

## Throughout the Report

- Sex is categorized as male and female, unless the data source reflects otherwise. It is recognized that sex differs from gender. This distinction is discussed on page 15 of the report.
- Significant differences were estimated using overlapping confidence intervals. Although this method is conservative ( $\alpha \sim < 0.01$ ) and most appropriate when comparing mutually exclusive groups, it was chosen as an objective means of making conclusions on population-based data.
- Multiple comparisons performed in the analysis were not taken into consideration when choosing the level of significance to test.
- Time trend analysis is based on data from the most recent ten year period or, when there are fewer than ten years of data, from the earliest available year of complete and reliable data.
- Toronto is compared to the rest of Ontario (Ontario with Toronto data removed) as opposed to the Ontario total because Toronto comprises a large proportion of the Ontario population. Excluding Toronto therefore results in more meaningful comparisons.
- Estimates from surveys such as the Canadian Community Health Survey (CCHS) and the Toronto Public Health (TPH) Student Health Survey are subject to sampling error. Their interpretation requires an indication of the magnitude of this error using a measure called the coefficient of variation (CV). It is obtained by dividing the standard deviation of the estimate by the estimate itself and it is expressed as a percentage of the estimate. CVs will increase as the variability of an estimate increases, and decrease as an estimate is more precise. A CV between 16.6 and under 25 is considered to have high variability but may be released with a cautionary note, whereas a CV with a value of 25 and higher will not be released due to unacceptable quality.
- Percent totals may not equal 100% due to rounding.

## 1 Population Demographics

### General

#### 2016 Census of Population

- The Census of Population is administered by Statistics Canada every five years. The 2016 Census data were collected using the Census short-form (administered to 100% of the population) or Census long-form (administered to 25% of Canadian households). Both the short-form and long-form surveys have a cross-sectional design.
- The Census is prone to various errors at virtually every stage of the Census process. These errors include coverage, non-response, response, and processing errors. The long-form estimates come from a sample survey (25%) in the 2016 Census and are, thus, subject to sampling error and non-sampling error. The census short-form estimates come from a census and are, thus, only subject to non-sampling error.
- The target population of the 2016 long-form census includes the same target population of the short-form census with the exception of Canadian citizens living temporarily in other countries, full-time members of Canadian Forces stations outside Canada, and persons living in institutional collective dwellings (hospitals, nursing homes, penitentiaries, etc.).
- The 2016 Census of Population may undercount certain populations such as homeless/precariously housed, young adults, Indigenous, undocumented people, and low-income people.
- To ensure confidentiality, the values, including totals, are randomly rounded either up or down to a multiple of '5' or '10.' As a result, when these data are summed or grouped, the total value may not match the individual values since totals and sub-totals are independently rounded.
- Comparison between Census cycles may be impacted by changes in survey questions, administration date, definitions, target populations, and survey methodology and quality.

- When crossing data from the short-form census questionnaire and the long-form census questionnaire (e.g. analysing the language variable with the visible minority variable), users must take into consideration certain aspects of the quality, such as the non-response bias and the variability due to sampling and total non-response.
- Reference periods may differ by variable.
- Some data in this chapter (e.g. knowledge of official languages) are 2016 Census Target Group Profiles. Target Group Profiles provide Census Profile variables for a subset, or target group, of the population using data from the 2016 Census Program. All variables in the target group profile relate to these persons including: their age, their gender, their family status, the languages they speak, etc. Because the main unit of analysis in the Target Group Profile are persons, they do not contain any family or household-specific variables.
- For more information on the 2016 Census of Population, please visit <https://www12.statcan.gc.ca/census-recensement/2016/ref/98-304/index-eng.cfm>.

### Population Projections

- Population projections from the Ontario Ministry of Finance (MOF) are available via IntelliHealth ONTARIO as of July 1 of each year.
- The Ontario Ministry of Finance (MOF) produces projections using the most recent population estimates (by age and sex) released by Statistics Canada based on the 2011 Census as the base year. A separate analysis and projection is completed for each component of population growth including births, deaths, and migration (immigration, net emigration, net change in non-permanent residents, inter-provincial in- and out-migration, and intra-provincial in- and out-migration). The estimates are added to the base population to obtain the population of the subsequent year, by age and sex. This methodology is followed for each of the 49 census divisions in Ontario, including the city of Toronto.
- Population projections are founded on assumptions about births, deaths and migration over the projection period. Assumptions are based on the analysis of the long-term and the most recent trends of these components, as well as expectations of future direction.
- As population information is updated from time-to-time (e.g. preliminary post-censal, updated post-censal, and final post-censal), population estimates may be updated. Differences may appear in estimates from the same year, depending on the release date.
- Projections are based on the medium, or reference scenario, which is the “most likely to occur” scenario if recent trends continue.
- For more information on the Ontario Ministry of Finance population projections, please visit: <https://www.fin.gov.on.ca/en/economy/demographics/projections/#s4>.

### Life Expectancy

- Life Expectancy is the average length of time that an individual will live if subjected to the mortality experience for the specified population and time period. The period life table approach is used, which takes into consideration the current age-specific mortality rate for the population. Generally, life expectancy should not be used as a predictor of future health.
- The method used for calculating life expectancy is from:  
Chiang, C. L. (1984). *The life table and its applications*. Malabar, FL: Krieger Publishing.  
It was adapted for regional/local planning areas by: Manuel, D. G., Goel, V., & Williams, J. I. (1998). The derivation of life expectancy at the local level. *Chronic Dis Can*, 19(2), 52-6. Chiang’s method is used to derive ‘qx’ and ‘Lx’, except for the final age interval.
- For the interval of 90 years and over, the method of Hsieh has been used:  
Hsieh, J. J. (1991). A general theory of life table construction and a precise abridged life table method. *Biometrical journal*, 33(2), 143-162.

### Sex and Age Distribution

- In the 2016 Census of Population, respondent age was based on the age at the last birthday as of the reference date.
- Transgender, transsexual and intersex Canadians were asked to indicate the sex (male or female) with which they most associated themselves. Respondents who could not select one category had the option of leaving the question blank and indicating in the 'Comments' section, the reason(s) for which they had chosen to leave this question unanswered (not reported in this section).

### Marital Status

- Although the legal age of marriage in Ontario is 18 years (16 years with parental consent), this chapter reports on marital status for adults aged 20 years and over as it is assumed that younger people (especially those under 20 years) are more likely to be single (never married) and, thus, may lead to overestimation of this category.

### Family Type

- In the 2016 Census of Population, families with children include both couple family with children (e.g. a married or common-law couple with at least one child) and lone-parent families. Lone-parent families include lone parents of any marital status with at least one child living in the same dwelling. Children may be blood, step, or adopted sons and daughters, as well as grandchildren in households where there are no parents present. Children who do not live in the same dwelling as their parent(s) are not considered members of the census family of their parents.

### Living Arrangements

- In the 2016 Census of Population, people living alone include those individuals that are not in census families and do not live with other relatives or non-relatives.

### Indigenous People

- The variable on 'Aboriginal Identity' in the 2016 Census of Population was derived using the responses from the following three questions: 1) *Is this person an Aboriginal person, that is, First Nations (North American Indian), Métis or Inuk (Inuit)?* 2) *Is this person a Status Indian (Registered or Treaty Indian as defined by the Indian Act of Canada)?* 3) *Is this person a member of a First Nation/Indian band?*
- As noted in Chapter 1, due to the under-representation of the Indigenous population in national and local data sources and surveys, results are presented from the Our Health Counts Toronto study throughout the report. However, caution should be taken when comparing results from the Our Health Counts study to results from other data sources (such as the 2016 Census) as many factors affect comparisons of Indigenous data across different data sources. Comparability can be affected by differences in survey target populations, reference period, sampling and collection methods, question wording, questionnaire format, examples and instructions, and approaches to data processing and analysis. More information on the Our Health Counts study methodology, survey questions, and results can be found at <http://www.welllivinghouse.com/what-we-do/projects/our-health-counts-toronto/>. For comparability of 'Aboriginal' data from the 2016 Census with other data sources, please visit <https://www12.statcan.gc.ca/census-recensement/2016/ref/guides/009/98-500-x2016009-eng.cfm>.

### Immigration

- In the 2016 Census of Population, the geographic location where the person is born is specified according to geographic boundaries current at the time of data collection, not the geographic boundaries at the time of birth. The geographic location refers to a country if the person was born outside Canada.

- Permanent and temporary resident data from the Immigration, Refugees and Citizenship Canada (IRCC) is preliminary and are subject to change. Moreover, values below 6 were suppressed. This was done to prevent individuals from being identified when IRCC data is compiled and compared to other publicly available statistics. All other values are rounded to the closest multiple of 5 for the same reason.
- Data for permanent residents from the IRCC is based on permanent resident admissions with Toronto as the intended destination.
- A temporary resident can have multiple work/study permits in a given year. As such, the IRCC data are based on the total unique temporary permit holders (both work/study) in a given year. Data on refugee claimants is not included in this report.
- Data on temporary residents from the IRCC was revised to reflect the June 20, 2014 overhaul of the Temporary Foreign Worker Program (TFWP). The reporting methodology was also revised to count temporary residents, which includes Foreign Workers and International Students, based on the type of permit held by a temporary resident (effective from the date that the permit was signed, or a valid permit at the end of a given year).

### Visible Minority

- In the 2016 Census of Population, the visible minority indicator uses the ‘not a visible minority’ group as part of the denominator for the calculations. The ‘not a visible minority’ group included respondents who reported ‘Yes’ to the Aboriginal identity question as well as respondents who were not considered to be members of a visible minority group. It is important to note that although respondents of ‘Aboriginal’ identity were included in the ‘not a visible minority’ group, they have a unique identity, history, and experiences that make them distinctive from the rest of the respondents in this group.
- Multiple responses (belonging to more than one group) are counted differently in the visible minority variable because of the need to derive the variable in accordance with employment equity requirements. For more information, please visit <https://www12.statcan.gc.ca/census-recensement/2016/ref/guides/006/98-500-x2016006-eng.cfm>.

### Language

- A change in the order of the language questions between 2006 and 2011 had created some observable changes in response patterns between the two periods, namely, an increase in the reporting of multiple languages spoken. In contrast, 2016 Census language data are largely consistent over time with 2011 Census language data. As such, historical comparisons are not made to the 2006 Census in this section.

### Sexual Orientation and Gender Identity: Students

- Four different versions of the TPH Student Survey were administered. Grade 7 and 8 students in all four school boards, as well as grade 9 to 12 students in the Catholic school boards, were not asked questions on sexual orientation and gender identity. All questionnaire items were included for grade 9 to 12 students in the Toronto District School Board (TDSB) and Conseil Scolaire Viamonde (Viamonde) (all non-Catholic schools).
- It should be noted that students who did not participate in the survey may differ in their health status and health behaviours from those who were included. Although the sample reflects the general student population based on some of the key social determinants of health, the estimates in this report should be interpreted in the context of the sample that had parental consent and chose to participate.

## 2 The Social Environment

### General

For general data notes for the 2016 Census of Population, please refer to Chapter 1 in this appendix.

### Education

- The 2016 Census of Population variable ‘highest certificate, diploma, or degree’ (see glossary for definition) is used in this Chapter to measure the broader concept of ‘education level’. When compared to the 2016 Census, the education level category ‘high school not completed’ is synonymous to the ‘no certificate, diploma, or degree’ classification, the ‘high school graduate’ category is synonymous to the ‘secondary (high) school diploma or equivalency certificate’ classification, and the ‘post-secondary education completed’ is synonymous to the ‘postsecondary certificate, diploma or degree’ classification, which includes apprenticeship, trades, college, and/or university certificates, diplomas, and/or degrees. When compared to the 2006 Census, the education level category ‘high school not completed’ is synonymous to the ‘no certificate; diploma or degree’ classification, the ‘high school graduate’ category is synonymous to the ‘high school certificate or equivalent’ classification, and the ‘post-secondary education completed’ category includes those respondents that reported having ‘apprenticeship or trades certificate or diploma’, ‘college; CEGEP or other non-university certificate or diploma’, ‘university certificate or diploma below the bachelor level’, and ‘university certificate; diploma or degree’.
- ‘Secondary (high) school diploma or equivalency certificate’ includes only people who have this as their highest educational qualification. It excludes persons with a postsecondary certificate, diploma or degree.
- While the education concepts contained in the 2016 Census are the same as those in the 2006 Census, notable changes were made in 2016 to the wording and presentation of the education questions in order to improve the accuracy of reporting and/or reduce respondent burden. These questionnaire changes resulted in many data quality improvements. As such, caution should be taken when comparing education data from the two Census cycles. For more details on the changes, please visit <https://www12.statcan.gc.ca/census-recensement/2016/ref/guides/013/98-500-x2016013-eng.cfm>.

### Employment

- The unemployment rate for Indigenous adults is from Our Health Counts study. It is defined as the number of unemployed people as a percentage of the total population (aged 15 years and over). The denominator (the total population) used to calculate the unemployment rate in Indigenous people differs from the denominator (people in the labor force) used to calculate the unemployment rate in Toronto in the 2016 Census. In the 2016 Census, unemployment rate refers to the unemployed expressed as a percentage of the labour force. In the Our Health Counts study, employed includes part/full-time work, seasonal work, self-employed, homemaker, or any informal paid work (e.g. babysitting, housekeeping).
- Canadian city comparisons are made to city/census subdivision of Ottawa and Vancouver.
- For further information on the labour force status components in the 2016 Census, please visit [https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/figures/f6\\_1-eng.cfm](https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/figures/f6_1-eng.cfm).
- The Labour Force Survey (LFS) is a monthly cross-sectional survey of a sample of individuals who are representative of the civilian, non-institutionalized population 15 years of age or older. It excludes persons living on reserves and other Aboriginal settlements in the provinces, full-time members of the Canadian Armed Forces, the institutionalized population, and households in extremely remote areas with very low population density. Estimates are based on a sample and are subject to sampling and non-sampling errors.

- Unemployment and non-standard employment data are from LFS tables retrieved from the City of Toronto's Open Data Catalogue. At the beginning of 2015, Statistics Canada substantially changed the methodology used to produce LFS population estimates for the city of Toronto in these tables. These changes have resulted in large and inexplicable swings in population and related counts, which did not take place. Thus, rebasing was carried out using data from the Statistics Canada's Annual Demographics (CANSIM Tables 051-0036 and 051-0062) and the Ontario Ministry of Finance Population Projections (2015-2041) (accessed January 11, 2017). To access the tool used for rebasing, as well as additional information, please visit the Labour Force Survey page in City of Toronto's Open Data Catalogue available here: <https://www.toronto.ca/city-government/data-research-maps/open-data/open-data-catalogue/>.
- Annual data from the LFS is based on the annual averages for each month in a year.
- Although the 2016 Census and LFS both collect labor data for the population, there are conceptual and methodological differences between the two surveys that might result in different estimates for the same indicator. For more information, please visit [https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/app-ann/a6\\_1-eng.cfm](https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/app-ann/a6_1-eng.cfm).
- The terms 'Precarious Employment' and 'Non-Standard Employment' are used synonymously in this report, however, it is important to note that they are separate concepts. As per the Government of Ontario, precarious employment can include an element of non-standard work, however, not all types of non-standard work are precarious and vice versa. Precarious work is usually characterized as being unprotected (from labour market uncertainties), unsecure, lacking benefits such as pension, and low wages, resulting in vulnerable workers. Although there are multiple forms of non-standard employment, this report uses a restrictive definition of non-standard employment, and focuses solely on part-time and temporary (including seasonal, term/contract, casual, and other types of temporary work) employment.

### Low Income

- Income data from the 2016 Census of Population was collected solely from Canada Revenue Agency's (CRA) tax and benefits records.
- All income variables from the 2016 Census are based on the 2015 calendar year reference period, which may be different than the reference periods of other variables in the 2016 Census.
- For urban area comparisons of low-income prevalence, all geographical areas are cities with the exception of Durham, Halton, Montréal (equivalent territory), Niagara, Peel, Waterloo, and York which are regional municipalities.
- Low-income estimates for certain subpopulations (e.g. immigrant, racialized, lone-parent) are provided for children and youth under the age of 18 for the Toronto Census Metropolitan Area (CMA) as provided in the cited report. Low-income data for children aged 14 years and under from these subpopulations were unavailable for both the city of Toronto and the Toronto CMA.
- For more information on the data collection methodology and data quality for the 2016 Census income variables, please visit <https://www12.statcan.gc.ca/census-recensement/2016/ref/guides/004/98-500-x2016004-eng.cfm#a5>.
- The Our Health Counts study used a different low-income measure (LICO-BT) to determine low-income rates than what is used for Toronto overall and its subpopulations (LIM-AT). As such, caution should be taken when comparing these estimates as they are based on different low-income concepts and thresholds. Please see Appendix 2 for definitions.
- In the Our Health Counts study, Indigenous children were persons 1 to 14 years of age who self-identified as Indigenous by their parent or guardian, such as First Nations, Métis, or Inuit living or using services in the city of Toronto.

- There are three national measures of low income currently used in Canada including: Low Income Cut-Off (LICO), Low Income Measure (LIM), and Market Basket Measure (MBM). The following table describes how thresholds are set for each measure as well as some of their strengths and limitations:

<b>Low-Income Cut-Off (LICO):</b> An income threshold, defined using 1992 expenditure data, below which households or families would have to spend a larger share of their income than average on the necessities of food, shelter and clothing.	
Strengths	Weaknesses
<ul style="list-style-type: none"> <li>There are 35 cut-offs varying by seven family sizes and five different sizes of area of residence to account for economies of scale and potential differences in cost of living in communities of different sizes</li> <li>Both a “needs” measure (income compared to basic needs) and a “relative” measure (since the LICOs reflect differences relative to spending by the average household)</li> <li>Long-standing use in Canada-time trend data available</li> <li>Low cost to produce and update</li> </ul>	<ul style="list-style-type: none"> <li>Out of date, has not been rebased since 1992. Needs to be rebased to maintain relevancy</li> <li>Assumes that the cost of essentials has increased at the same rate as costs in general and that it has increased at the same rate across the country</li> <li>Excludes essentials such as energy, communications, and transportation</li> <li>Although the measure takes into consideration family size and size of area of residence, it does not account for cost-of-living variations amongst major urban centres such as Toronto and Vancouver and others cities</li> <li>Based on implicit assumptions such as similarity of spending habits (on basic necessities) between families in the bottom and top of the income distribution, as well as individual’s age, health, labour force status, etc. having no effect on a family’s spending on food, shelter and clothing, among others</li> </ul>
<b>Low-Income Measure (LIM):</b> A relative measure in which the low income threshold is a fixed percentage (e.g. 50%) of the median income of households.	
Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Relative measure; alludes to income inequality (between the bottom and the middle)</li> <li>Clear rule for rebasing (rebasings every year allows flexibility)</li> <li>Adjusted by household size</li> <li>Most commonly used in making international comparisons</li> <li>Low cost to produce and update</li> </ul>	<ul style="list-style-type: none"> <li>Does not account for cost-of-living variations amongst different communities/cities/regions</li> <li>Cannot indicate ability of low-income households to purchase basic necessities</li> <li>The use of national median income could lead to true “low-income” rates to be overestimated in provinces and communities with living costs below the national average, and underestimated in provinces and communities with living costs above the national average</li> </ul>

<b>Market Based Measure (MBM):</b> Low income threshold is the amount required by a family to buy a basket of goods and services representing a modest, basic standard of living developed by Employment and Social Development Canada.	
<b>Strengths</b>	<b>Weaknesses</b>
<ul style="list-style-type: none"> <li>▪ Measures low income through lens of material deprivation</li> <li>▪ Useful to understand inadequate social assistance</li> <li>▪ Basket includes a number of necessities such as costs of food, clothing, footwear, transportation, shelter, and other expenses</li> <li>▪ Priced for 50 different geographic areas – 19 specific communities and 31 population centre and province combinations</li> <li>▪ Rather than looking at total household before or after-tax income, MBM makes a range of adjustments to make it a more realistic estimate of disposable income</li> </ul>	<ul style="list-style-type: none"> <li>▪ Basket of goods and services underlying the MBM need to be updated to reflect changing spending patterns and contemporary ideas about which necessities should be included</li> <li>▪ Selection of goods and services that should be included in the basket are arbitrary</li> <li>▪ No clear rebasing rule</li> <li>▪ Expensive to produce (e.g. need to collect extensive price data for different communities)</li> <li>▪ Basket is based on a reference family of two adults and two children</li> </ul>

**Sources:**

1. Aldridge, H. (2017). How do we measure poverty? Maytree. Retrieved May 13, 2019, from [https://maytree.com/wp-content/uploads/How\\_do\\_we\\_measure\\_poverty\\_May2017.pdf](https://maytree.com/wp-content/uploads/How_do_we_measure_poverty_May2017.pdf).
2. Campaign 2000. (2007). Canadian Poverty Reduction Strategy Brief: Measuring Poverty, Meeting Targets. Retrieved May 13, 2019, from <https://campaign2000.ca/wp-content/uploads/2017/07/May9-Campaign-2000-Measurement-Brief-Canadian-Poverty-Reduction-Strategy-Teleconference-.pdf>
3. Canadian Council on Social Development. (2001). Defining and Re-Defining Poverty: A CCSD Perspective. Retrieved May 13, 2019 from <https://www.ccsd.ca/index.php/policy-initiatives-hidden/policy-statements-briefs-submissions/112-defining-and-re-defining-poverty-a-ccsd-perspective>.
4. Statistics Canada. (2018). Dictionary, Census of Population, 2016. Statistics Canada Catalogue no. 98-400-X2016029. Ottawa, Ontario. Retrieved May 13, 2019, from <https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/98-301-x2016001-eng.pdf>.
5. The Council on Aging of Ottawa. (2018). Toward a “New Canada Poverty Line”(NCPL): Input to the Canadian Poverty Reduction Strategy. Retrieved May 13, 2019, from <https://coaottawa.ca/wp-content/uploads/documents/Toward-a-Poverty-Line-22APRIL2018.pdf>.
6. Zhang, X. (2015). Low Income Measurement in Canada: What Do Different Lines and Indexes Tell Us? Statistics Canada Catalogue no. 75F0002M-No. 3. Ottawa, Ontario. Retrieved May 13, 2019, from <https://www150.statcan.gc.ca/n1/pub/75f0002m/75f0002m2010003-eng.pdf>.

**Social Provision Scale**

- The Social Provision Scale is based on Canadian Community Health Survey (CCHS) questions about people’s current relationship with friends, family members, coworkers, community members, and others. It is one of the community determinants of positive mental health established by the Public Health Agency of Canada. Individuals who score high on the scale are those who report a mean score of 3 or higher on a scale of 1 to 4 which represents the response categories “strongly agree” or “agree” based on the ten questions on the scale. This would translate into a total score of 30 out of 40 on the Social provision Scale.



### Homelessness: Population Estimates and Demographics

- The Street Needs Assessment (SNA) employs a point-in-time methodology for enumerating homelessness that is now the standard for most major U.S. and Canadian urban centres. While a consistent methodology and approach to the SNA has been used each year, changes were made in 2018, in part, as a result of Toronto's participation in the coordinated provincial and national point-in-time count. As a result, limited references were made in the report to results from previous SNAs.
- The 2018 SNA included individuals experiencing absolute homelessness (indoors and outdoors) but did not capture hidden homelessness (e.g. people couch surfing or staying temporarily with others who do not have the means to secure permanent housing).
- The methods and definitions used to conduct homeless enumerations in other jurisdictions can be somewhat different than those used in Toronto. Although these statistics are not comparable in absolute numbers, a comparison of general trends can provide some context for the results from Toronto's 2018 SNA.
- For more information on the methodology for the 2018 SNA, please visit: <https://www.toronto.ca/wp-content/uploads/2018/11/99be-2018-SNA-Results-Report.pdf>.

### Homelessness: Morbidity and Mortality

- Since January 2017, Toronto Public Health has been leading an initiative to collect data on deaths of people experiencing homelessness in Toronto. Previously, death data for people experiencing homelessness was limited to those who had been living in City-funded shelters.
- For this initiative, TPH uses the Canadian Observatory on Homelessness definition of homelessness which is: "The situation of an individual or family without stable, permanent, appropriate housing, or the immediate prospect, means and ability of acquiring it. It is the result of systemic or societal barriers, a lack of affordable and appropriate housing, the individual/household's financial, mental, cognitive, behavioural or physical challenges, and/or racism and discrimination. Most people do not choose to be homeless, and the experience is generally negative, unpleasant, unhealthy, unsafe, stressful and distressing."
- Approximately 250 health and social service agencies that support people experiencing homelessness are participating in the initiative by sharing data with Toronto Public Health through a secure, web-based form. Data collected by the form is downloaded by TPH where it is reviewed and verified with the assistance of The Office of the Chief Coroner of Ontario (OCCO). For more information on the methodology of the Deaths of People Experiencing Homelessness initiative, please visit: <https://www.toronto.ca/community-people/health-wellness-care/health-inspections-monitoring/monitoring-deaths-of-homeless-people/>

### Food Insecurity

- Food insecurity for adults includes marginal food insecurity (1 affirmative response on the 10 item adult food security scale), moderate food insecurity (2-5 affirmative responses), and severe food insecurity (6 or more affirmative responses).
- For more information on the rationale for this definition, please visit: <http://proof.utoronto.ca/wp-content/uploads/2016/04/Household-Food-Insecurity-in-Canada-2014.pdf>

### Access to Healthcare

- The question on regular healthcare provider was phrased as follows: "Do you have a regular health care provider? By this, we mean one health professional that you regularly see or talk to when you need care or advice for your health."

### Disability

- The 2012 Canadian Survey on Disability (CSD) is a national survey of Canadians aged 15 and over. It includes respondents who reported having a long-term condition or difficulty on the Activities of Daily Living question from the 2011 National Household Survey (NHS). More information can be found here: <https://www150.statcan.gc.ca/n1/en/pub/89-654-x/89-654-x2014001-eng.pdf?st=BfPa0Wo3>.

### Police-Reported Violent Crime

- For the trends in violent crimes, rates are calculated on the basis of 100,000 population. Populations based on July 1 estimates from Statistics Canada, Demography Division. Victims where the sex was unknown were excluded. The Incident-based Uniform Crime Reporting Survey, Trend Database, which was introduced in 2009, represents 99% of police services in Canada. As a result, numbers may not match those presented elsewhere.
- For the age and sex stratifications, “victims” refer to those 89 years of age and younger. Victims aged 90 and older are excluded due to possible instances of miscoding of unknown age within this age category. Victims where the age or the sex was unknown were excluded.
- For rates of intimate partner violence, “victims” refer to those aged 15 to 89. Victims 90 years of age and older are excluded due to possible instances of miscoding of unknown age within this age category. Excludes victims where the age or the sex was unknown. Percentages may not total 100% due to rounding.

### Homicide and Shooting

- Data are based upon preliminary information that was supplied to the Toronto Police Service by the reporting parties and may not have been verified. The preliminary crime classifications may be changed at a later date based upon additional investigation. The Toronto Police Service makes no warranty, representation or guarantee as to the content, sequence, accuracy, timeliness or completeness of any of the data provided herein.

### Assault-Related Emergency Department Visits

- The following ICD codes were used to capture assault related injuries.

Assault Type	ICD Code
Assault by all means	X85-Y09, Y87.1
Assault by firearm	X93-X95
Assault by sharp object	X99
Assault by other and unspecified means	X85-X92, X96-X98, Y00-Y09

### 3 The Natural and Built Environments

#### Housing

- For general data notes for the 2016 Census of Population, please refer to Chapter 1 in this appendix.
- As per the 2016 Census of Population, major repairs needed include repairs to defective plumbing, electrical wiring, walls, floors or ceilings; it does not include remodelling or additions.
- According to the Canada Mortgage and Housing Corporation (CMHC), a household is in Core Housing Need if its housing falls below at least one of the adequacy, affordability or suitability, standards and it would have to spend 30% or more of its total before-tax income to pay the median rent or alternative local housing that is acceptable (e.g. meets all three housing standards). A household is not in core housing need if its housing meets all three standards OR if its housing does not meet one or more of these standards, but has sufficient income for alternative local housing that is acceptable (e.g. meets all three standards). Only private, non-farm, non-reserve and owner- or renter-households with incomes greater than zero and shelter-cost-to-income ratios less than 100% are assessed for ‘core housing need.’ Non-family households with at least one maintainer aged 15 to 29 years attending school are considered not to be in ‘core housing need’ regardless of their housing circumstances. Attending school is considered a transitional phase, and low incomes earned by student households are viewed as being a temporary condition.
- In the 2016 Census, income data are used with shelter costs to compute the shelter-cost-to-income ratio. Minor inconsistencies arise as these shelter cost variables, as well as their components were either collected for the most recent month or for the last 12 months before the reference period, whereas the income data was collected for the previous calendar year.

#### Active and Other Transportation Methods

- Mode of commuting is a Canadian census variable that applies only to those persons whose workplace location in Canada was not their home. This concept allows users to assess how many people use private vehicles, public transit and other means as their main mode to travel from home to work. Main mode of commuting refers to the main mode of transportation an employed person uses to travel between his or her home and his or her place of work.
- Employed person refers to those who, during the reference period, had a labour force status of “employed”. That is, those who, during the reference period:
  - (a) Did any work at all at a job or business, that is, paid work in the context of an employer-employee relationship, or self-employment. This also includes persons who did unpaid family work, which is defined as unpaid work contributing directly to the operation of a farm, business or professional practice owned and operated by a related member of the same household; or
  - (b) Had a job but were not at work due to factors such as their own illness or disability, personal or family responsibilities, vacation or a labour dispute. This category excludes persons not at work because they were on layoff or between casual jobs, and those who did not then have a job (even if they had a job to start at a future date).
- Active transportation rates for students were captured by combining the responses to the questions “How do you usually travel TO school?” and “How do you usually travel FROM school?” that included “Walk” or “Bicycle”.

#### Sidewalks and Bicycle Lanes

- On-street cycling infrastructure is measured on both sides of the road where applicable. Multi-use trails are measured as the length of the road segment and are typically two-ways, with a centerline. If the “lane km” distance for each centreline kilometer is to be calculated, the total for multi-use trails would therefore be doubled.

### Ultraviolet Radiation Exposure and Sun Safety

- Sunscreen with SPF 30+ use on face and body was estimated by combining the following responses to the questions “In the summer months, on a typical weekend or day off, when you are in the sun for 30 minutes or more, how often do you: use sunscreen on your face?” with responses “Always” or “Often” combined with “What Sun Protection Factor (SPF) do you usually use on your face?” responses “30-44” and “45 or higher”; and “In the summer months, on a typical weekend or day off, when you are in the sun for 30 minutes or more, how often do you: use sunscreen on your body?” with responses “Always” or “Often” combined with “What Sun Protection Factor (SPF) do you usually use on your body?” responses “30-44” and “45 or higher”.

### Air Quality

- To calculate the estimates of premature deaths and hospitalizations attributable to air pollution in Toronto, Pengelly and Sommerfreund’s (2004) approach was used. Briefly, the approach relies on knowing 1) for each pollutant, concentration response functions that quantify the percent change in a particular health outcome per unit change in ambient concentration of that air pollutant; 2) the prevalence of each health outcome of interest in Toronto; 3) the ambient concentration of each pollutant; 4) the number of people at risk (eg., the population of Toronto). The burden of illness is then calculated for each pollutant by multiplying the concentration response function (in the format of percent change in a particular outcome per unit of exposure) with the concentration of the associated pollutant in Toronto, and then by the prevalence of that outcome in Toronto with the population at risk. The total burden is calculated as the sum of all individual pollutant-related burdens.

Reference: Pengelly, D. and Sommerfreund, J. 2004. Air pollution-related burden of illness in Toronto: 2004 Update. Technical report.

- Air quality data from the Ontario Ministry of the Environment, Conservation and Parks web page are automatically polled and have not undergone final verification.

### Water Quality

- In 2007, the Provincial Government implemented a Regulated Lead Testing Program under which Toronto Water was required to collect, analyze and submit the results of water samples taken in areas suspected of having lead water service pipes.
- Corrosion control is mandated and approved by the Ministry of the Environment, Conservation and Parks (MECP) under the Safe Drinking Water Act. Toronto’s Corrosion Control Plan was adopted by City Council, and is supported and endorsed by Toronto Public Health as a safe way to reduce the amount of lead in tap water and the associated health risks. For more information please visit: <https://www.toronto.ca/services-payments/water-environment/tap-water-in-toronto/lead-drinking-water/corrosion-control/>
- The City of Toronto offers free lead testing to help determine whether water in a residence contains lead. For more information please visit: <https://www.toronto.ca/services-payments/water-environment/tap-water-in-toronto/lead-drinking-water/lead-testing-for-residents/>
- Toronto has 11 supervised beaches for which beach water samples are collected and analyzed for quality yearly from June 1<sup>st</sup> to Labour Day weekend. In order to calculate swimmable days, the total number of days each beach was posted as unsafe was subtracted from the total number of days during which each beach was tested. This generated the number of days each beach was swimmable. The number of swimmable days per beach summed and divided by the total number of days each beach was tested and multiplied by 100. A five year average was then calculated.

### High Temperatures

- In order to assess the impact of extreme heat on mortality a synoptic classification of air masses based on meteorological data for Toronto was used, to assign the annual mean burden of illness (in terms of elevated mortality) associated with hot weather and air pollution. Then, coefficients relating daily mortality risk to historical daily weather and air quality data were determined with a model system that (for each air mass) assessed the factors that contributed to day-to-day variability in mortality.

### Greenhouse Gases

- A greenhouse gas emissions (GHG) inventory measures the emissions in a given region using data from energy use in buildings, vehicles, waste and industry.
- While GHG emission inventories are released annually, it takes 18 to 24 months for data collection and verification, creating a two-year gap prior to a municipal inventory release.

### Environmental Noise

- To better understand the distribution of noise levels and exposure in Toronto, two modelling methods were used; a propagation model, which estimated the percentage of noise from road traffic specifically and a receptor-based land-use regression model that extrapolates the effect of environmental features on observed noise levels. These models were combined to create maps of predicted noise levels for daytime and nighttime across the city.

## 4 Reproductive and Early Child Health

### General

- Residence is determined by where the patient lives, not where the service was provided. For reproductive health indicators, data is analyzed by the mother's or baby's geography of residence, not place of birth.
- The birth data include only births to Ontario residents occurring in Ontario. The data exclude births to women that reside out-of-province; births to Toronto residents that occur out-of-province are also not included in the data.
- Data from the Better Outcomes Registry and Network (BORN) Public Health Cube are reported using submitted records from the BORN Information System, which may or may not be acknowledged by the submitting hospital. This may lead to potential fluctuations in recent data as hospital sites submit additional records or update existing records prior to the close of each fiscal year.
- Birth records with missing information for the specified indicator or stratifier were excluded from the analysis. Similarly, records that could not be linked to a Toronto census tract were excluded from the income analysis. Caution should be taken when interpreting data if the percentage of 'missing data' is greater than 5%. Where greater than 5% of records had missing information for a specified indicator, a footnote was included in the body of the report.
- Two different data sources were used to compile the small for gestational age (SGA), low birth weight (LBW), and preterm indicators. Public Health Ontario (PHO) Snapshot data included only hospital births while BORN data included both hospital and home births and the two data sources had slightly different inclusion criteria for data analysis. These differences resulted in slightly different estimates of the SGA, LBW, and preterm rates for the same time period.

### Fertility

- Fertility analyses excluded births to females under 15 and older than 49 years; there were 13 births to these females in 2016. An additional 42 records were excluded where maternal age group was missing.

### **Folic Acid Supplementation**

- Certain high-risk women require a higher dose of folic acid. Further information can be found on the Government of Canada website at <https://www.canada.ca/en/public-health/services/pregnancy/folic-acid.htm>.
- Assessment of folic acid supplementation may not be an accurate measure of adequate intake. It is not known whether supplementation was at the recommended level; as well, those reporting no supplementation may have had adequate folate intake through a healthful diet.

### **Pre-Pregnancy Body Mass Index**

- Height and weight in the BORN Information System are collected from the Ontario Antenatal Record form that is sent by a woman's health care provider to the hospital where they intend to give birth. In situations where the form is not present at the hospital when and where the woman gives birth, height and weight will be unknown.

### **Gestational Weight Gain**

- BORN uses the gestational weight gain recommendations of the Society of Obstetricians and Gynaecologists (2011) for singleton, non-obese pregnancies and the Institute of Medicine/Health Canada recommendations (2009) for all other pregnancies. Detailed indicator definitions can be found in the Core Indicators table on the APHEO website.
- All pregnancies with maternal pre-pregnancy BMI >34.9 and pregnancies with three or more fetuses are excluded from the analysis as per APHEO recommendations as there is insufficient information to develop guidelines for these groups.
- Height and weight in the BORN Information System are collected from the Ontario Antenatal Record form that is sent by a woman's health care provider to the hospital where they intend to give birth. In situations where the form is not present at the hospital when and where the woman gives birth, height and weight will be unknown.
- BORN Ontario recommends not reporting data if the percentage of 'missing data' is 30% or more. From 2013 to 2015, Toronto exceeded this threshold for missing data; therefore, data were not reportable and no trends-over-time are available.

### **Alcohol and Substance Exposure during Pregnancy**

- Alcohol and substance exposure are self-reported indicators. These indicators do not attempt to determine the number of women who were tested for alcohol or substance exposure and which exposure was detected. Nor do they attempt to describe the proportion of women with exposure to prescription and non-prescription drugs during pregnancy.
- Alcohol, drug and substance exposure data elements from BORN are self-reported and thus subject to under-reporting and social desirability bias.

### **Mental Health Concerns during Pregnancy**

- Occurrences of different types of mental health concerns during pregnancy are not mutually exclusive; therefore, the total number of mental health concerns may be greater than the total number of women with any mental health concern.
- Maternal mental health variables from BORN capture any maternal mental health concerns during pregnancy, including those pre-existing, diagnosed during pregnancy, or active during pregnancy, both diagnosed and self-reported. Maternal mental health variables from BORN are self-reported and thus subject to under-reporting and social desirability bias.

### Live Births

- Analysis by maternal age group excluded births to females under 15 and older than 49 years; there were 13 births to these females in 2016. An additional 42 records were excluded where maternal age group was missing. Therefore, the total number of births in this table will not match the overall total.

### Small for Gestational Age

- Multiple birth babies were included in the denominator of the analysis using Public Health Ontario Snapshots and excluded in the denominator of the BORN data.
- Due to technicalities of the data source, babies born outside of the 22 to 43 weeks of gestation were not removed from the analysis using BORN data. This would have limited impact on the outcome of the analysis as very few babies (less than 0.3%) were born outside of this period.
- Canadian reference birth weight for gestational age percentile cut-offs may misclassify healthy infants of certain ethnicities as SGA. Newborns of parents originating from non-European/Western nations tend to be smaller at birth. However, ethnic-specific birth weight for gestational age cut-offs are currently not available for Ontario in a format that can be used for population health. As a result, public units with large immigrant population (such as Toronto) may observe higher SGA rates and lower LGA rates in comparison to other public health units.

### Low Birth Weight

- Low birth weight rates were for all babies and not limited to just singletons.

### Breastfeeding

- The terms breast milk/breastfeed/breastfeeding are also known as chest milk/ chestfeed/ chestfeeding respectively and can be used interchangeably.
- Exclusive breastfeeding at six months was determined using the 5.5 month time point. The exclusive breastfeeding rate at the six month time point was 7%.
- Records with missing feeding information were excluded from the analysis. Approximately 22% of Toronto records were missing feeding information in 2016. Breastfeeding rates at entry to service may be slightly over estimated as there is a higher proportion of missing feeding information for infants born preterm or low birth weight and for multiple births due to missing feeding information from two hospital neonatal intensive care units in Toronto.

### 18-Month Enhanced Well-Baby Visit

- The Claims History Database contains service and payment information for fee-for-service claims submitted by physicians and other licensed health professionals. It also includes some of the “shadow billings” by providers in organizations covered by alternate payment arrangements. Since only some of the claims from the MOHLTC’s various alternate payment programs or “shadow billers” are included, there may be undercounting of the total volume of certain services. This could include physicians who do not use fee-for-service billing, such as those who work in community health centres (CHCs). In 2014, the 21 CHCs in Toronto provided services to approximately 2,704 or 9% of the children aged 1 to 2 years (Association of Ontario Health Centres, 2016).
- Data counts include the number of distinct patients with a valid health card number during this time period. Children without a fixed address and recent newcomers may be missed. These children represent vulnerable populations in Toronto.
- In rural communities in Ontario, where a larger proportion of children may receive primary health care from providers other than physicians (i.e. nurse practitioners or registered nurses who do not use fee-for-service billing), there may be undercounting of the total volume of visits. As such, rates in the rest of Ontario may be underestimated.

- Denominator data was calculated using population estimates for children one year of age in the Registered Persons Database (RPDB) from IntelliHEALTH ONTARIO. This database includes all children registered for health services in Ontario.

### **Vulnerability in Early Child Development**

- The Early Development Instrument (EDI) includes all children in Ontario publicly funded schools. It does not include children who attend privately funded schools. Children who were unable to be linked to provincial records, were in class for less than one month or were missing information for more than one domain (approximately 3.6% in 2015) were excluded from this analysis. Children with special needs (approximately 3.4% in 2015) were also not included because the developmental expectations for this group of children are not the same as for the general population.
- Significant differences were not presented for the Ontario comparison due to the limited information about the count of Ontario children available to Toronto Public Health.

## **5 Oral Health**

### **Screening Outcomes**

- Geographic data for schools was extracted from the School Information Finder (SIF) and merged with existing income quintiles (see Appendix 1). As such, the number of schools in each quintile was not identical. Additionally, this analysis used the school's address as opposed to students' address, which may not correspond to the same income quintile.

### **Visits to the Dentist**

- Multiple responses were possible for reasons for not visiting a dentist.

### **Dental Insurance**

- Income Level is derived as three equally divided parts of the weighted population based on the respondents' adjusted household income ratios. A respondent's adjusted household income ratio is calculated using the total household income, Statistics Canada's 2013-2014 Low Income Cut Offs (LICOs), and the CCHS income adjustment factor. Approximately 30% of survey respondents included in this analysis had their income level imputed based on other socio-demographic characteristics.

### **Ability to Chew**

- The health inequity analysis compared new immigrants with Canadian-born individuals as well as individuals across different levels of income. It is noteworthy that the data source for this analysis, the Canadian Community Health Survey (CCHS), under-represents people of low income, and new immigrants as well as other populations of interest. These limitations combined with the high coefficients of variation (CVs) for these analyses warrant additional care in interpreting the present results and must be contextualized within the limitations of the present data.



## Emergency Department Visits

- The following International Classification of Disease (ICD) codes were used:

Dental Health Concern	ICD Code
Impacted teeth	K01.1
Dental caries	K02
Acute apical periodontitis of pupal origin	K04.4
Chronic apical periodontitis	K04.5
Periapical abscess with sinus	K04.6
Periapical abscess without sinus	K04.7
Acute gingivitis	K05.0
Chronic gingivitis	K05.1
Acute periodontitis	K05.2
Temporomandibular joint disorder, unspecified	K07.69
Toothache, not otherwise specified	K08.87
Disease of salivary gland, unspecified	K11.9
Cellulitis and abscess of mouth	K12.2

- Population estimate data from the Ministry of Finance were used for overall denominators, whereas census data were used for the income analysis denominators. Due to small numbers for some age groups, custom age groups were created for age standardization (18-29, 30-39, 40-49, 50-59, 60-69, 70+). Age group totals may vary across analyses due to rounding to the nearest 5 in statistics Canada files.
- Rates (except for age-specific rates) are age-standardized to the 2011 Canadian population. This allows for comparison over time and geography.

## 6 Mental Health and Illness

### Psychological Well-Being

- Psychological well-being was assessed through six items measuring autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance from the Mental Health Continuum Short Form. High psychological well-being was defined as having a mean score of 20 or higher on a scale of 0 to 28. The scores were rescaled as described in: Orpana, H, Vachon, J., Dykxhoorn, J., & Jayaraman, G. (2017). Measuring positive mental health in Canada: construct validation of the Mental Health Continuum—Short Form. *Health promotion and chronic disease prevention in Canada: research, policy and practice*, 37(4), 123.

### Stress

- The question assessing perceived stress at work was restricted to respondents who indicated working in the past 12 months.

### Depression (Prevalence)

- The respondents' degree of depression was classified based on their score on the Patient Health Questionnaire (PHQ-9) depression scale.
- For the report, those with scores categorizing them as “moderate”, “moderately severe” and “severe” depression were grouped together.

**Mental Health and Addiction-Related Physician Visits**

- This is the number of all mental health and addiction related physician visits as of April 1<sup>st</sup> of the fiscal year in question.
- Mental health conditions are defined as the occurrence of a doctor's visit for a mental health-related symptom.
- The numerator is the number of patients with mental health and addictions-related visits derived from the Ontario Health Insurance Plan (OHIP) during the fiscal years presented.
- The denominator consists of individuals in the Ontario Ministry of Health and Long-Term Care (MOHLTC) Registered Persons Database (RPDB), who were alive and living in Ontario on April 1st of the year presented, with a valid Ontario Health Insurance Plan (OHIP) card and data on sex.

**Mental Health and Addiction-Related Emergency Department Visits**

- The numerator is the number of unscheduled visits to emergency departments that are related to mental health and addictions during the fiscal year presented.
- The denominator consists of individuals in the Ontario MOHLTC Registered Persons Database (RPDB), who were alive and living in the Ontario on April 1st of the year presented, with a valid Ontario Health Insurance Plan (OHIP) card and data on sex.

**Mental Health and Addiction-Related Hospitalizations**

- The numerator is the number of mental health and addiction-related hospital admissions in the Ontario Mental Health Reporting System (OMHRS) as well as in the Canadian Institute of Health Information Discharge Abstract Database (DAD) with specific mental health-related diagnosis codes for hospitalization during the fiscal year presented.
- The denominator consists of individuals in the Ontario MOHLTC Registered Persons Database (RPDB), who were alive and living in Ontario on April 1st of the year presented, with a valid Ontario Health Insurance Plan (OHIP) card and data on sex.

**Intentional Self-Harm and Suicidal Behaviour**

- Analyses on healthcare utilization due to intentional self-harm and suicide deaths were restricted to individuals 10 years old and over.
- The following ICD-10-CA codes were used to determine estimates of healthcare utilization due to intentional self-harm and suicide deaths: X60-X84, Y87.0.

**7 Substance Use****Exceeding Low-Risk Alcohol Drinking Guidelines**

- Canadian Low-Risk Alcohol Drinking Guidelines recommend that:
  - Women have no more than ten drinks per week with no more than two drinks per day on most days
  - Men have no more than 15 drinks per week with no more than three drinks per day on most days
  - People have at least two days per week with no alcohol consumption
  - Women have no more than three drinks on any one occasion
  - Men have no more than four drinks on any one occasion

- For this analysis, a female survey respondent was considered to exceed the low-risk drinking guidelines if she had more than ten drinks in the previous week, had more than two drinks on a single day in the previous week, consumed alcohol on six or seven days in the previous week, and/or had five or more drinks on one occasion at least once per month for the last 12 months. A male survey respondent was considered to exceed the low-risk drinking guidelines if he had more than 15 drinks in the previous week, more than three drinks on a single day in the previous week, consumed alcohol on six or seven days in the previous week, and/or had five or more drinks on one occasion at least once per month for the last 12 months. This indicator excludes women who were pregnant or breastfeeding. Any individual who did not respond to one or more of the survey questions needed for deriving this indicator were excluded from the analysis.

### **Heavy Drinking Episodes**

- Includes males who had five or more alcoholic drinks or females who had four or more drinks on one occasion once per month or more in the past 12 months. This was determined from survey participants' response to the question: "How often in the past 12 months have you had [5 (male) / 4 (female)] or more drinks on one occasion?". Individuals who responded either 'once a month' or '2 to 3 times a month' or 'once a week' or 'more than once a week' to the question were included.

### **Healthcare Utilization for Problems Related to Alcohol**

- More information on the codes used for this indicator can be found here: <https://www.cihi.ca/sites/default/files/document/report-alcohol-hospitalizations-en-web.pdf>

### **Emergency Department Visits Due to Cannabis Consumption**

- The following ICD-10-CA codes were used to determine estimates of emergency department visits due to cannabis consumption: T40.7, F12 (F12.0-F12.9)
- Only instances where these ICD codes were the main diagnosis were included in this analysis

### **Suspected Opioid Overdoses Attended by Paramedic Services**

- Suspected opioid overdose calls attended by paramedics include cases where the responding paramedic suspects an opioid overdose and might differ from the final diagnosis in hospital or cause of death determined by the coroner.
- Clients with age of zero were excluded from the analysis.

### **Healthcare Utilization Due to Opioid Poisonings**

- More information on these indicators can be found here: <https://www.publichealthontario.ca/-/media/documents/opioid-tool-technical-notes.pdf?la=en>.

### **Deaths Due to Opioid Poisonings**

- Deaths due to opioid poisoning capture all manners of death from opioid toxicity (i.e. accidental and intentional) combined.
- Drug categories for opioids contributing to the deaths are not mutually exclusive; some deaths are attributed to multi-drug toxicity where a death can include more than one opioid as a cause.

### **Violations Related to Impaired Driving**

- Statistics reported by police services may be different due the way they deal with minor offences. In some cases, police or municipalities may deal with minor offences using municipal by-laws or provincial provisions instead of Criminal Code provisions. Counts presented from the Incident-based Uniform Crime Reporting Survey are based on the most serious violation in the incident.

- More information about this data source can be found here: <http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3302>

## 8 Sexual Health

### General

- Questions about sexual health resources were administered to all students, while questions on sexual activity and safer sex practices were not administered to students attending Catholic schools.
- In the Toronto Public Health (TPH) student survey, about 9% of the sample did not specify their sex as one of either male or female. Some students may have refrained from answering because they felt the question did not accurately portray their sex (i.e. they are intersex), or for personal reasons (i.e. an unwillingness to participate in a binary-normative sex culture). Sub-analyses with students who did not indicate their sex did not suggest this group was a different, specific sub-population, but rather an interspersed group of males and females across grades. Therefore, due to the high number of missing cases, it is believed that many students may have accidentally overlooked this question in the survey, due to the format of the questionnaire.
- It should be noted that students who did not participate in the TPH Student Survey may differ in their health status and health behaviours from those who are included. Although the sample reflects the general student population based on some of the key social determinants of health (e.g. sex, socio-economic access, ethno-racial identity etc.), the estimates in this chapter should be interpreted in the context of the sample that had parental consent and chose to participate.
- For general notes regarding reported sexually transmitted infections (STI), see general notes for Chapter 9.

### Confidence in Refusing Sexual Activity

- Sexual activity was purposefully not defined to include a wide variety of sexual behaviours.

### Confidence in Using a Barrier Against Sexually Transmitted Infections

- Grade 9 to 12 students were asked how confident they were in their ability to use protection (e.g., use a condom or other barrier) against sexually transmitted infections (STIs) with their partner.

### Sexual Health Education and Support

- Multiple responses were possible for sources of support.

### Age at Sexual Initiation

- Sex included vaginal and anal sex but excluded oral sex.
- Age at sexual initiation was determined by comparing the age at which individuals reported having sex with a female for the first time and having sex with a male for the first time (if applicable), and choosing the younger age of the two.
- The Canadian Community Health Survey (CCHS) collects information on sexual behaviours from people between the ages of 15 and 64. Those who are younger than 18 were excluded from the analysis and those who were 65 and over were excluded from the sampling frame. According to evidence, younger individuals are having sex at an earlier age, thus, it is unknown whether the results that are presented here are a good estimate of the true average age for the entire population.

### Ever Having Sex (Students)

- Sex was purposefully not defined to include a wide variety of sexual behaviours.

### Sexual Partners

- This variable was analyzed for students that identified as ever having had sex. Students were asked how many people they have had sex with in the past 12 months.

### Condom Use

- In the TPH Student Survey, the question regarding protection was asked about using a condom or other barrier compared to the CCHS where the question was asked about using a condom only.
- The CCHS excluded females who had sex exclusively with females from this analysis.

### Birth Control Use

- Individuals included in the analysis indicated that they did not use a condom the last time they had sex. Their responses to the question “What other methods of protection did you and your partner use the last time you had sex?” were aggregated by method of birth control. CCHS excluded females who exclusively had sex with females and males who exclusively had sex with males.
- While a more commonly used term is “birth control” or “pregnancy prevention”, the CCHS used the term “methods of protection”.

## 9 Infectious Disease

### General

- Cases of reportable communicable diseases are underreported for several reasons including:
  - Individuals with symptomatic illness do not all seek medical care;
  - Health care providers do not always request diagnostic laboratory tests; and
  - Not all reportable infections cause clinical signs and symptoms
- Communicable disease reporting in Ontario relies on a passive surveillance system, wherein those with a duty to report, including: laboratories, physicians, other health care providers, and institution administrators, are expected to know the regulations, recognize that a confirmed or suspect case of disease is reportable, and promptly notify public health.
- Although theoretically the lag in reporting of diseases can be as short as the time it takes to collect a specimen, carry out a diagnostic test, and inform public health, this is not the case for some diseases. As such, historical data for Toronto, Ontario and Canada may change in future publications to reflect additional reports that are made for diseases with an onset of illness in previous years and where diagnosis was delayed until the following year. For example, a diagnosis of HIV/AIDS may occur several years after the disease was acquired.
- In some instances, the annual number of reported cases may change in subsequent publications due to periodic data quality assurance checks and corrections which result in the reclassification of individual reports.
- In iPHIS, risk factors for cases are selected from a pre-defined list customized for each disease. Where public health investigators are not able to reach individual cases, risk factor information is recorded as ‘missing’. Where investigators are able to reach cases, they will either record a risk from the pre-defined list, enter a free text response, or select ‘unknown’ if not known risk factor for the disease is identified.
- Data for the field capturing deceased status are frequently missing. Cases with no recorded information on mortality are assumed to be living, which may result in an underestimate in the calculation of case fatality rates for some diseases, in particular for more chronic communicable diseases (e.g., hepatitis B, hepatitis C, and HIV).
- With the exception of AIDS, cases of most diseases are not followed indefinitely by public health and illness may contribute to deaths that occur much later. Public health authorities are not notified of these deaths and as a result case fatality rates may be underestimated.

### Health-Adjusted Life Years (HALYs)

- HALYs allow for the simultaneous description of both premature mortality and the reduced functioning or suboptimal state of health associated with diseases or injuries (i.e., morbidity). HALYs quantify the amount of “healthy” life lost by estimating the difference between actual population health and a specified norm or goal.

### HIV-HCV Co-infections

- HCV-HIV co-infections include clients diagnosed with both HIV and hepatitis C virus (HCV), and who were living in Toronto when the second infection was diagnosed. Year of co-infection is defined as the year when the client acquired the second infection. The date used to calculate the year of co-infection varies depending on which infection was second. Where HIV was the second infection, year was calculated from the date the client’s HIV episode was reported to public health; where HCV was the second infection, year was calculated from the episode date, the best estimate for when the HCV was acquired.

### Syphilis-HIV Co-infections

- The method of calculating the co-infection rate of HIV with syphilis (for both infectious and late latent) includes cases of syphilis diagnosed in Toronto who were diagnosed with HIV anywhere in Ontario; cases were included if their HIV diagnosis occurred either before or up to three months after the diagnosis of syphilis, as HIV may take longer to diagnose.

### Influenza Reporting

- For the 2017/18 season, Public Health Ontario (PHO) has changed the requirements for case follow-up and data entry into iPHIS as outlined in the Influenza and Respiratory Infection Surveillance Package 2017–18. Health units are no longer required to investigate any laboratory-confirmed sporadic cases, and only information from the initial laboratory report to Public Health was entered in iPHIS. As a result, subtype information was reported for a smaller proportion of influenza A cases and hospitalization and death information may be underestimated. These changes do not apply to influenza outbreak investigations, and counts of outbreak-related outcomes (e.g. hospitalization, deaths, etc.) were not impacted.

## 10 Unintentional Injury

### General

- The World Health Organization defines injury as “the physical damage that results when a human body is suddenly subjected to energy in amounts that exceed the threshold of physiological tolerance, or from a lack of one or more vital elements.” Unintentional injuries include all injuries that occur without intent of harm.
- The types of injuries included in this chapter and their ICD-10 codes are included in the table below:

Injuries	ICD-10 Codes
All unintentional injuries	V01-X59, Y85-Y86
Struck by or against	W50-W64, X20-X29, W20, W22-W49, W85-W99, X33
Falls	W00-W19
Motor vehicle collisions	V81, V86, V90-V94, V95.0-V95.3, V95.8-V97, V20-V79, V83-V85.9, V87-V89.9
Cycling	V10-V19
Pedestrian	V01-V06, V09
Poisoning	X40-X49
Sports/recreation	W02, W16, W21, X50, X51
Suffocation	W75-W84
Concussion	S06

- Certain ICD-10 codes are counted in two injury categories. For example, W02 (fall involving ice-skates, skis, roller-skates or skateboards) and W16 (diving or jumping into water causing injury other than drowning or submersion) were counted as both a fall and sports/recreation injury. Counts are reported instead of rates when reporting on more than one type of injury.

### Road Traffic Injuries and Deaths

- Road traffic injuries include transport accidents of all types and reflect the victim's mode of transport. These entail victims of on-road collisions (e.g. car, motorcycle, bus), off-road collisions (e.g. rail, water, air), cycling, and pedestrians.

## 11 Chronic Conditions and Risk Factors

### General

- Estimates from the Canadian Community Health Survey (CCHS) and the Rapid Risk Factor Surveillance System (RRFSS) are from self-reported data. Self-reported data have a number of limitations. People do not always remember their behaviours, and may under-report or over-report certain behaviours or characteristics based on their perceived social desirability. For example, people may report higher consumption of vegetables and fruit because they perceive this to be a “better” response. In addition, surveys do not always provide a representative picture of the whole population. The CCHS under-represents people of low income, people with low education, and new immigrants. If a respondent did not respond to a survey question relevant to the analysis presented, they were excluded from both the numerator and the denominator.
- Hospitalizations count hospital admissions, not individual people. If an individual was hospitalized multiple times in a year they would be counted multiple times.
- Age-standardized rates are standardized to the 2011 Canadian population. Age-standardization is a technique based on weighted averaging that removes the effects of the distribution of age when comparing over time and geography.

### Vegetable and Fruit Consumption

- The number of times that students and adults reported consuming vegetables and fruit per day was used as a proxy for the number of servings they consumed per day.
- For students, vegetable and fruit consumption was assessed from their responses to how many times per day, on average, they ate raw or cooked vegetables such as green salads and vegetable juices, as well as how many times per day on average they ate fresh or frozen fruit, excluding fruit juices. The assessment of whether the students met the guidelines for vegetable and fruit consumption is based on the 2011 Canada's Food Guide which recommends that:
  - Males and females age 9 to 13 eat six servings of vegetables and fruit per day
  - Males age 14 to 18 years eat eight servings of vegetables and fruit per day
  - Females age 14 to 18 years eat seven servings of vegetables and fruit per day
- For adults, vegetable and fruit consumption was assessed from their responses to how many times per day they consume each of six vegetable and fruit categories: pure fruit juice, fruit, dark green vegetables, orange-coloured vegetables, potatoes that are not deep fried, and other vegetables. Portion size is not taken into consideration. Survey respondents who did not provide a response to one or more questions needed to calculate this indicator are excluded from this analysis.

**Screen Time**

- Screen time is used as a proxy for sedentary behaviours.

**Overweight Status/Obesity (Students)**

- Physical measures of height and weight were used to calculate Body Mass Index (BMI).
- A student was categorized as underweight, normal weight, overweight, or obese based on the World Health Organization's Child Growth Standards. BMI is plotted on sex-specific growth charts for weight classification.

**Overweight Status/Obesity (Adults)**

- The BMI measure used in the analysis is calculated from self-reported height and weight from survey data. However, the estimates are adjusted for self-reported values using correction equations.
- A systematic review of the literature concluded that the use of self-reported data among adults underestimates weight and overestimates height, resulting in lower estimates of obesity than those obtained from measured data. Using data from the 2005 CCHS subsample, where both measured and self-reported values were collected, correction equations have been developed. The BMI estimates used in this analysis are adjusted using these equations.
- Pregnant women and individuals reporting height under 0.91m or over 2.11m height are excluded.
- BMI can misclassify adults who are naturally very lean or who have very high muscle mass.
- Some evidence has shown that the risk factors associated with overweight and obesity correspond to different BMI cut-offs for different ethno-racial groups, particularly Asian people who may be at a higher risk at a lower weight. However, the World Health Organization recommends the cut-offs used in this analysis as the international standard.

**Cancer**

- For cancer cases diagnosed from 2010 onwards, the new Ontario Cancer Registry (OCR) adopted the Surveillance, Epidemiology and End Results (SEER) rules for identifying multiple primary cancers and assigning histology to cases, due to greater recognition of multiple primaries. Prior to 2010, the OCR did not recognize a second primary cancer unless it differed substantially from the first primary on both topography and morphology. With the new rules, the number of newly diagnosed cancer cases registered by the OCR in 2010 to 2012 is 5.8 percent higher than the number of cases that would have been reported using the old rules. The impact of the change in multiple primary rules varies by cancer. This does not mean more people are being diagnosed or treated, just that more cases of certain types of cancer are being registered. Valid conclusions cannot be drawn for trends in cancer incidence before and after this change.
- Records without a valid age have been excluded from age-standardized rates. Records without a valid gender have been excluded from sex-specific age-standardized rates.
- Only females are included in the analysis of breast cancer and cervical cancer rates.
- Only males are included in the analysis of prostate cancer rates.



- The types of cancers included in the cancer incidence analysis and their ICD-O-3 (International Classification of Diseases for Oncology, third revision) codes are included in the table below:

Cancers	ICD-O-3 Codes
All cancers	C00.0 to C80.9
Female breast cancer	C50.0 to C50.9*
Cervical cancer	C53.0 to C53.9*
Colorectal cancer	C18.0 to C18.9, C19.9, C20.9, C26.0*
Lung cancer	C34.0 to C34.9*
Malignant melanoma	C44.0 to C44.9 along with morphology codes: M-8720 to M-8790 only
Oral cancer	C00.0 to C00.9, C01.9 to C06.9, C07.9 to C11.9, C12.9 to C14.0, C14.2 to C14.8*
Prostate cancer	C61.9*

\* excludes cases with morphology codes M-9590 to M-9989, M-9050 to M-9055, M-9140

### Diabetes Prevalence and Incidence

- Diabetes prevalence reflects the number of diabetes cases (type 1 and type 2) during the period of interest for the Toronto population aged 20 years and over.
- Diabetes incidence reflects the number of new diabetes cases (type 1 and type 2) diagnosed during the period of interest for the Toronto population aged 20 years and over.
- Diabetes cases were derived from the Institute for Clinical Evaluative Sciences (ICES)-derived disease registry for Diabetes (Ontario Diabetes Database [ODD]). The registry was created using hospital discharge abstracts from the Canadian Institute for Health Information (CIHI-DAD), including same day surgery, and physician service claims from the Ontario provincial health insurance database.
- The denominator consists of individuals aged 20 years and over in the Ontario Ministry of Health and Long-Term Care Registered Persons Database (RPDB), who were alive and living in Toronto on April 1 of the year presented, with a valid Ontario Health Insurance Plan (OHIP) card and sex entry.

### Acute Myocardial Infarction (AMI) and Stroke Event Rates

- These indicators measure the age-standardized rate of new AMI and stroke events admitted to an acute care hospital for the population aged 18 and over.
- A new event is defined as a first-ever hospitalization for the condition or a recurrent hospitalization occurring more than 28 days after the admission for the previous event in the reference period.

### Chronic Obstructive Pulmonary Disease (COPD)

- Chronic obstructive pulmonary disease cases were derived from the ICES-derived disease registry for COPD. This registry (database) was created using hospital discharge abstracts from the CIHI-DAD, including same day surgery, and physician service claims from the Ontario provincial health insurance database.
- The denominator consists of individuals age 20 years and over in the Ontario Ministry of Health and Long-Term Care Registered Persons Database (RPDB), who were alive and living in Toronto on April 1 of the year presented, with a valid OHIP card and sex entry.

**Dementia**

- Individuals were identified as having dementia if they met at least one of the following criteria:
  - 1) One hospitalization record from Discharge Abstract Database (DAD), or
  - 2) Three physician claim records at least 30 days apart in a two-year period from Ontario Health Insurance Plan Claims Database, or
  - 3) One prescription drug reimbursement record from Ontario Drug Benefit Claims (ODB).
- Individuals who passed away on or prior to the index date and non-Ontario residents were excluded.
- A fiscal year runs from April 1 of a year to March 31 of the following year.
- The percent of people in Toronto with dementia was calculated as the number of persons with dementia before the beginning of the fiscal year (April 1) and with no date of death after April 1 of that fiscal year, divided by the total mid-year population of Toronto as of July 1 of a given year.
- Age-specific estimates were obtained by restricting the population to the appropriate age groups.

**Chronic Conditions Mortality**

- The ICD codes used for the causes of death were from the “Leading Cause Groups for Mortality Tabulation” which are the APHEO modified groupings of the Becker groups. Available at: <http://core.apheo.ca/resources/indicators/APHEO%20Modifications%20to%20Lead%20CauseDeath%20Becker%20at%20al.,16Dec2008.pdf>

**Commercial Tobacco**

- The term commercial tobacco is used to distinguish commercially produced products from sacred/traditional tobacco which plays an important role in indigenous communities

## Appendix 1: Mortality

### Leading Causes of Death

- Leading Causes of Death are based on a standard list developed by Becker, et al. (2006) for the World Health Organization (WHO) and modified by the Association of Public Health Epidemiologists of Ontario (APHEO) in 2008. The original methodology and WHO categories can be found at: <http://www.who.int/bulletin/volumes/84/4/297.pdf>; the APHEO modifications can be found at: <http://www.apheo.ca/resources/indicators/APHEO%20Modifications%20to%20Lead%20CauseDeath%20Becker%20at%20al.,16Dec2008.pdf>
- The following ICD-10 codes correspond to the leading cause groups found in this report:

Becker's Leading Cause	ICD-10 Code
Accidental poisoning	X40-X49
Assault	X85-Y09, Y87.1
Cancer of breast	C50
Cancer of colon, rectum, anus	C18-C21
Cancer of lung and bronchus	C34
Cancer of lymph, blood and related	C81-C86
Cancer of the prostate	C61
Cerebrovascular diseases	I60-I69
Chronic lower respiratory diseases	J40-J47
Cirrhosis and other liver diseases	K70-K76
Dementia and Alzheimer's disease	F00, F01, F03, G30
Diabetes	E10-E14
Falls	W00-W19
Influenza and pneumonia	J10-J18
Intentional self-harm	X60-X84, Y87.0*
Ischaemic heart disease	I20-I25

\* Restricted to those 10 years of age and over