate of new acute myocardial infarction (AMI) events admitted to an acute care hospital for patients age 20 and older (per 100,000)

Note: A new event is defined as a first-ever hospitalization for an AMI or a recurrent hospitalized AMI occurring more than 28 days after the admission for the previous event in the reference period.

Rationale: AMI, commonly known as heart attack, is among the leading causes of morbidity and death in Canada.[1] From a disease surveillance perspective, there are 3 groups of AMI events: non-diagnosed events, fatal events occurring outside the hospital and events admitted to acute care hospitals. Although AMIs admitted to a hospital do not reflect all heart attacks in the community, this information provides a useful and timely estimate of the disease occurrence in the population.[2] Measuring the occurrence of cardiovascular disease, including AMI, in the population is important for planning and evaluating preventive strategies, allocating health resources and estimating costs.[1, 3]

Data Sources: Discharge Abstract Database (DAD) and Hospital Morbidity Database (HMDB), Canadian Institute for Health Information

Income Disaggregator: Neighbourhood-level income from the Postal Code Conversion File Plus, Statistics Canada

Denominator Description: Total population age 20 and older based on the 2001 and 2006 census counts, with linear-based extrapolation to derive population estimates for between-census years, as well as for 2011 and 2012[viii]

Numerator Description: Individuals age 20 and older admitted to an acute care institution due to an AMI event

Inclusions:

1. Age at admission 20 and older
2. Admission to an acute care institution

Exclusions:

1. Stillborn or cadaveric donor records
2. Records with an invalid health card number or date of birth (non-Quebec records)
3. Records with an invalid admission date
4. AMI admissions within 28 days after the admission date of the previous AMI hospitalization

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viii. Population counts are available upon request (cphi@cihi.ca).

5. Transfers[ix]

6. Records where sex was not recorded as male or female

7. Records with invalid postal code or unassigned income information

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

Age Groupings for Standardization: 20–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74; 75–79; 80–84; 85–89; 90+

Geographic Assignment: Patient's province of residence according to postal code

Geographic Coverage: All provinces and territories

Note: Due to inconsistencies in data availability between provinces, the date range was restricted to 2008 onward.

Interpretation: Lower rates are desirable.

Case Selection Criteria:

Indicator	ICD-10 Code	Qualifier
Myocardial infarction	I21, I22	Coded as diagnosis type (1) or as [type (M), (W), (X) or (Y), but not also as diagnosis type (2)]

Percentage Missing Due to Income:

	2008	2009	2010	2011	2012
Percentage Missing*	0.42	0.88	0.92	0.95	1.11

Note

* Percentage missing refers to the proportion of hospital separation records for this indicator that are missing or have invalid postal code for patient's place of residence and are therefore excluded from analyses based on neighbourhood-level income quintiles.

Data Source Descriptions:

Discharge Abstract Database: The DAD is a national-level database that captures administrative and clinical information from inpatient separation records (discharges, deaths, sign-outs and transfers) from acute care hospitals within a fiscal year (April 1 to March 31) from all provinces and territories in Canada, with the exception of Quebec. Selected day surgery, rehabilitation, psychiatric, long-term care and other data is also captured in the DAD.[4]

Hospital Morbidity Database: The HMDB captures administrative, clinical and demographic information on inpatient separation records from acute care hospitals across Canada (including Quebec). Data sources include the DAD and the ministère de la Santé et des Services sociaux du Québec.[5]

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ix. If a subsequent AMI admission occurs on the same day as or prior to the discharge date of a previous AMI admission, it is considered a transfer.

References

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Indicator: Diabetes

Data Years: 2003, 2005, 2007–2008, 2009–2010, 2011–2012, 2013

Indicator Description: Age-standardized prevalence rate (per 100) of population age 18 and older who reported having been diagnosed with diabetes by a health professional

Rationale: Diabetes is a chronic condition in which the body either cannot produce insulin (a hormone that controls levels of blood sugar, or glucose) or cannot properly use the insulin it produces.[1] Having diabetes increases a person's risk of a number of serious complications, including stroke, cardiovascular disease, chronic kidney disease, lower-limb amputations and eye disease.[1]

Data Source: Canadian Community Health Survey (CCHS), Statistics Canada

Income Disaggregator: Self-reported adjusted household income from the CCHS

Denominator Description: CCHS respondents age 18 and older

Exclusions:

1. Non-response categories ("refusal," "don't know" and "not stated")
2. Respondents from the 3 territories (as income quintile data is unavailable)

Numerator Description: CCHS respondents age 18 and older who reported having been diagnosed with diabetes by a health professional

Survey Weight: Person level

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

Age Groupings for Standardization: 18–19; 20–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74; 75–79; 80–84; 85–89; 90–94; 95–99; 100+

Geographic Assignment: Respondent's province of residence according to postal code in the CCHS

Geographic Coverage: All 10 provinces (territories excluded)

Interpretation: Lower rates are desirable.

Case Selection Criteria: Respondents who reported having been diagnosed with diabetes by a health professional

Variable: CCC_101

Response: Yes

Survey Question: "Do you have diabetes?" (CCC_Q101)

Note: This question does **not** distinguish between the different types of diabetes (i.e., type 1, type 2, gestational).

Prompt preceding the question: "Remember, we're interested in conditions diagnosed by a health professional and that are expected to last or have already lasted 6 months or more."

Percentage Missing Due to Income:

	2003	2005	2007–2008	2009–2010	2011–2012	2013
Percentage Missing*	15.2	15.0	15.3	17.5	13.1	11.9

Note

*   Percentage missing refers to the proportion of CCHS respondents who did not report income for this indicator and are therefore excluded from analyses based on self-reported adjusted household income quintiles.

Data Source Description:

Canadian Community Health Survey: The CCHS is a cross-sectional survey that collects information related to health status, health care utilization and health determinants for the community-dwelling Canadian population on an ongoing basis. The primary purpose of data collection is health surveillance and population health research. The CCHS target population is Canadians age 12 and older in all provinces and territories. Excluded from the sampling frame are individuals living on Indian reserves and Crown lands, institutional residents, full-time members of the Canadian Armed Forces and residents of certain remote regions (Région du Nunavik and Région des Terres-Cries-de-la-Baie-James). Altogether, these exclusions represent less than 3% of the target population.[2]

Sample Size: 130,000 (prior to 2007); 65,000 (2007 onward)

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Indicator: Self-Rated Mental Health

Data Years: 2003, 2005, 2007–2008, 2009–2010, 2011–2012, 2013

Indicator Description: Age-standardized prevalence rate of population age 18 and older who reported perceiving their own mental health status as poor or fair (per 100)

Rationale: The Self-Rated Mental Health indicator measures an individual's perception of his or her mental health status and provides an estimate of the population suffering from mental disorders, distress, or emotional or mental problems.[1] Fair or poor self-rated mental health among Canadians has been found to be associated with a wide variety of mental morbidity measures, such as having a self-reported mental disorder diagnosed by a health professional.[2]

Data Source: Canadian Community Health Survey (CCHS), Statistics Canada

Income Disaggregator: Self-reported adjusted household income from the CCHS

Denominator Description: CCHS respondents age 18 and older

Exclusions:

1. Non-response categories ("refusal," "don't know" and "not stated")
2. Respondents from the 3 territories (as income quintile data is unavailable)

Numerator Description: CCHS respondents age 18 and older who reported perceiving their own mental health status as fair or poor

Survey Weight: Person level

Method of Age-Standardization: Direct age-standardization to the Canada 2011 standard population

Age Groupings for Standardization: 18–19; 20–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65–69; 70–74; 75–79; 80–84; 85–89; 90–94; 95–99; 100+

Geographic Assignment: Respondent's province of residence according to postal code in the CCHS

Geographic Coverage: All 10 provinces (territories excluded)

Interpretation: Lower rates are desirable.

Case Selection Criteria: Respondents who reported perceiving their own mental health status as fair or poor

Variable: GENDMHI (derived from Perceived Mental Health variable GEN_02B)

Responses: Poor, fair

Survey Question: "In general, would you say your mental health is excellent, very good, good, fair or poor?" (GEN_Q02C)

Percentage Missing Due to Income:

	2003	2005	2007–2008	2009–2010	2011–2012	2013
Percentage Missing*	15.1	14.8	15.2	17.4	12.9	11.8

Note

*   Percentage missing refers to the proportion of CCHS respondents who did not report income for this indicator and are therefore excluded from analyses based on self-reported adjusted household income quintiles.

Data Source Description:

Canadian Community Health Survey: The CCHS is a cross-sectional survey that collects information related to health status, health care utilization and health determinants for the community-dwelling Canadian population on an ongoing basis. The primary purpose of data collection is health surveillance and population health research. The CCHS target population is Canadians age 12 and older in all provinces and territories. Excluded from the sampling frame are individuals living on Indian reserves and Crown lands, institutional residents, full-time members of the Canadian Armed Forces and residents of certain remote regions (Région du Nunavik and Région des Terres-Cries-de-la-Baie-James). Altogether, these exclusions represent less than 3% of the target population.[3]

Sample Size: 130,000 (prior to 2007); 65,000 (2007 onward)

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Indicator: Infant Mortality

Data Years: 2000 to 2002, 2005 to 2007, 2009 to 2011

Note: 3 years of data have been grouped for the analysis (2001 = 2000 to 2002; 2006 = 2005 to 2007; 2011 = 2009 to 2011)

Indicator Description: The death rate of infants younger than 1 year old (per 1,000 live births)[x]

Rationale: Infant mortality is an established indicator of maternal and child health and, by extension, the health of a population. Infant mortality rates are considered an indicator of social and economic conditions within a country, community or subpopulation.[1, 2] A wide range of factors have been found to be associated with infant mortality, including socio-economic status and educational attainment,[3–5] quality of living conditions and environments, health behaviours, and access to and utilization of adequate health care services.[2, 6–9] High rates of infant mortality may reflect this wide variety of population health issues.

Data Sources: Canadian Vital Statistics, Birth Database and Death Database, Statistics Canada

Income Disaggregator: Neighbourhood-level income from the Postal Code Conversion File Plus, Statistics Canada

Denominator Description: Total number of live births

Numerator Description: Total number of deaths of live-born infants age 364 days or younger

Geographic Assignment: Province of residence according to death certificate. Infants born outside the province/territory of residence of their mothers or infants who die outside the province/territory of their mother are included in the rates for the mother's province/territory of residence.

Geographic Coverage: All provinces and territories

Interpretation: Lower rates are desirable.

Data Source Descriptions:

Canadian Vital Statistics, Birth Database: This is an administrative registry that collects demographic information annually from all provincial and territorial vital statistics registries on all live births in Canada. Some data is also collected on live births to Canadian residents in some American states. The data is used to calculate basic indicators (such as counts and rates) on births of residents of Canada.[10]

Canadian Vital Statistics, Death Database: This is an administrative registry that collects demographic and medical (cause of death) information annually from all provincial and territorial vital statistics registries on all deaths in Canada. The data is used to calculate basic indicators (such as counts and rates) on deaths of residents of Canada and statistics such as cause-

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x.   This rate includes all live births, including those with birth weights less than 500 grams. Infant mortality can also be reported excluding live births less than 500 grams. It has been noted that over time there has been an increased registration of live births under this cut-off.[11]

specific death rates and life expectancy. Cause of death is classified according to the World Health Organization's International Statistical Classification of Diseases and Related Health Problems (ICD).[12]

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