



# HEALTH SURVEILLANCE INDICATORS: YOUTH SMOKING

## Public Health Relevance

Cigarette smoking is the leading cause of preventable death in Canada. It is associated with several cancers, heart disease, and respiratory diseases. In addition, smoking produces second-hand smoke, which is dangerous for people who are around it.

Youth are at high risk for taking up smoking. Young smokers are at immediate risk of a range of health problems, including reduced lung function, worsening of respiratory ailments, and increased coughing and wheezing. Because smoking is addictive, youth who smoke are also at high risk for the many long-term adverse health effects of smoking.

## Highlights

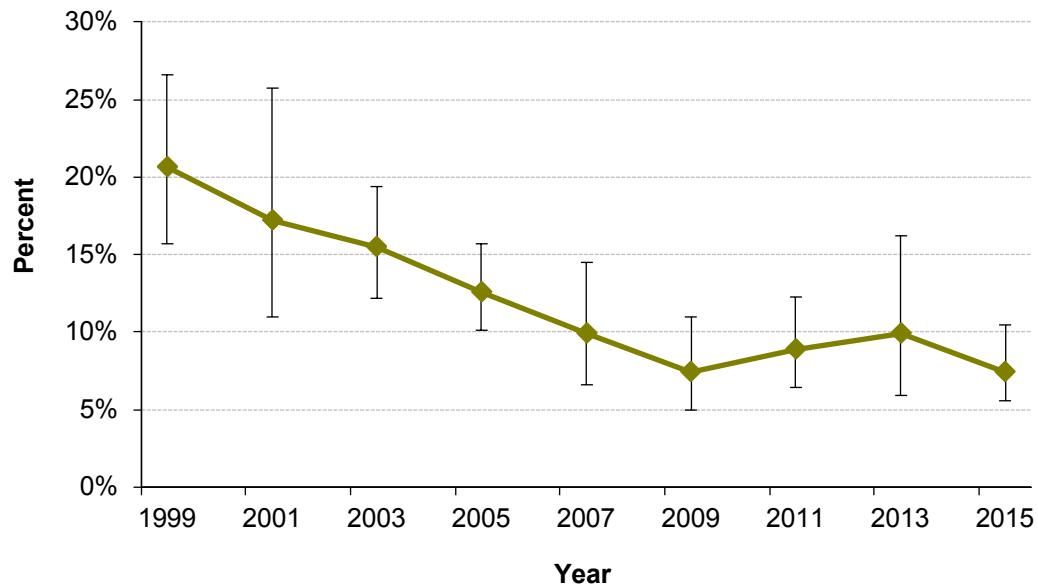
1. The recent decline in past-year cigarette smoking among youth in Toronto appears to be levelling.
2. Past-year daily cigarette smoking among youth in Toronto is decreasing.
3. No significant difference in reported past-year cigarette smoking and lifetime e-cigarette use is seen between students in Toronto and their counterparts in the rest of Ontario.

## Trends Over Time

The recent decline in past-year cigarette smoking among youth in Toronto appears to be levelling. Past year daily cigarette smoking among youth in Toronto is decreasing.

Figure 1 shows the percent of Toronto students in grades 7 to 12 who reported smoking cigarettes in the past year, from 1999 to 2015. Reported cigarette smoking in the past year decreased significantly from 21% in 1999 to 7% in 2009. From 2009 onwards, the reported percent was similar.

**Figure 1: Past Year Cigarette Smoking, Students Grades 7 to 12, Toronto, 1999 to 2015**

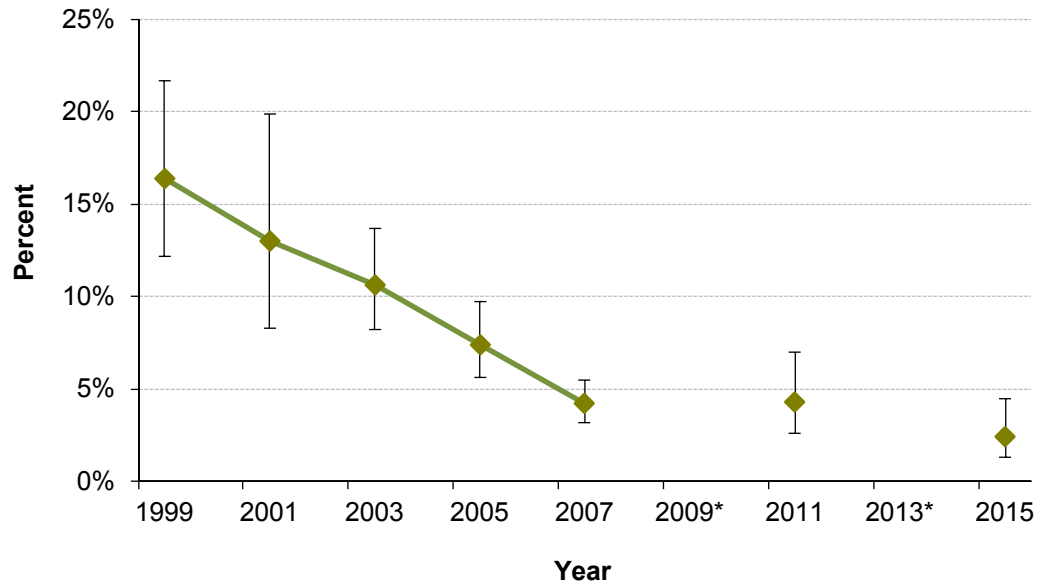


Error bars ( **I** ) denote 95% confidence intervals.

Data Source: see Data Notes.

Figure 2 shows the percent of students in grades 7 to 12 who reported smoking daily in the past year, from 1999 to 2015. There was a significant decrease from 16% in 1999 to less than 3% in 2015 in reported daily smoking in the past year. The 2009 and 2013 estimates are suppressed because of their high sampling variability, making the estimates unreliable.

**Figure 2: Past Year Daily Cigarette Smoking, Students Grades 7 to 12, Toronto, 1999 to 2015**



Error bars ( **I** ) denote 95% confidence intervals.

\* 2009 and 2013 estimates were suppressed due to high sampling variability.

Data Source: see Data Notes.

## Provincial Comparisons

There was no significant difference in past-year cigarette smoking and past year use of e-cigarettes between students in Toronto and their counterparts in the rest of Ontario.

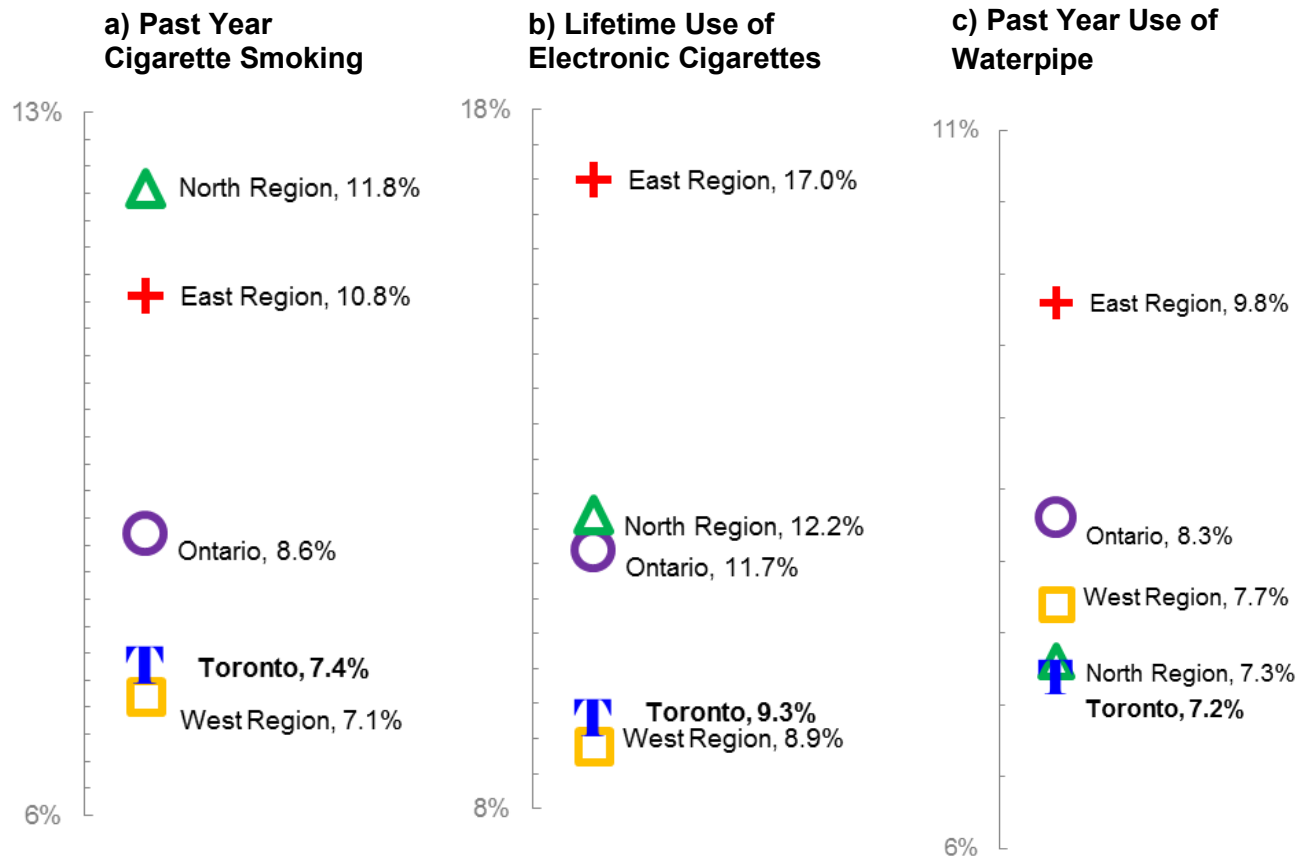
Figure 3a shows the percent of students who reported past-year cigarette smoking in 2015 in grades 7 to 12 in Toronto, Ontario's North, West, and East regions, and in Ontario overall. Past-year cigarette smoking among students in grades 7 to 12 did not differ significantly between Toronto, Ontario, or the three regions, with rates ranging from 7% to 12%.

Figure 3b shows the percent of students in grades 7 to 12 who reported in 2015 having ever used an electronic cigarette (e-cigarette, with or without nicotine) in their lifetime in Toronto, Ontario's North, West, and East Regions, and Ontario overall. Reported past year use of e-cigarettes among students in grades 7 to 12 did not differ significantly between Toronto, Ontario or the three regions with rates ranging from 9% to 17%.

In 2015, the reported use of cannabis oil/wax in e-cigarette or vape pen of secondary students (grades 9-12) for Toronto, Ontario's North, West and East Regions ranged from 4% (West) to 9% (North). About 5% of Toronto secondary Students reported use of cannabis oil/wax in e-cigarette.

Figure 3c shows the percent of students in grades 7 to 12 who reported, in 2015, the past year use of a waterpipe (also known as a hookah, shisha, or narghile) in Toronto, Ontario's North, West, and East Regions, and Ontario overall. Reported past year use of a waterpipe among grades 7 to 12 students did not differ significantly between Toronto, Ontario or the three regions with rates ranging from 7% (Toronto) to 10% (East Region).

**Figure 3: Past Year Cigarette Smoking, Lifetime Use of Electronic Cigarettes (with or without Nicotine) and Past Year use of Waterpipe, Students Grades 7 to 12, Selected Regions in Ontario, 2015**



Data Source: see Data Notes.

## Addendum – Accountability Agreement Indicator

Accountability agreements between Ontario's public health units and the Ministry of Health and Long-Term Care were established for 2012/2013 and a one-long term target is set for 2016. The agreements establish current baselines and set targets for the future for a series of performance indicators. The following indicator related to youth smoking is included in the agreements.

**Table 1: Youth Who Never Smoked a Whole Cigarette, Toronto, 2013/2014**

<b>Accountability Agreement Indicator</b>	<b>Result</b>
Percent of Toronto Youth aged 12 to 18 who had never smoked a whole cigarette (2013/2014)	88.6%

Data Source: Canadian Community Health Survey, see Data Notes for details.

In 2013/2014, about 9 in 10 Toronto youth aged 12 to 18 reported having never smoked a whole cigarette in their lifetime. This proportion has not changed significantly from that reported in 2001 (at 81%) and is not significantly different than the proportion reported by their counterparts in the rest of Ontario (93%) in 2013/2014.

## Data Notes

### Notes

- The estimates in this indicator page are self-reported data from the Centre for Addictions and Mental Health (CAMH) Ontario Student Drug Use and Health Survey (OSDUHS). 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 that they think are undesirable. For example, youth may not disclose that they are smokers if they are ashamed of their habit. In addition, surveys do not always provide a representative picture of the whole population. OSDUHS surveys a sample of all students in attendance in Ontario's public and Catholic regular school systems. Thus, it excludes those enrolled in private schools, those institutionalized for correctional or health reasons, those on First Nations reserves, military bases, and in the far northern region of Ontario (a total of about 7% of Ontario students).
- The estimate for the Accountability Agreement indicator are self-reported data from the Canadian Community Health Survey.
- Significant differences were estimated using overlapping confidence intervals. Although this method is conservative ( $\alpha < 0.01$ ) and most appropriate when comparing mutually exclusive groups, it was chosen as an objective means of making conclusions on survey data. Also note that the multiple comparisons performed in the analysis were not taken into consideration when choosing the level of significance to test.
- Where a respondent did not respond to a survey question relevant to the analysis presented, they were excluded from both the numerator and the denominator.
- Time trend analysis is based on data from the most recent 8 data points over 1999 to 2013, from the earliest available data point of complete and reliable data. The number of data points available for reporting is determined by the frequency of data collection.

### Definitions

**95% Confidence Interval** is the range within which the true value lies, 19 times out of 20.

**Accountability Agreements** refers to the Agreements established under Section 76 of the Health Protection and Promotion Act. They establish baselines for 12 indicators as well as future performance targets for Boards of Health. The indicator presented here is the percent of youth aged 12 to 18 who have never smoked a whole cigarette.

**Electronic cigarette or e-cigarette** refers to an electronic device made in the shape of cigarettes that create an inhaled mist without odour. Some e-cigarette contains nicotine and some are flavoured. OSDUHS for the first time in 2013 asked secondary students Grades 9 to 12 about their lifetime use of e-cigarettes.

**Never Smoked a Whole Cigarette** is the proportion of youth aged 12 to 18 who responded 'no' when asked if they have ever smoked a whole cigarette and who indicate that they are not smokers. Youth who indicate they are occasional or daily smokers are considered to have smoked a whole cigarette, even if they responded 'no' to smoking a whole cigarette. This indicator is based on a small sample size and has high sampling variability.

**Past Year Cigarette Smoking** is defined as smoking during the 12 months before the survey among students in grades 7 to 12 in Ontario's public and Catholic regular school systems. This estimate includes daily and occasional smoking, but excludes those who tried a cigarette.

**Past Year Daily Cigarette Smoking** is defined as smoking one or more cigarettes on a daily basis during the past 12 months before the survey, among students in grades 7 to 12 in Ontario's public and Catholic regular school systems.

#### **Regions of Ontario:**

**North** refers to the Ontario regions of Parry Sound, Nipissing and farther North.

**West** refers to the Ontario regions of Peel, Dufferin and farther West.

**East** refers to the Ontario regions of Simcoe, York and farther East.

**Toronto** refers to the City of Toronto.

#### **Sources**

**Canadian Community Health Survey:** Canadian Community Health Survey, 2011/2012. Statistics Canada, Share File, Knowledge Management and Reporting Branch, Ontario Ministry of Health and Long-Term Care.

Used in:

- Table 1

**OSDUHS:** Boak, Hamilton, H.A., Adlaf, E.M. and Mann. R.E.(2015), Drug Use among Ontario Students, 1977 to 2015: Detailed OSDUHS Findings (CAMH Research Document Series No. 41) Toronto, ON: Centre for Addiction and Mental Health.

Used in:

- Figures 1, 2 and 3

Health Surveillance Indicator: Youth Smoking

Category: Chronic Disease

Prepared: August, 2017

This indicator report is part of a series that informs the ongoing assessment of Toronto's health status. For a full list of the indicators, please go to: [www.toronto.ca/health](http://www.toronto.ca/health)