



# HEALTH SURVEILLANCE INDICATORS: CERVICAL CANCER SCREENING

## Public Health Relevance

Cervical cancer is 90% preventable by having regular Papanicolaou (Pap) tests. The Pap test, also known as a cervical smear, is a screening test used to detect precancerous lesions in the cervix. Changes in the cervix usually develop slowly over numerous years, so there is a long period of time when abnormal cell changes can be detected before cervical cancer develops. Cervical cancer is most often diagnosed in women who have never been screened or have not been screened regularly.

Cancer Care Ontario's (CCO) cervical cancer screening guidelines recommend cervical cancer screening every 3 years for women aged 21 to 69 who are (or who have ever been) sexually active. Screening can stop at age 70 in women who have had 3 or more normal tests in the previous 10 years.

## Highlights

1. The percent of women having a Pap test in Toronto remained relatively stable from 2002 to 2013.
2. The Pap test participation rate of women in Toronto was significantly lower than in the rest of Ontario and the rest of the GTA.
3. The Toronto Central Local Health Integration Network (LHIN) had the lowest Pap test participation rate of the five LHINs with portions in Toronto.

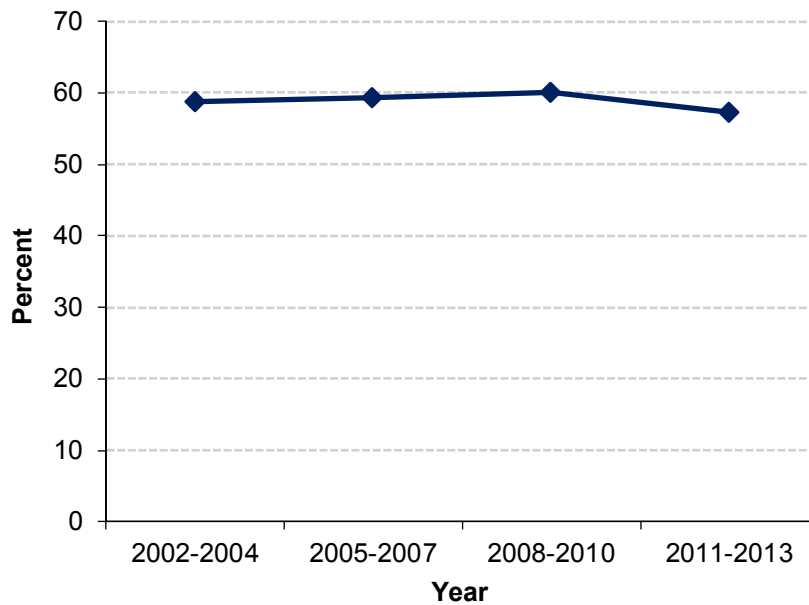
## Trends Over Time

The percent of women having a Pap test in Toronto remained relatively stable from 2002 to 2013.

Figure 1 shows the percent of Toronto women aged 21 to 69 years who received a Pap test within three-year periods from 2002 to 2013.

The percent of women who had at least one Pap test within three-year periods from 2002 to 2013 remained relatively stable at about 60%. In the 2011 to 2013 period, the pap test participation rate was 57.3%, which is below the provincial target of 85% or higher.

**Figure 1: Cervical Cancer Screening (Pap Test) Participation Rate within Three-Year Periods, Women Aged 21 to 69 Years, Toronto, 2002 to 2013**



Data Source: see Data notes.

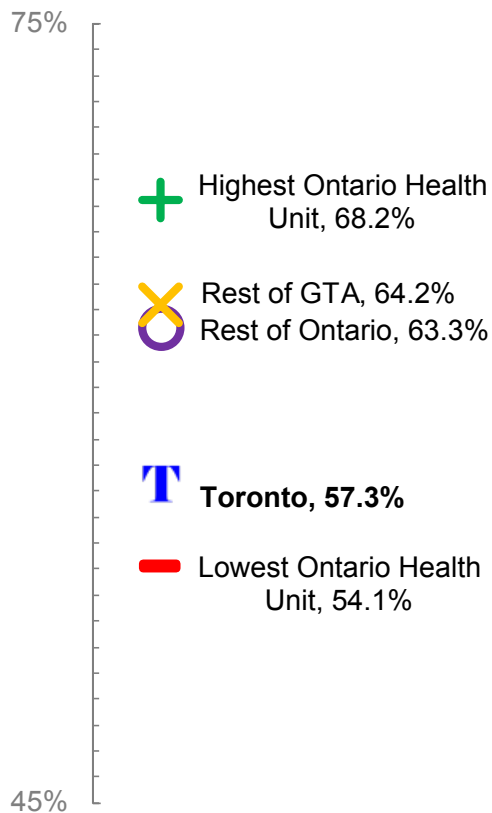
## Regional Comparisons

The Pap test participation rate of women in Toronto was significantly lower than in the rest of Ontario and the rest of the GTA.

Figure 2 shows the percent of women aged 21 to 69 who received a Pap test in Toronto between 2011 and 2013 compared to the rest of Ontario, the rest of the GTA, and the Ontario health units with the highest and lowest rates.

The Pap test participation rate in Toronto was significantly lower than in the rest of Ontario and the rest of the GTA. Toronto had the 3<sup>rd</sup> lowest Pap test participation rate of the 36 health units in Ontario.

**Figure 2: Cervical Cancer Screening (Pap Test) Participation Rate, Women Aged 21 to 69 Years, Toronto Compared to Other Regions in Ontario, 2011 to 2013**



Data Source: see Data Notes.

## Toronto Neighbourhood Comparisons

The Toronto Central Local Health Integration Network (LHIN) had the lowest Pap test participation rate of the five LHINs with portions in Toronto.

Table 1 shows the percent of women aged 21 to 69 who received a Pap test between 2011 and 2013 in the Local Health Integration Network (LHIN) areas with portions in Toronto.

The Toronto Central LHIN had the lowest Pap test participation rate out of the five LHINs, whereas the Central LHIN had the highest.

**Table 1: Cervical Cancer Screening (Pap Test) Participation Rate, Women Aged 21 to 69 Years, LHIN Areas with Portions in Toronto, 2011 to 2013**

LHIN Area	Percentage of eligible women who completed a Pap Test
Central West	59.2%
Mississauga-Halton	61.3%
Toronto Central	57.8%
Central	62.3%
Central East	62.2%
<b>Toronto</b>	<b>57.3%</b>

Data Source: see Data Notes.

## Data Notes

### Notes

- Data includes all screen-eligible women aged 21-69 at the index date in Toronto. Index date was defined as the midpoint in a three-year period, e.g. July 1<sup>st</sup> 2012 for 2011-2013.
- The Registered Persons Database (RPDB) address closest to the index date was used to assign postal code.
- Estimates are age-standardized to the 2011 Canadian population. This allows for comparison of estimates over time and geography.
- LHIN assignment was determined using PCCF+, version 6A; residential postal code was used to identify LHIN and individuals with unknown/missing LHINs were excluded from the analysis.
- 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. Error bars are not shown on the charts as variability of data is very low.
- Pap tests Identification includes:
  - Pap tests were identified in CytoBase (an electronic medical record database for cervical cytology). All Pap tests in CytoBase were counted, including those with inadequate specimens.
  - Pap tests were also identified using fee codes in OHIP:
    - E430A: add-on to A003, A004, A005, A006 when pap performed outside hospital
    - G365A: Periodic-pap smear
    - E431A: When Pap smear is performed outside of hospital, to G394
    - G394A: Additional for follow-up of abnormal or inadequate smears
    - L713A: Lab.med.-anat path,hist,cyt-cytol-gynaecological specimen
    - L733A: Cervicovaginal specimen (monolayer cell methodology)
    - L812A: Cervical vaginal specimens including all types of cellular abnormality, assessment of flora, and/or cytohormonal evaluation
    - Q678A: Gynaecology – pap smear – periodic – nurse practitioners.
- Each woman was counted once regardless of the number of Pap tests performed in a three-year period.

- The following were excluded:

Women with a missing or invalid Health Insurance Number (HIN), date of birth, LHIN or postal code

Women diagnosed with an invasive cervical cancer prior to the January 1<sup>st</sup> that begins three-year period, e.g. January 1<sup>st</sup> 2011 for 2011-2013; prior diagnosis of cervical cancer was defined as: ICD-O-3 codes C53, a morphology indicative of cervical cancer, microscopically confirmed with a pathology report.

Women with a hysterectomy prior to the January 1<sup>st</sup> that begins a three-year period, e.g. January 1<sup>st</sup> 2011 for 2011-2013 time period.

Women with a hysterectomy were identified through Claims History Database (CHDB).

## Definitions

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

**Age Standardization** is a technique based on weighted averaging that removes the effects of the distribution of age when comparing two or more populations.

**Cervical Cancer Screening (Pap Test) Participation Rate** is the percentage of screen-eligible women, 21-69 years old, who completed at least one Pap test in a three-year period.

**GTA excluding Toronto** means the Greater Toronto Area (GTA) with Toronto removed from the GTA data.

**Ontario excluding Toronto** means Ontario with Toronto removed from the Ontario data.

## Sources

**Cervical Cancer Screening:** Cancer Screening Evaluation and Reporting, Cance Care Ontario.

Used in:

- Figures 1 and 2
- Table 1

Health Surveillance Indicator: Cervical Cancer Screening

Category: Chronic Disease

Prepared: October, 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)