

HIV testing in Ontario, 2017



About OHESI

The Ontario HIV Epidemiology and Surveillance Initiative (OHESI) is a collaboration involving the AIDS Bureau of the Ontario Ministry of Health (MOH), Public Health Ontario (PHO), the Public Health Agency of Canada (PHAC), and the Ontario HIV Treatment Network (OHTN) Applied Epidemiology Unit (AEU). The objectives of OHESI are to analyze, monitor and disseminate knowledge products on the epidemiology of HIV in Ontario. OHESI is a vital partnership that supports Ontario's ongoing ability to assess the impact of policy directions and program initiatives in the provincial "HIV/AIDS Strategy to 2026: Focusing Our Efforts - Changing the Course of the HIV Prevention, Engagement and Care Cascade in Ontario."

The success of the partnership would not be possible without the strategic, technical and resource contributions of all the partners. OHESI also receives ongoing advice from a community advisory committee (OHESI Champions Committee): people working in the community-based HIV service sector and HIV clinics whose input helps ensure that OHESI reports and other products support collective efforts and impact in neighborhoods, communities and organizations across the province.

Background

In 2013 and 2014, the OHTN set up the OHTN Applied Epidemiology Unit (AEU), under a funding agreement with the MOH, to support ongoing production of epidemiological information to support Ontario's response to HIV.

In 2014 and 2015, the OHTN AEU initiated the Ontario HIV Epidemiology and Surveillance Initiative (OHESI) and continues to provide administrative and technical support for the partnership.

Contact information

Applied Epidemiology Unit, Ontario HIV Treatment Network
1300 Yonge Street, Suite 600
Toronto, Ontario M4T 1X3
Phone: 416-642-6486
Email: OHESI@ohsn.on.ca
Website: www.OHESI.ca

Acknowledgements

We thank members of the OHESI Steering Committee, Champions Committee and Technical Working Group for their contributions to this report.

OHESI Technical Working Group

Sean Colyer, OHTN
Hadia Hussain, PHO
Maya Kesler, OHTN
Abigail Kroch, OHTN
Juan Liu, PHO
Nashira Popovic, PHAC
Heather Rilkoff, PHAC

OHESI Steering Committee Leads

Vanessa Allen, PHO
Chris Archibald, PHAC
Jean Bacon, OHTN
Ken English, AIDS Bureau, MOH
Joanne Lush, AIDS Bureau, MOH
Michelle Murti, PHO

Date of publication

August 30, 2019

Suggested citation

Ontario HIV Epidemiology and Surveillance Initiative. *HIV testing in Ontario, 2017*. Toronto, Ontario, August 30, 2019.

Summary

This report presents trends in all HIV tests in Ontario from 2008 to 2017. While the number of HIV tests was relatively stable from 2008 to 2013, it increased by 30% from 441,801 in 2013 to 574,035 in 2017 (not including the 184,000 prenatal tests conducted among pregnant women each year). Over that same period – 2013 to 2017 – the HIV testing rate increased by 24% from 32.6 to 40.4 per 1,000 people. Over the past 10 years, as the number of tests (test volume) increased, the positivity rate (proportion of tests that were HIV-positive) decreased.

Over the last decade, the vast majority of HIV tests were nominal tests, and the proportion of nominal tests has increased since 2013. The number of both coded and anonymous tests have decreased since their peaks in 2011 and 2014, respectively. While the test positivity rate has decreased over time for all test types, it was consistently four to five times higher among people who tested anonymously compared to those who tested nominally.

There was a greater increase in the number of males being tested compared to females over the past 10 years. For the first time in 2017, the number of HIV tests among males exceeded that of females and, between 2014 and 2017, the male HIV testing rate exceeded the female HIV testing rate – despite the fact that these figures do not include prenatal tests.

Between 2013 and 2017, the HIV testing rate per 1,000 people increased across all age groups and was consistently highest among 25 to 29 year olds. In 2017, the HIV positivity rate was highest among males aged 50 to 54 years and females aged 50 to 59 years.

Over the past decade, most HIV tests performed each year were among people reporting heterosexual sex with partners who had no identified HIV risk factors. However, the proportion of HIV tests among this group has decreased over time. Between 2013 and 2017, a growing proportion of males who were testing were men who have sex with men (MSM). In 2017, among males, the HIV test positivity rate was highest in men who have sex with men and who also inject drugs (MSM-PWID) and, among females, it was highest in women from countries where HIV is endemic.

In 2017, Toronto had both the highest HIV testing rate per 1,000 people and the highest positivity rate among the seven defined health regions. Ottawa had the second highest HIV testing rate and third highest positivity rate, while the South West region had the second lowest HIV testing rate but the second highest HIV positivity rate.

Between 2013 and 2017, the number of point-of-care (POC) tests used decreased while the positivity rate from POC testing increased.

Between 2013 and 2017, the estimated number of prenatal HIV tests was stable among individuals who received prenatal laboratory testing with over 97% estimated to have received an HIV test over this time period.

For more information on HIV surveillance in Ontario, including HIV diagnoses and the HIV care cascade, please visit www.OHESI.ca.

Table of Contents

Summary	3
Table of Contents.....	4
List of Figures	5
List of Tables	6
Background	7
Key Findings.....	10
Future Directions	11
Data and Figures	12
1. Overall.....	13
2. By test type.....	15
3. By sex	17
4. By age	19
5. By exposure category	24
6. By health region.....	27
7. Rapid/point-of-care (POC) testing.....	29
8. Prenatal testing.....	30
Definitions.....	31
Abbreviations	33
Technical Notes	34
Data source.....	34
New HIV diagnosis definition	35
Exposure categories.....	35
Geographic regions	36
Prenatal HIV tests	39
Data limitations.....	39
Data Tables.....	40

List of Figures

1. Overall

Figure 1.1 Number of HIV tests (thousands), Ontario, 2008 to 2017	13
Figure 1.2 HIV testing rate per 1,000 people, Ontario, 2008 to 2017	13
Figure 1.3 HIV test positivity rate, Ontario, 2008 to 2017	14

2. By test type

Figure 2.1 Number of HIV tests (thousands) by test type, Ontario, 2008 to 2017	15
Figure 2.2 Number of HIV tests (thousands) by test type (nominal excluded), Ontario, 2008 to 2017	15
Figure 2.3 Percent of HIV tests by test type (nominal excluded), Ontario, 2008 to 2017	16
Figure 2.4 HIV test positivity rate by test type, Ontario, 2008 to 2017	16

3. By sex

Figure 3.1 Number of HIV tests (thousands) by sex, Ontario, 2008 to 2017	17
Figure 3.2 Percent of HIV tests among females, Ontario, 2008 to 2017	17
Figure 3.3 HIV testing rate per 1,000 people by sex, Ontario, 2008 to 2017	18
Figure 3.4 HIV test positivity rate by sex, Ontario, 2008 to 2017	18

4. By age

Figure 4.1 Number of HIV tests (thousands) and test positivity rate by age, Ontario, 2017	19
Figure 4.2 HIV testing rate per 1,000 people by age, Ontario, 2017	19
Figure 4.3 Number of HIV tests (thousands) and test positivity rate by age and sex, Ontario, 2017	20
Figure 4.4 HIV testing rate per 1,000 people by sex and age, Ontario, 2017	21
Figure 4.5 HIV testing rate per 1,000 people by age, Ontario, 2013 to 2017	22
Figure 4.6 HIV testing rate per 1,000 people by age, males, Ontario, 2013 to 2017	23
Figure 4.7 HIV testing rate per 1,000 people by age, females, Ontario, 2013 to 2017	23

5. By exposure category

Figure 5.1 Percent of HIV tests by exposure category (where known), Ontario, 2013 to 2017	24
Figure 5.2 Percent of HIV tests by exposure category (where known), males, Ontario, 2013 to 2017	25
Figure 5.3 Percent of HIV tests by exposure category (where known), females, Ontario, 2013 to 2017	25
Figure 5.4 HIV test positivity rate by sex and exposure category (where known), Ontario, 2017	26

6. By health region

Figure 6.1 Number of HIV tests (thousands) by health region, Ontario, 2013 to 2017	27
Figure 6.2 HIV testing rate per 1,000 people by health region, Ontario, 2013 to 2017	27
Figure 6.3 HIV test positivity rate by health region, Ontario, 2017	28

7. Rapid/point-of-care (POC) testing

Figure 7.1 Number of POC HIV tests (thousands) and positivity rate (confirmed positive POC tests), Ontario, 2013 to 2017	29
---	----

8. Prenatal testing

Figure 8.1 Estimated number of prenatal HIV tests (thousands), Ontario, 2013 to 2017	30
Figure 8.2 Among individuals receiving prenatal laboratory testing, the estimated percent that received an HIV test, Ontario, 2013 to 2017	30

List of Tables

1. Overall

Table 1.1 Number and HIV testing rate per 1,000 people, Ontario, 2008 to 2017.....	40
Table 1.2 Number of HIV tests and test positivity rate, Ontario, 2008 to 2017.....	40

2. By test type

Table 2.1 Number of HIV tests and test positivity rate by test type, Ontario, 2008 to 2017	41
Table 2.2 Percent of HIV tests by test type, both sexes, Ontario, 2008 to 2017	42

3. By sex

Table 3.1 Number of HIV tests and test positivity rate, by sex, Ontario, 2000 to 2017	43
Table 3.2 Number and rate of HIV tests per 1,000 people, by sex, Ontario, 2008 to 2017.....	44
Table 3.3 Percent of HIV tests by sex, Ontario, 2008 to 2017	45

4. By age

Table 4.1 Number of HIV tests and test positivity rate by age and sex, Ontario, 2017.....	46
Table 4.2 Number and rate of HIV tests per 1,000 people by age and sex, Ontario, 2017	47
Table 4.3 Rate of HIV tests per 1,000 people by age, 2013 to 2017	48
Table 4.4 Rate of HIV tests per 1,000 males by age, males, 2013 to 2017.....	49
Table 4.5 Rate of HIV tests per 1,000 females by age, females, 2013 to 2017	49

5. By exposure category

Table 5.1 Number of HIV tests by exposure category, Ontario, 2013 to 2017.....	50
Table 5.2 Percent of HIV tests by exposure category, Ontario, 2013 to 2017	50
Table 5.3 Number of HIV tests by exposure category, males, Ontario, 2013 to 2017.....	51
Table 5.4 Percent of HIV tests by exposure category, males, Ontario, 2013 to 2017	51
Table 5.5 Number of HIV tests by exposure category, females, Ontario, 2013 to 2017	52
Table 5.6 Percent of HIV tests by exposure category, females, Ontario, 2013 to 2017.....	52
Table 5.7 Number of HIV tests and test positivity rate by exposure category, males, Ontario, 2017.....	53
Table 5.8 Number of HIV tests and test positivity rate by exposure category, females, Ontario, 2017...53	

6. By health region

Table 6.1 Number and rate of HIV tests per 1,000 people by health region, Ontario, 2013 to 2017.....	54
Table 6.2 Number of HIV tests and test positivity rate by health region, Ontario, 2017.....	55

7. Rapid/point-of-care (POC) testing

Table 7.1 Number of POC HIV tests, confirmed positive POC tests, and test positivity rate, Ontario, 2013 to 2017	56
---	----

8. Prenatal testing

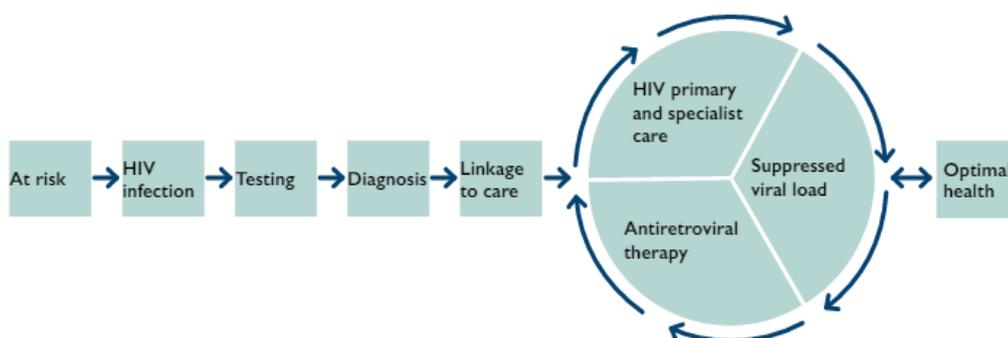
Table 8.1 Estimated number of prenatal HIV tests and among women receiving prenatal laboratory testing, the estimated percent that had an HIV test performed, Ontario, 2013 to 2017.....	57
---	----

Background

Why look at patterns in HIV testing?

- HIV testing is an early step in the HIV prevention, engagement and care cascade (Figure i) and is a critical step for people living with HIV to know their status and be linked to care. HIV testing is also an important gateway to services for people who are HIV-negative. This step is closely tied to the first UNAIDS 90-90-90 target (see box below).
- Trends in HIV testing can be useful for measuring the success of HIV testing initiatives and for interpreting trends in new HIV diagnoses.
- HIV test positivity rates can provide insight into which sub-populations have a higher level of HIV risk. However, HIV positivity rates should be interpreted with caution as they are influenced by both HIV risk as well as those being diagnosed for the first time in Ontario after previously being diagnosed elsewhere (known to be HIV-positive at the time of testing).
- This report includes information on the number of HIV tests in Ontario. It does NOT include information on the number of unique individuals tested. This means trends may reflect changes in both the number of times an individual is tested in a year as well as the total number of unique people who are tested.

Figure i. The HIV prevention, engagement, and care cascade



UNAIDS 90-90-90 Targets

- 90% of all people living with HIV will know their HIV status.
- 90% of all people diagnosed with HIV will receive ART.
- 90% of all people receiving ART will have viral suppression.

If all three 90-90-90 targets are met, 81% of **all** people living with HIV would be on ART and 73% of **all** people living with HIV would be virally suppressed.

Where do these data come from?

- Data in this report come from the Public Health Ontario Laboratory (PHOL), which conducts centralized HIV diagnostic testing for the province.
- When someone is tested for HIV in Ontario, the health care provider conducting the test (e.g. a physician, nurse or HIV counselor) fills out an HIV test requisition form that is sent to PHOL. The requisition collects information on the individual being tested for HIV, including their age, sex, geographic location and HIV risk factors.

- When a test is HIV-positive, a Laboratory Enhancement Program (LEP) form is sent to the health care provider who conducted the test to collect more information on the individual tested. However, only data from the test requisition are used in this report, as LEP data is not available for HIV-negative tests.
- With rapid/point-of-care (POC) tests, an HIV test requisition form is completed and submitted to PHOL with a sticker attached indicating the result of the POC test. POC tests are included in the total numbers of tests in this report, and reactive POC tests with confirmatory laboratory tests are included as positive HIV tests in the positivity rates.
- Prenatal HIV tests are part of an HIV testing program offered to all pregnant individuals as part of their prenatal care. Prenatal HIV testing results are presented separately [here](#) and are not included in the number of HIV tests or population testing rates in this report. However, to calculate HIV positivity rates, HIV-positive prenatal tests are included in the numerator while HIV-negative prenatal tests are not included in the denominator. From 2013 to 2017, the annual number of HIV-positive prenatal tests ranged from four to 15.

What are some of the strengths of this report?

- All HIV diagnostic testing conducted by health care providers in Ontario is done by PHOL and therefore included in this report.
- Age, sex and geography data on the test requisition are very complete and available for more than 96% of HIV tests since 2008.
- Trends in HIV tests are presented as numbers and, where possible, as an HIV testing rate (i.e. the number of tests per 1,000 people). While the number of tests is influenced by the size of the underlying population (i.e. greater population = greater number of tests), rates take population size into account and remove it as a possible explanatory factor for any observed differences over time or between populations.

What are some of the limitations of this report?

- For this report, information about new HIV diagnoses is limited to what can be obtained from the HIV test requisition form alone (and not the LEP); therefore, not all information about duplicate diagnoses (including those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere) is reflected in the HIV positivity rates.
- Before 2018, the HIV test requisition did not collect information on race/ethnicity, country of birth and transgender identity. Lack of race/ethnicity and country of birth information means it was not possible to look at HIV testing by priority population in this report. In early 2018, PHOL implemented a revised HIV test requisition that collects these data.
- In this report, HIV tests are broken down by Exposure categories, which are meant to represent an individual's most likely risk of HIV infection based on risk factors documented on the HIV test requisition. The HIV response in Ontario focuses on priority populations or populations most effected by HIV, which are a combination of risk factors (e.g. men having sex with men, injection drug use) and race/ethnicity (e.g. from countries where HIV is endemic). As information on race/ethnicity was not available on test requisition forms up to and including 2017, we are unable to report on priority populations here. Exposure categories do not capture the burden of HIV in communities. In particular, the classification of endemic exposures is inadequate to address HIV in African, Caribbean and Black communities. More information on Exposure categories can be found in the [technical notes](#).
- For over half of test requisition forms risk factor information is missing or indicated as “none”. Because an exposure category could not be assigned for these tests, they were excluded from the exposure category section of this report. Due to the extent of missing information, exposure

category data are presented as the proportion of HIV tests where exposure category was known. The total number of tests by exposure category is not presented as they are underestimates.

- If information is more likely to be missing for one specific exposure category than others (e.g. injection drug use), that exposure category may be underrepresented in the data and could introduce bias into the findings of this report.
- Tests are reported as a rate per 1,000 people. It is possible that an individual may test more than once per year and, therefore, the number of unique individuals tested may be lower than the total number of tests.
- All HIV tests that were not linked to a previous positive result at the public health lab are included here. This includes any retest in Ontario that cannot be linked and any first time positive in Ontario. This means that some proportion of tests were carried out on people who were already aware of their status. See www.OHESI.ca “New HIV Diagnoses in Ontario, 2017” report for more detail.

Key Findings

Overall

- In 2017, there were 574,035 HIV tests in Ontario – equivalent to an HIV testing rate of 40.4 tests per 1,000 people.
- The HIV test positivity rate in 2017 was 0.16%. This means that for every 10,000 tests, approximately 16 were positive for HIV.
- While the number of tests conducted remained relatively stable between 2008 and 2013, it increased by 29.9% between 2013 and 2017. The HIV testing rate per 1,000 people also increased by 24.1% during this time.
- As HIV test volume increased over time, the HIV positivity rate decreased. Between 2008 and 2017, the HIV positivity rate decreased from 0.26% to 0.16%.

By test type

- In 2017, the vast majority of HIV tests (95.9%) – including POC tests – were nominal and the remainder were coded (1.6%) or anonymous (2.5%).
- Trends over time varied by test type. Nominal HIV testing remained relatively stable between 2008 and 2013 and then began to increase. Coded HIV testing was relatively stable between 2008 and 2013, and decreased between 2013 and 2017. Anonymous testing increased between 2008 and 2014, following the expansion of anonymous testing in Ontario in 2006, and peaked at 17,392 tests by 2014.
- Since 2013, nominal HIV testing has increased by 37.0% while coded and anonymous testing decreased by 60.4% and 14.9%, respectively.
- While the HIV test positivity rate has decreased over time for all test types, it was consistently four to five times higher for anonymous testing compared to nominal testing. In 2017, the test positivity rate was 0.15% for nominal testing, 0.20% for coded testing and 0.64% for anonymous testing.

By sex

- In recent years, the number and rate of HIV tests were similar among males and females. In 2017, 50.1% of people tested were males and 49.9% were females, while the HIV testing rate per 1,000 people was 39.8 for males and 38.4 for females.¹ For the first time in 2017, the number of HIV tests among males was greater than the number of HIV tests among females.
- Over the past 10 years, there was a greater increase in HIV testing among males than females. Historically the female HIV testing rate has exceeded the male rate, but the past four years were the first where the HIV testing rate was higher for males. Of note, prenatal HIV tests were not included here and are presented separately in this report.
- While the HIV test positivity rate decreased over time for both sexes, it was consistently three to four times higher among males than females. In 2017, the positivity rate was 0.26% for males and 0.07% for females.

By age

- Between 2013 to 2017, the rate of HIV tests per 1,000 people was consistently highest in the 25 to 29 age category and increased for all age groups over time.

¹ The overall population in Ontario is not split equally by sex - there are a higher number of females compared to males.

- Between 2013 and 2017, the HIV testing rate per 1,000 people increased for all age groups by an average of 25%. The largest relative increase in the HIV testing rate per 1,000 between 2013 to 2017 was in the <15 age category for both males (52%) and females (43%).
- In 2017, the number of HIV tests and HIV testing rate was highest in the 25-29 age category in both males and females. However, the HIV positivity rate was highest in the 50 to 54 age category for males (0.39%) and 50 to 54 and 55 to 59 age categories for females (both 0.14%).

By exposure category

- Between 2013 and 2017, the majority of HIV tests were consistently among heterosexual males or females who reported partners with no identified risk. However, this proportion decreased over time among males and remained stable among females.
- Between 2013 and 2017, the percent of HIV tests in males attributed to men who have sex with men (MSM) increased from 23.7% to 30.9%.
- In 2017, the highest HIV positivity rate in males was among MSM who used injection drugs (3.5%), whereas in females it was among individuals from countries identified as HIV-endemic (1.1%).

By health region

- In 2017, the HIV testing rate per 1,000 people was highest in Toronto (68) followed by Ottawa (46). In the other five health regions, the HIV testing rate ranged from 27 (Eastern) to 33 (Central East). The number of HIV tests and the HIV testing rate increased between 2016 and 2017 in all health regions.
- The 2017 HIV positivity rate was highest in Toronto (0.25%), South West (0.18%) and Ottawa (0.17%). In the other regions, the HIV positivity rate ranged from 0.08% (Northern, Eastern, and Central East) to 0.10% (Central West).

Rapid/point-of-care (POC) testing

- Between 2013 and 2017, the number of point-of-care (POC) tests decreased by 31.7% from 29,362 to 20,068 while the POC test positivity rate increased from 0.47% to 0.59%.

Prenatal testing

- Between 2013 and 2017, the estimated number of prenatal HIV tests was stable and the estimated proportion of women receiving prenatal laboratory testing who had an HIV test increased from 97.3% to 97.8%.

Future Directions

- The HIV test requisition form was recently revised to collect information on race/ethnicity (including First Nations, Métis, Inuit), country of birth and transgender status. The new form was implemented in early 2018 and will allow test data to be stratified by priority population.
- There are several initiatives currently being implemented to improve completion of the HIV test requisition form in order to minimize the amount of missing data.
- HIV testing data by public health unit is included in the OHESI report entitled "[HIV in Ontario by public health unit: Testing, new diagnoses and care cascade](#)," released in 2018.

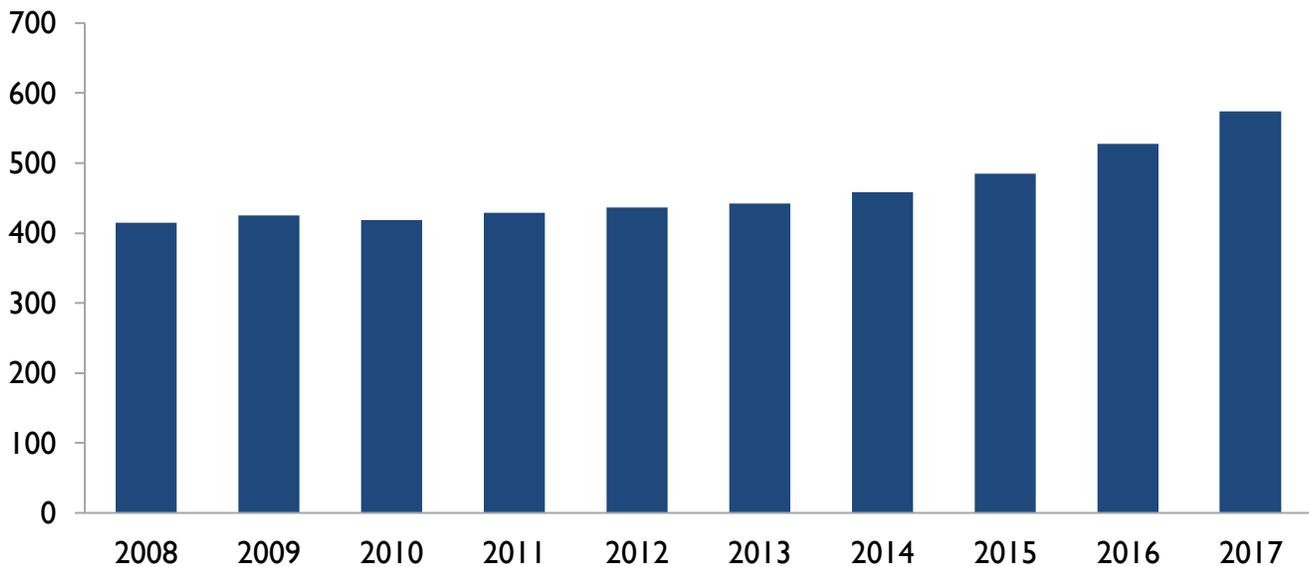
Data and Figures

The figures in this section describe trends in HIV testing over the past 10 years (2008 to 2017) for testing overall and by sex, and over the past five years (2013 to 2017) for testing by age, exposure category, POC testing, and prenatal testing. In general, each page contains one to two figures and each figure is accompanied by a brief description of trends as well as a table displaying data shown in the figures.

See **Technical Notes** for more information on the data source and how these numbers were calculated, and **Data Tables** section for all the numbers underlying the figures.

I. Overall

Figure I.1 Number of HIV tests (thousands), Ontario, 2008 to 2017

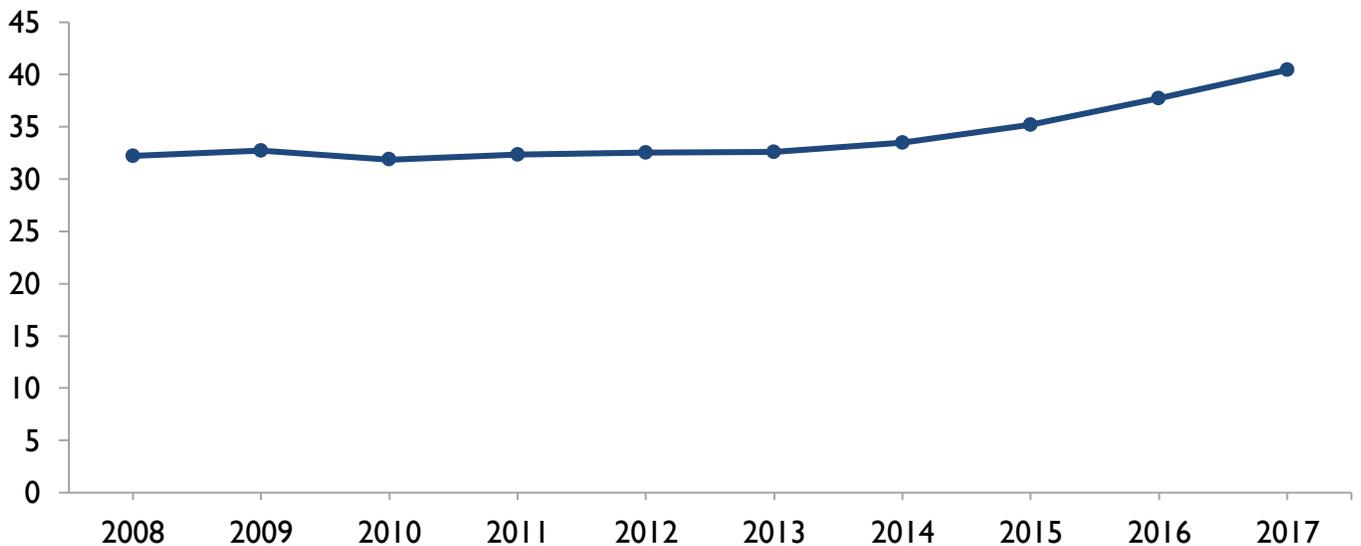


2008	2017
414,912	574,035

Snapshots

The number of HIV tests was relatively stable at approximately 410,000 to 440,000 between 2008 and 2013, and then increased to 574,035 by 2017.

Figure I.2 HIV testing rate per 1,000 people, Ontario, 2008 to 2017



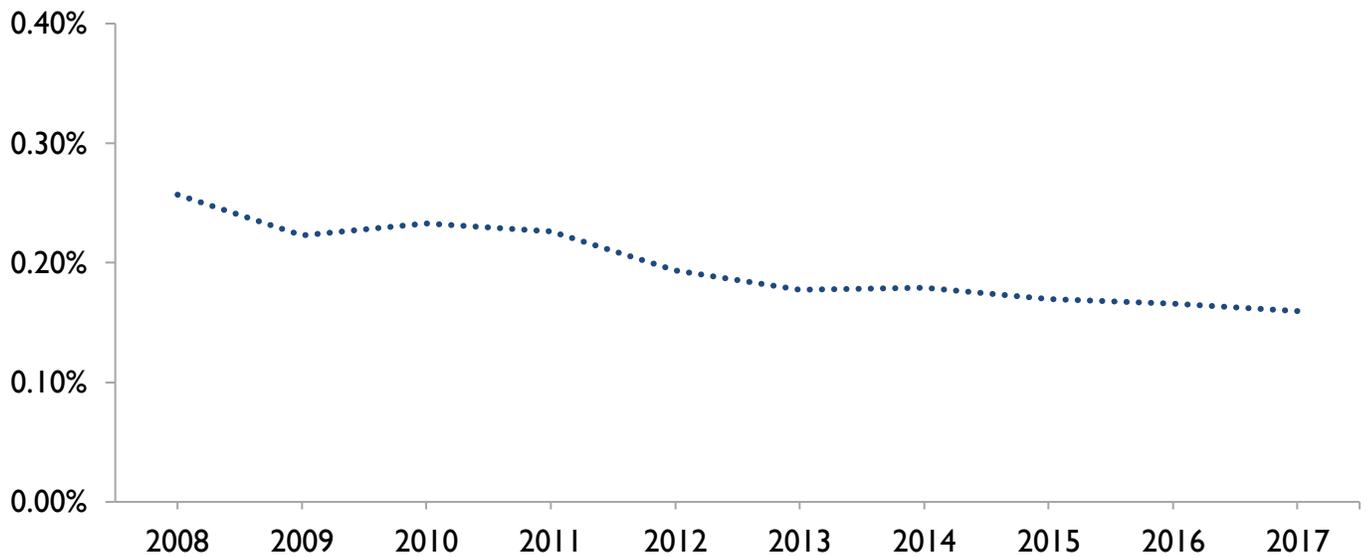
2008	2017
32.2	40.4

Snapshots

The HIV testing rate was relatively stable at 33 per 1,000 people between 2008 and 2013, and then steadily increased to a high of 40.4 per 1,000 people by 2017.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Population estimates (all ages) retrieved from Statistics Canada, accessed 04/09/2018. See **Table I.1** for underlying data.

Figure I.3 HIV test positivity rate, Ontario, 2008 to 2017

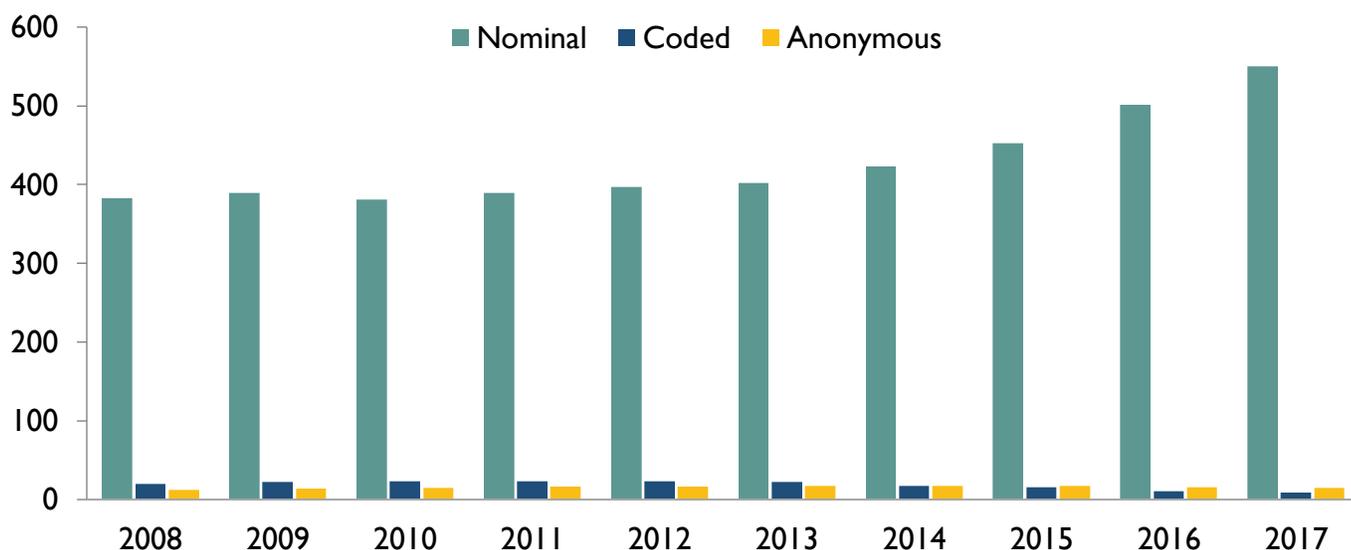


2008	2017	Snapshots
0.26%	0.16%	Between 2008 and 2017, there was a decrease in the percent of HIV tests that were HIV-positive.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Positivity rate refers to the percent of tests that were HIV-positive and includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere. See **Table 1.2** for underlying data.

2. By test type

Figure 2.1 Number of HIV tests (thousands) by test type, Ontario, 2008 to 2017

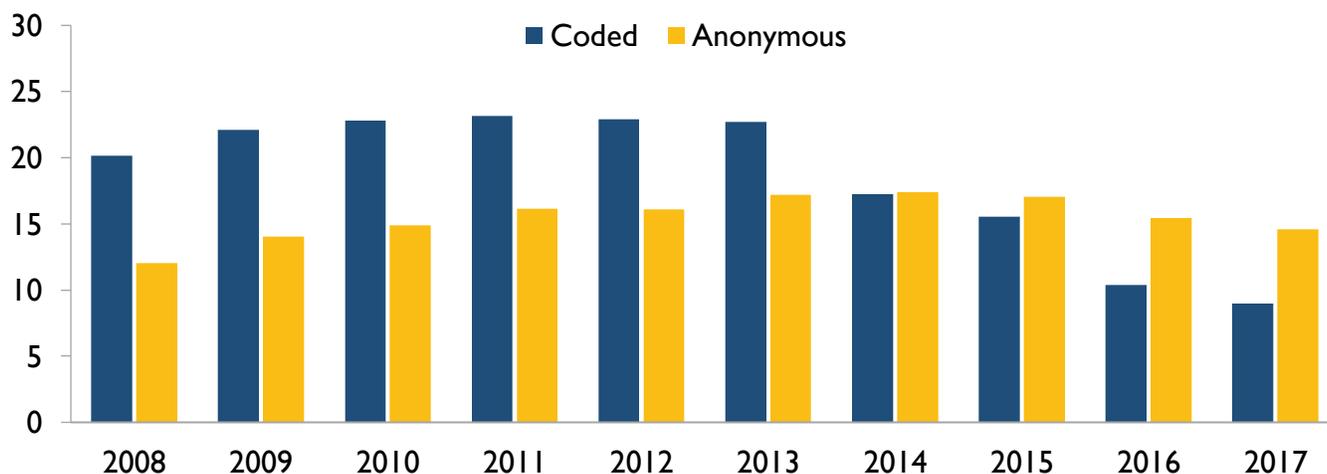


	2008	2017
Nominal	382,718	550,433

Snapshots

The number of nominal tests was relatively stable between 2008 and 2013 and then increased to a high of over 550,000 tests by 2017. See Figure 2.2 below for trends in coded and anonymous tests.

Figure 2.2 Number of HIV tests (thousands) by test type (nominal excluded), Ontario, 2008 to 2017



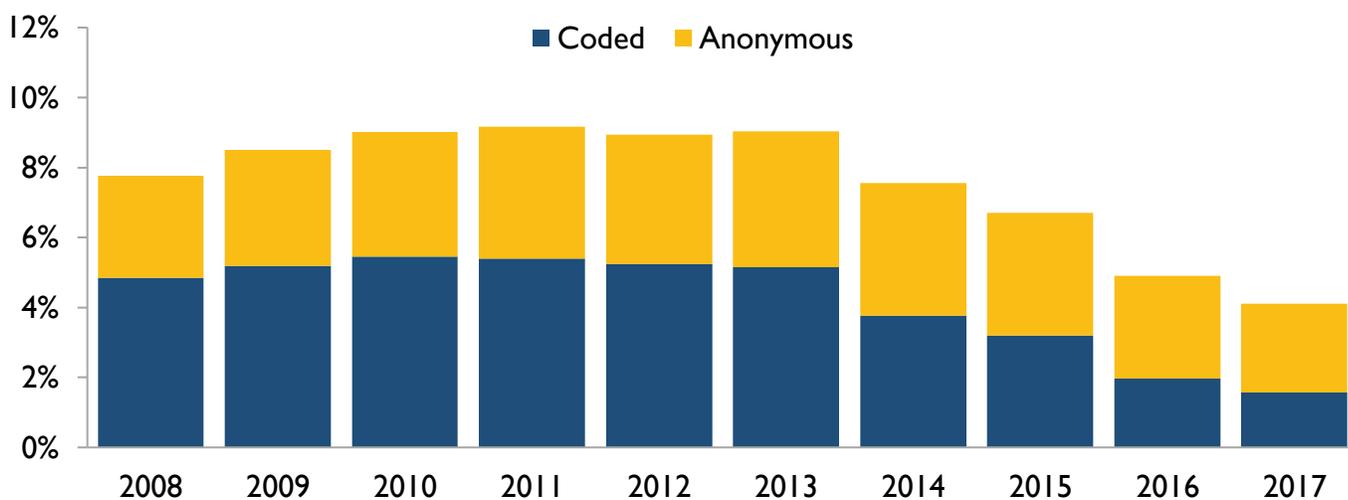
	2008	2017
Coded	20,143	8,992
Anonymous	12,049	14,609

Snapshots

The number of coded tests was relatively stable between 2008 and 2013 and decreased thereafter to a low of almost 9,000 tests in 2017. The number of anonymous tests peaked at 17,392 in 2014 and decreased thereafter to 14,609 in 2017.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. See Table 2.1 for underlying data.

Figure 2.3 Percent of HIV tests by test type (nominal excluded), Ontario, 2008 to 2017

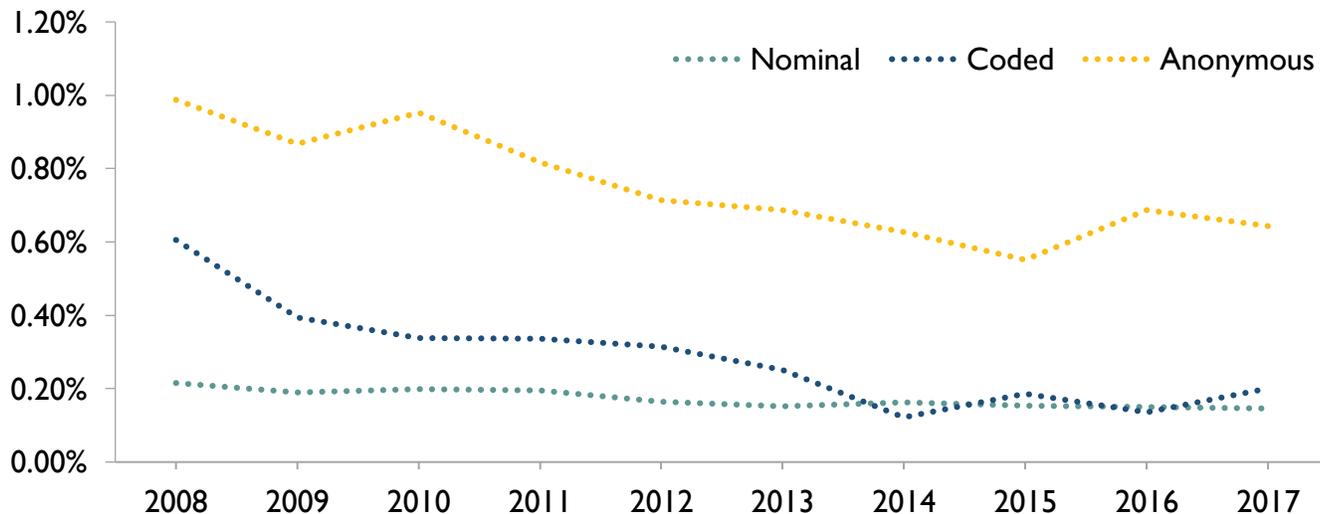


	2008	2017
Nominal	92.2%	95.9%
Coded	4.9%	1.6%
Anonymous	2.9%	2.5%

Snapshots

Between 2008 and 2017, the vast majority of tests were consistently nominal. While the percent of HIV tests that were nominal increased slightly to a peak in 2017 at 95.9%, the percent coded and anonymous both decreased.

Figure 2.4 HIV test positivity rate by test type, Ontario, 2008 to 2017



	2008	2017
Nominal	0.22%	0.15%
Coded	0.61%	0.20%
Anonymous	0.99%	0.64%

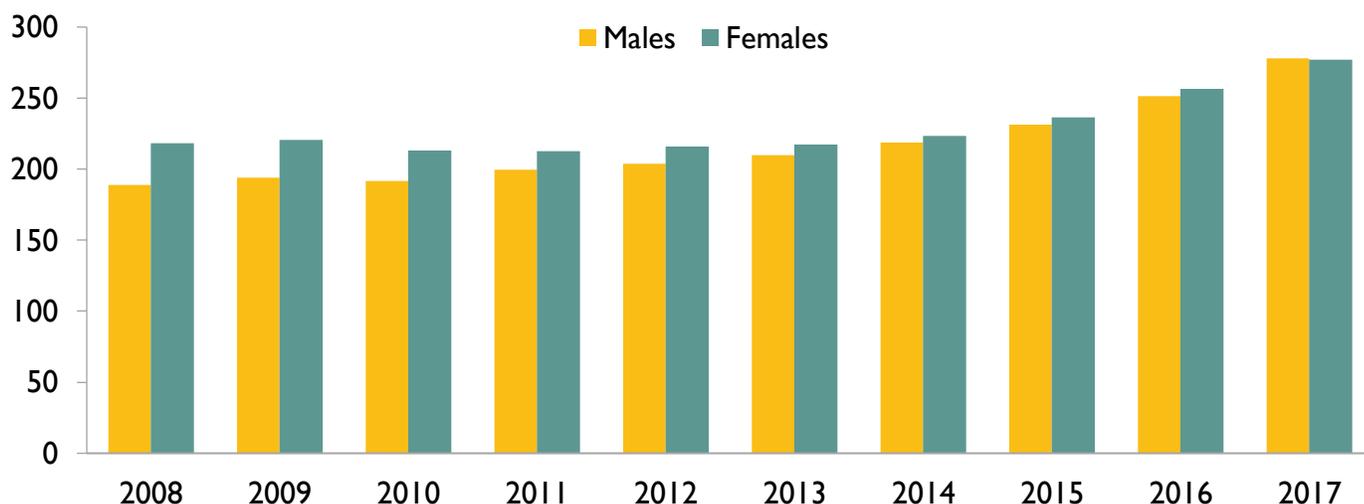
Snapshots

Between 2008 and 2017, the positivity rate decreased for all test types and was consistently higher for anonymous tests.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Positivity rate refers to the percent of tests that were HIV-positive and includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere. Tests of unknown test type (0.0015% between 2008 and 2017) were excluded. See **Table 2.1** and **Table 2.2** for underlying data.

3. By sex

Figure 3.1 Number of HIV tests (thousands) by sex, Ontario, 2008 to 2017

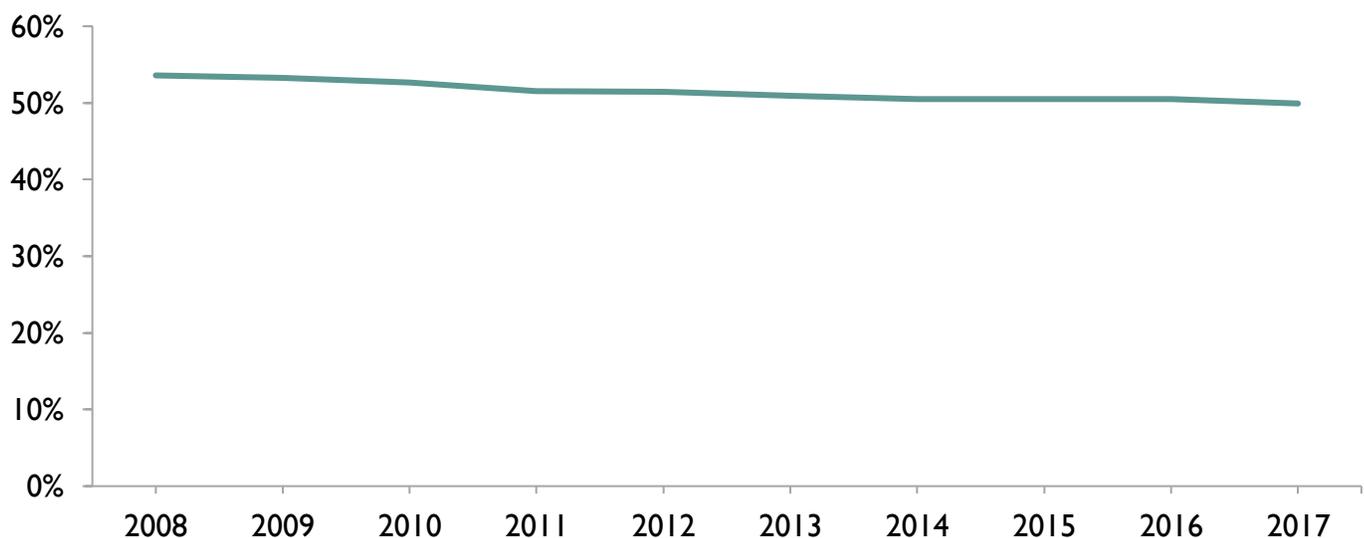


	2008	2017
Males	188,983	277,849
Females	218,188	276,987

Trends

Between 2008 and 2017, the number of HIV tests increased over time for both sexes, with a greater increase among males. In 2008, there were almost 30,000 more tests among females compared to males. The difference in the number of HIV tests by sex decreased over time, and for the first time in 2017, there were more HIV tests among males compared to females.

Figure 3.2 Percent of HIV tests among females, Ontario, 2008 to 2017



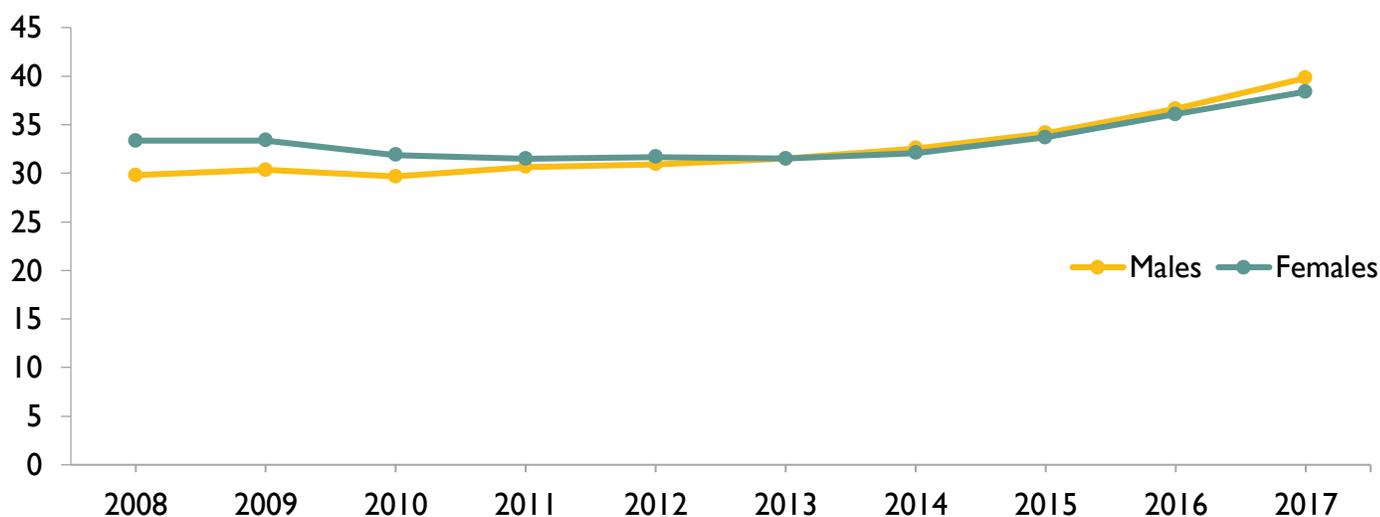
	2008	2017
Males	46.4%	50.1%
Females	53.6%	49.9%

Trends

Between 2008 and 2017, there was a decrease in the percent of HIV testing among females.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown sex were excluded (approximately 3% each year). See **Table 3.1** and **Table 3.3** for underlying data.

Figure 3.3 HIV testing rate per 1,000 people by sex, Ontario, 2008 to 2017

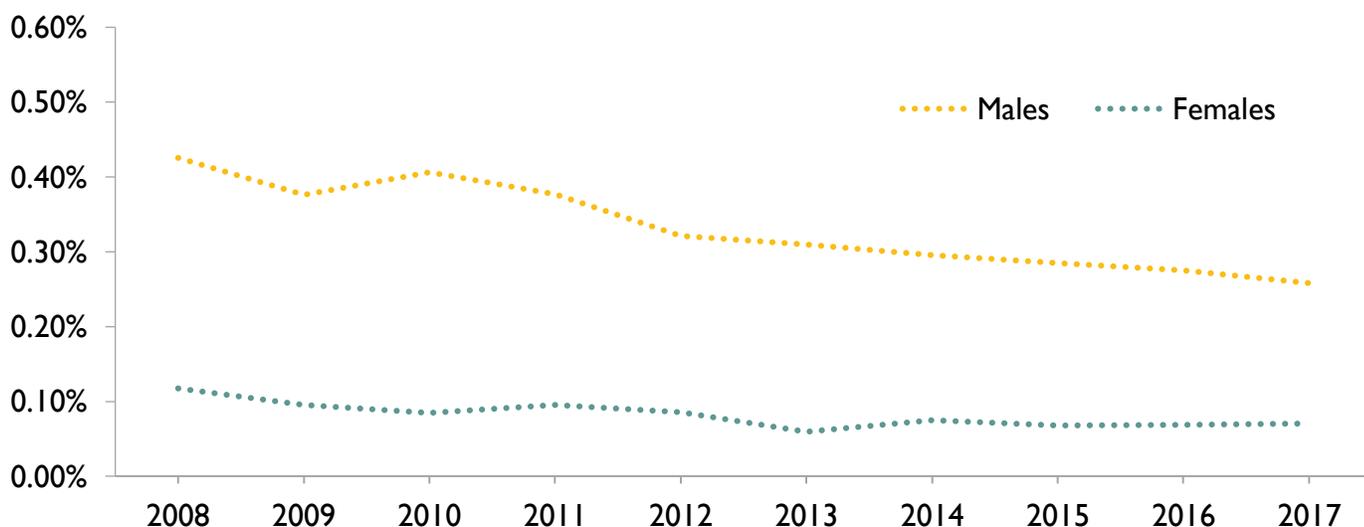


	2008	2017
Males	29.8	39.8
Females	33.4	38.4

Trends

Between 2008 and 2017, the HIV testing rate per 1,000 people increased among both sexes, with a greater increase for males. In recent years, the HIV testing rate was similar for males and females.

Figure 3.4 HIV test positivity rate by sex, Ontario, 2008 to 2017



	2008	2017
Males	0.43%	0.26%
Females	0.12%	0.07%

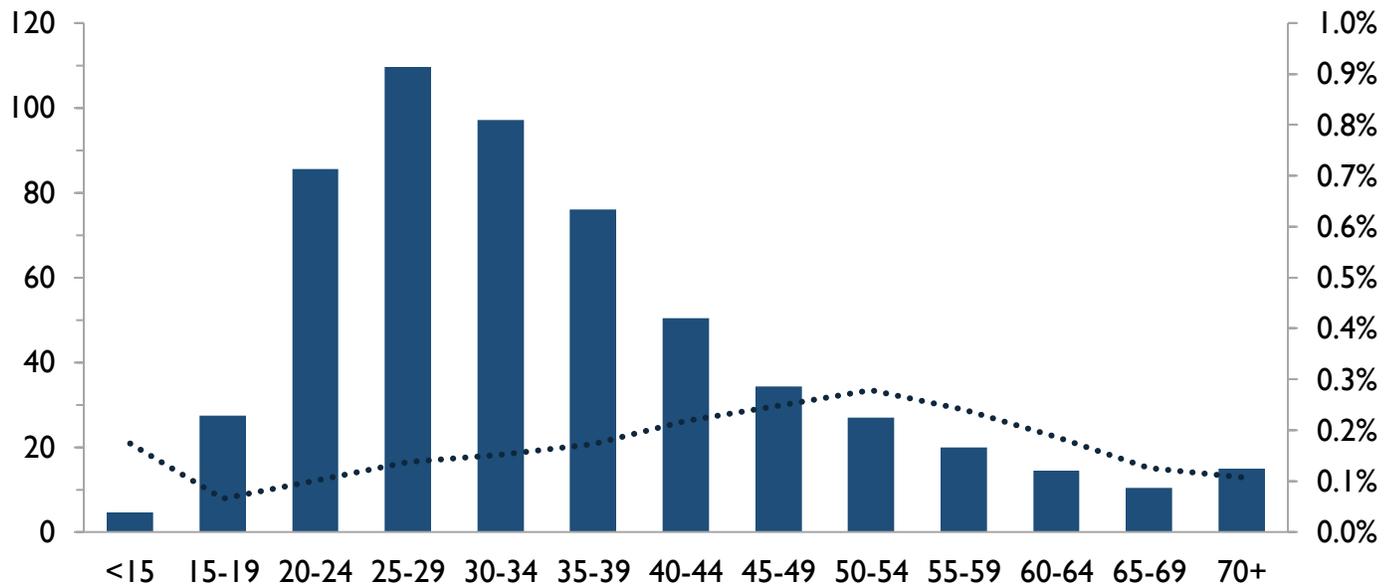
Trends

Between 2008 and 2017, the HIV test positivity rate decreased among both sexes and was consistently higher for males.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown sex were excluded (approximately 3% each year). Positivity rate refers to the percent of tests that were HIV-positive and includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere. Population estimates (all ages) retrieved from Statistics Canada, accessed 04/09/2018. See **Table 3.1** and **Table 3.2** for underlying data.

4. By age

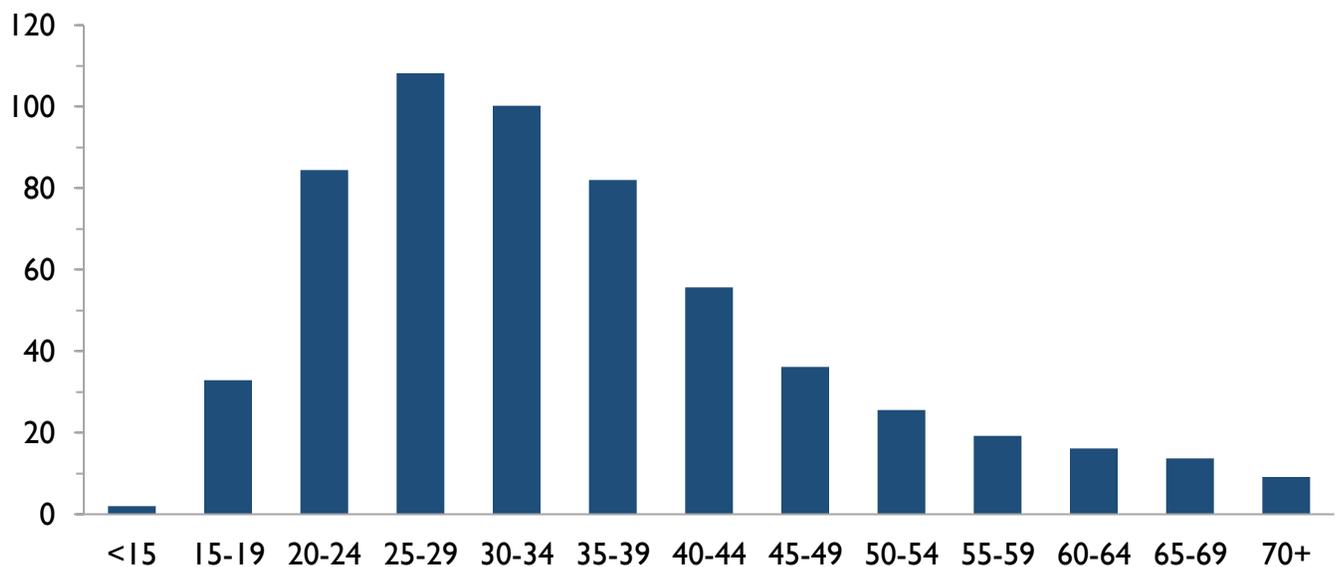
Figure 4.1 Number of HIV tests (thousands) and test positivity rate by age, Ontario, 2017



Snapshot

In 2017, the number of HIV tests was highest in the 25 to 29 age category (109,704), while the positivity rate was highest in the 50 to 54 age category (0.28%).

Figure 4.2 HIV testing rate per 1,000 people by age, Ontario, 2017

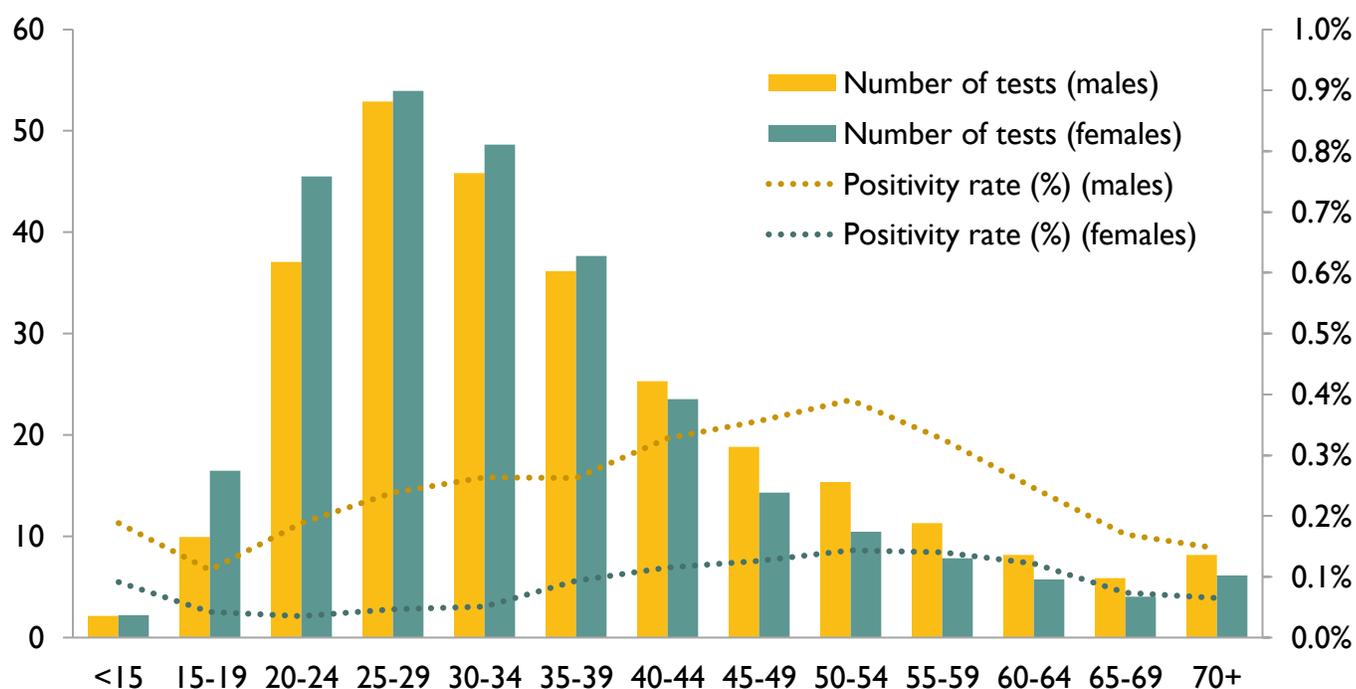


Snapshot

In 2017, the HIV testing rate was highest in the 25 to 29 age category (108.2 per 1,000 people) and then decreased with older age.

Notes: Data provided by Public Health Ontario Laboratory. Prenatal tests not included. Tests with unknown age were excluded (less than 1%). Test positivity rate refers to the percent of tests that were HIV-positive. Population estimates retrieved from Statistics Canada, accessed 04/09/2018. See **Table 4.1** and **Table 4.2** for underlying data.

Figure 4.3 Number of HIV tests (thousands) and test positivity rate by age and sex, Ontario, 2017

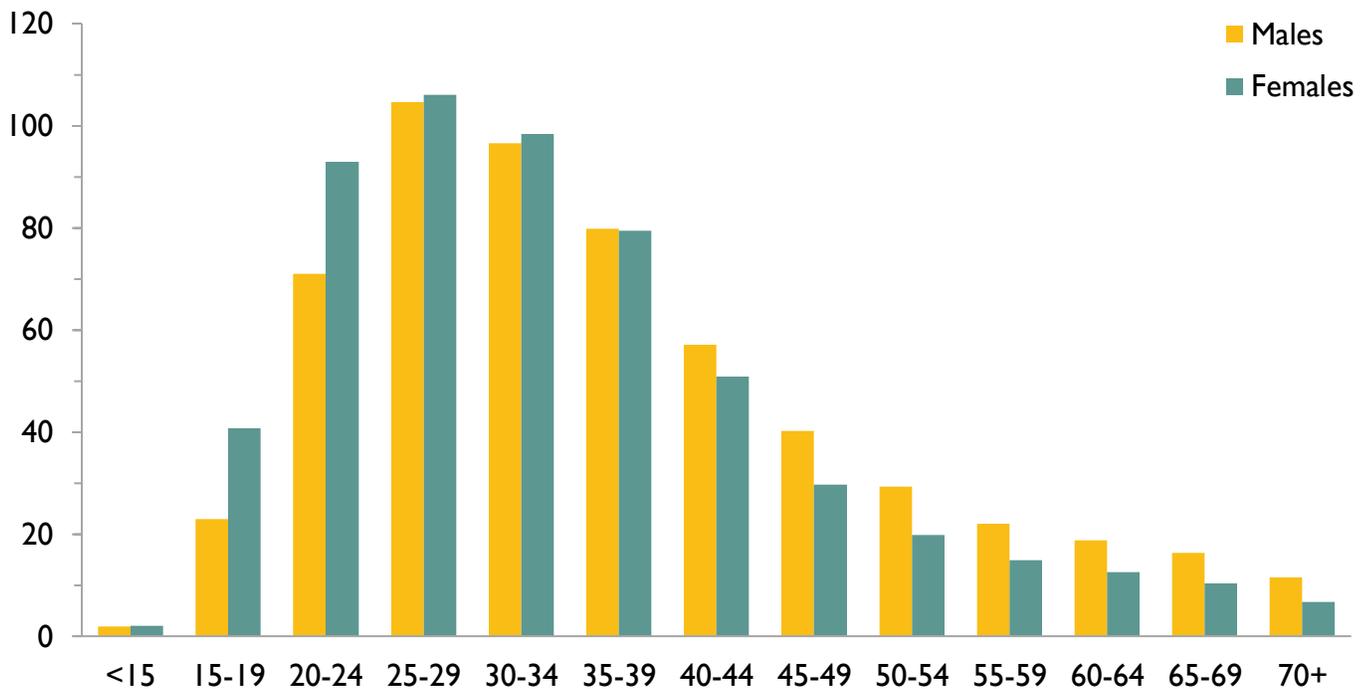


Snapshot

In 2017, the number of HIV tests was highest in the 25 to 29 age category for both males (52,904) and females (53,928). Among those younger than 40, the number of HIV tests was greater among females, and among those 40 and older, the number of HIV tests was greater among males. The positivity rate was highest in the 50 to 54 age category for males (0.39%) and 50 to 54 and 55 to 59 age categories for females (both 0.14%).

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown age and sex were excluded (approximately 3.6%). Population estimates retrieved from Statistics Canada, accessed 04/09/2018. Positivity rate refers to the percent of tests that were HIV-positive and includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere. See **Table 4.1** for underlying data

Figure 4.4 HIV testing rate per 1,000 people by sex and age, Ontario, 2017

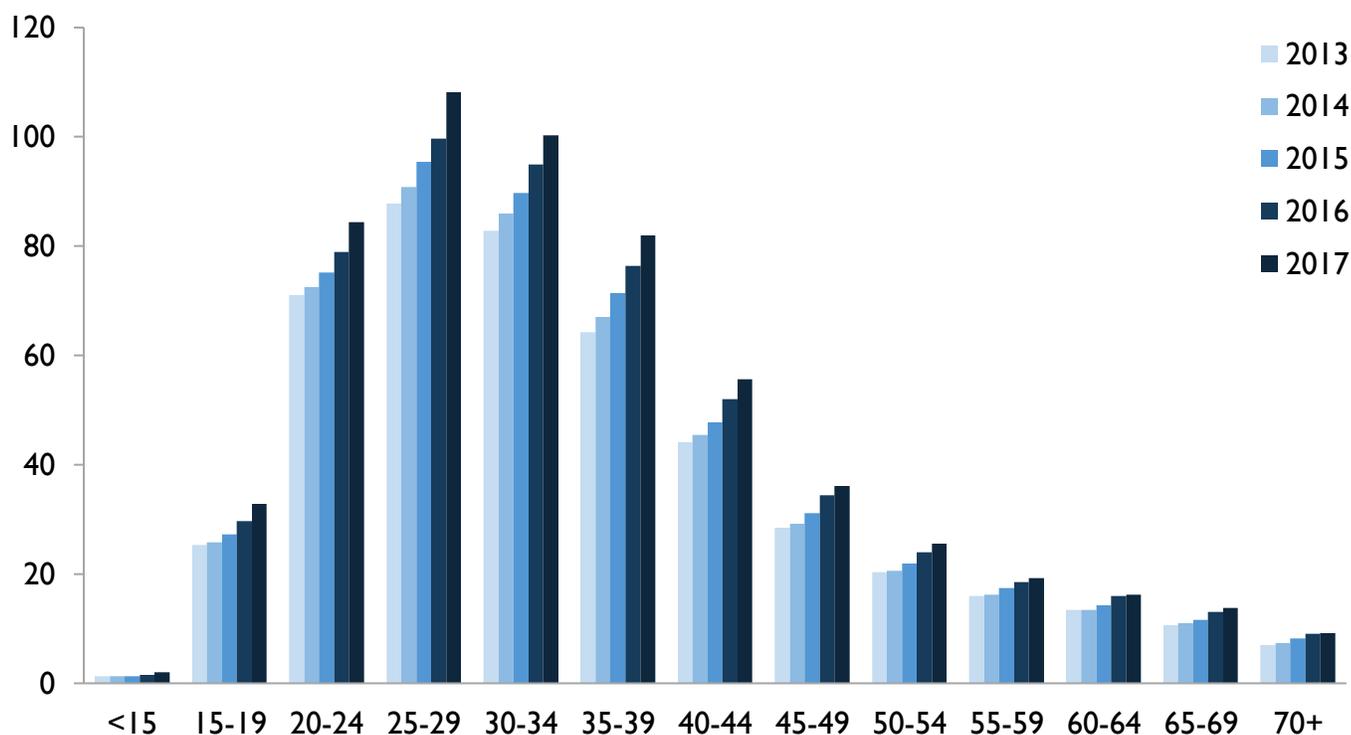


Snapshot

In 2017, the number of HIV tests per 1,000 people was highest in the 25 to 29 age category for both males (104.6) and females (106.1). HIV testing rates were higher in younger age categories (less than 35 years of age) for females compared to males.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown age and sex were excluded (approximately 3.6%). Population estimates retrieved from Statistics Canada, accessed 04/09/2018. Positivity rate refers to the percent of tests that were HIV-positive. See **Table 4.2** for underlying data.

Figure 4.5 HIV testing rate per 1,000 people by age, Ontario, 2013 to 2017

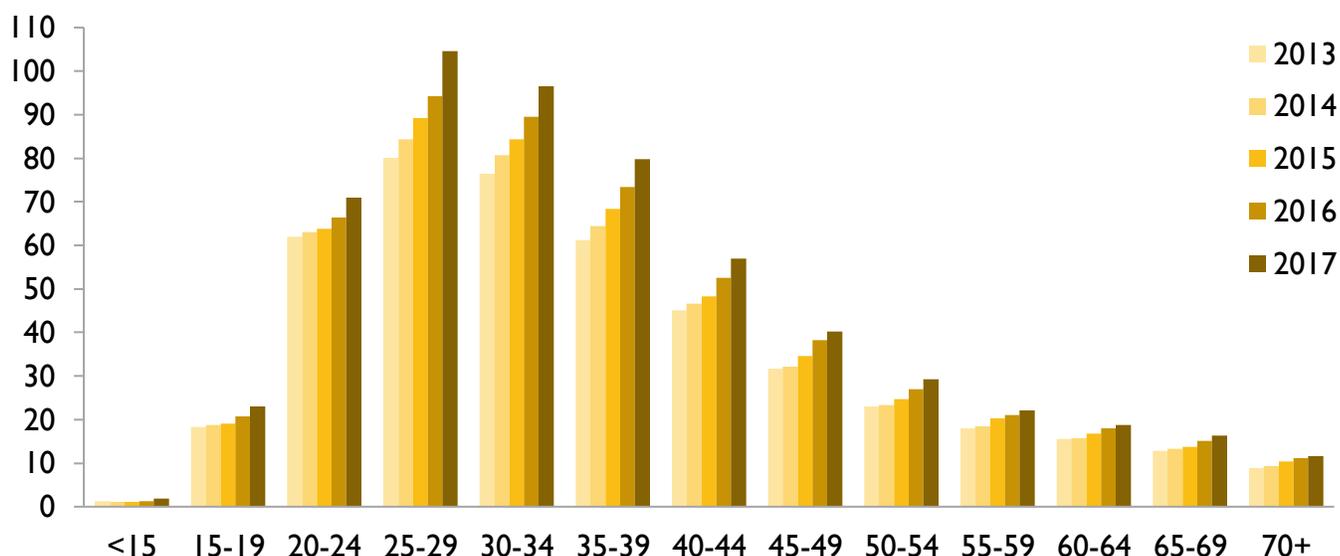


Snapshot

Between 2013 and 2017, the HIV testing rate was consistently highest in the 25 to 29 age category and increased for all age groups over time. The largest relative increase was in the <15 age category (53% between 2013 to 2017 and 39% between 2016 to 2017). This was followed by the 70+ age category (relative increase of 31% between 2013 to 2017) and the 15-19 age category (relative increase of 30% between 2013 to 2017).

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown age were excluded (less than 1%). See **Table 4.3** for underlying data.

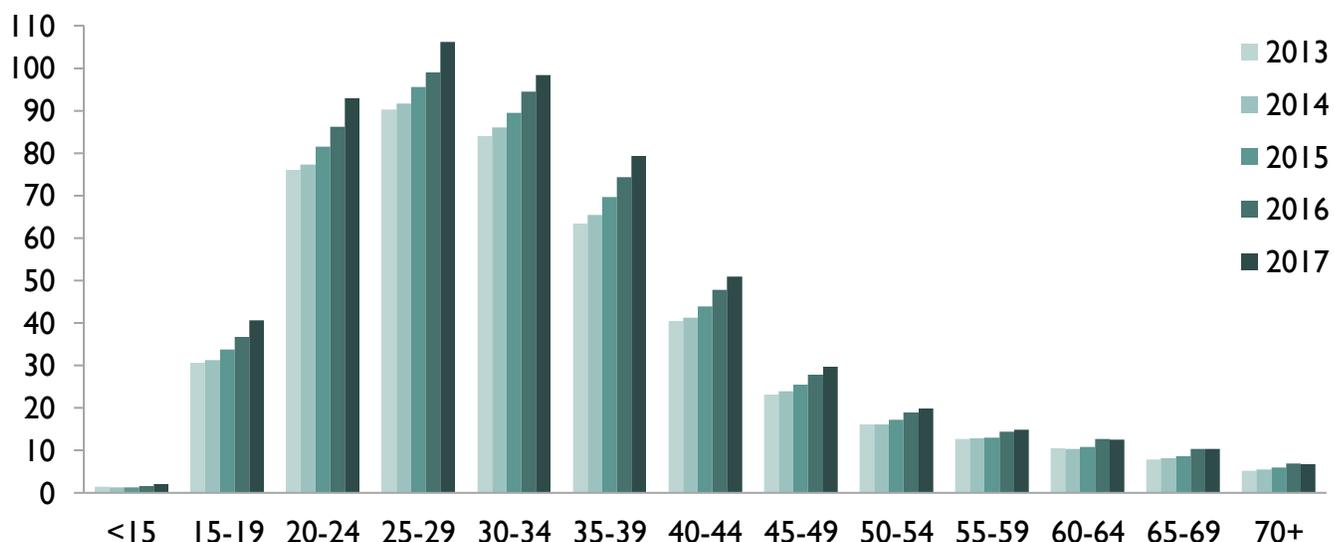
Figure 4.6 HIV testing rate per 1,000 people by age, males, Ontario, 2013 to 2017



Snapshot

Between 2013 and 2017, the HIV testing rate for males was consistently highest in the 25 to 29 age category and increased for all age groups over time. The largest relative increase was in the <15 age category (52% between 2013 to 2017 and 43% between 2016 to 2017). The 25 to 29, 35 to 39 and 70+ age categories all had relative increases of approximately 30% between 2013 to 2017.

Figure 4.7 HIV testing rate per 1,000 people by age, females, Ontario, 2013 to 2017



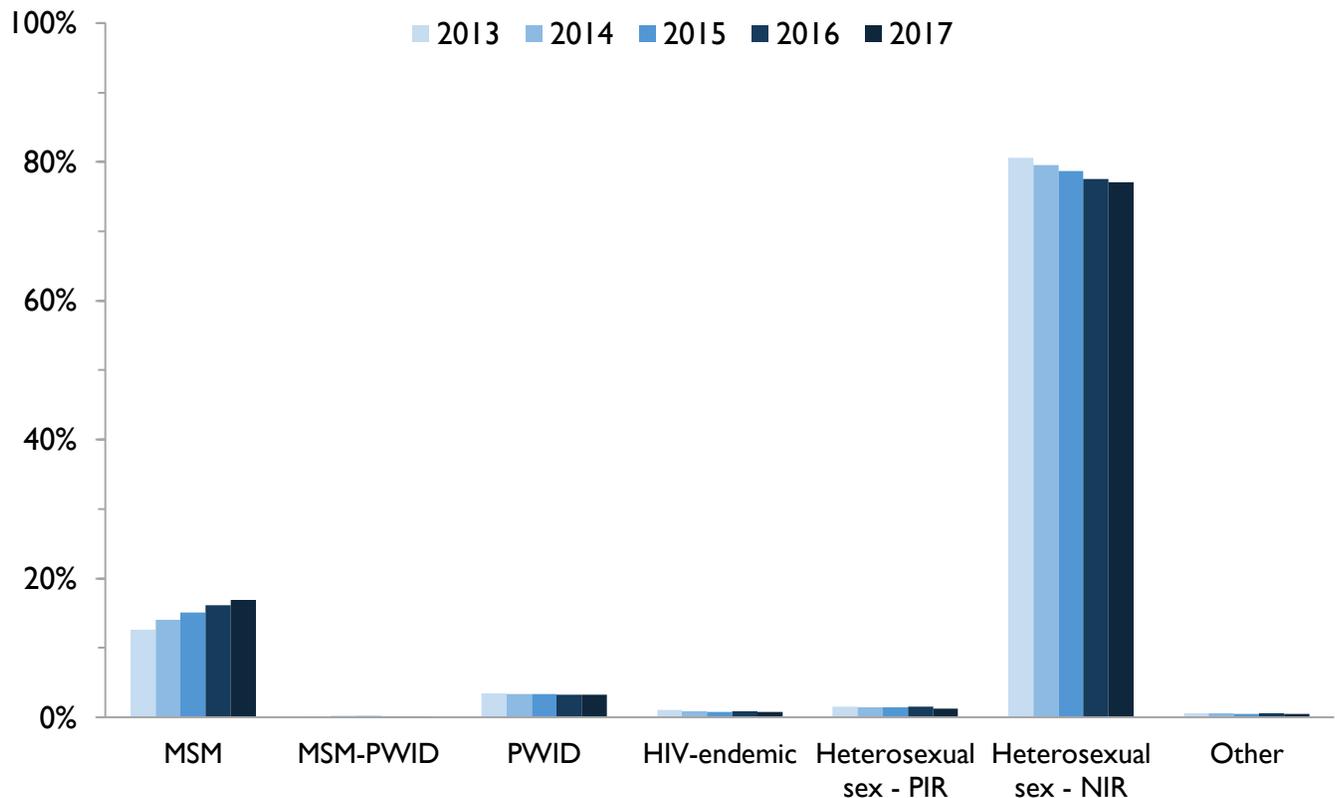
Snapshot

Between 2013 and 2017, the HIV testing rate for females was consistently highest in the 25 to 29 age category and increased for all age groups over time. The largest relative increase was in the <15 age category (43% between 2013 to 2017 and 31% between 2016 to 2017). The 15 to 19, 65 to 69 and 70+ age categories all had relative increases above 30% between 2013 to 2017.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Population estimates retrieved from Statistics Canada, accessed 04/09/2018. Tests with unknown age and sex were excluded (approximately 3.6%). See **Table 4.4** and **Table 4.5** for underlying data.

5. By exposure category

Figure 5.1 Percent of HIV tests by exposure category (where known), Ontario, 2013 to 2017

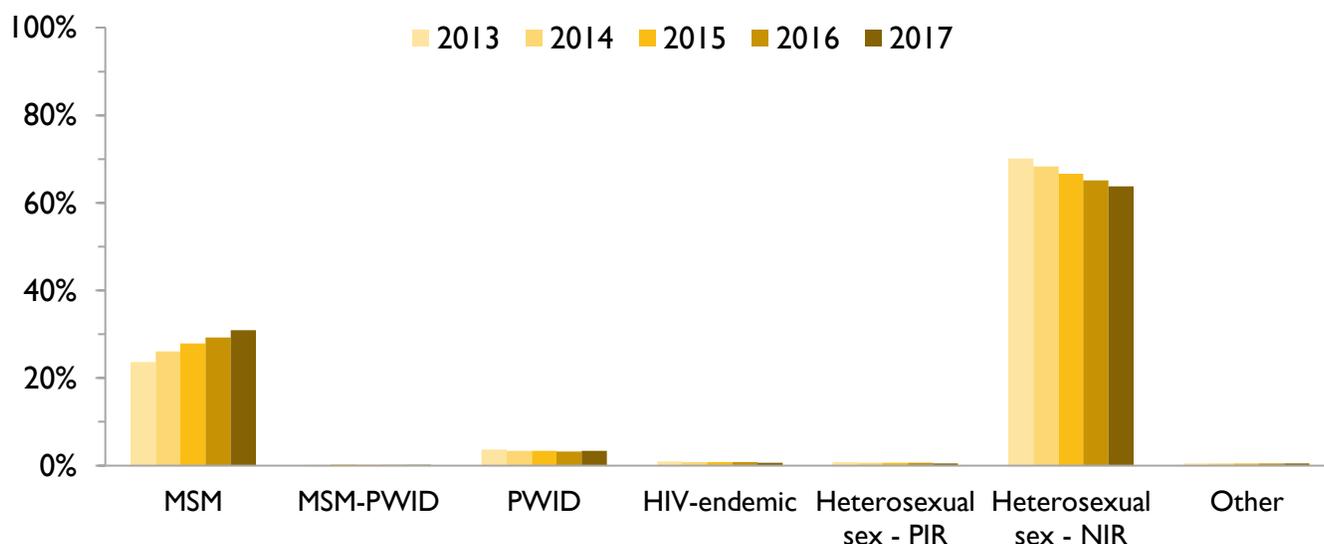


Snapshot

Between 2013 and 2017, the percent of HIV tests attributed to the MSM exposure category increased from 12.6% to 16.9%. The majority of tests were consistently among heterosexual people reporting partners with no identified risk factors, however this percent decreased over time.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown exposure category were excluded (approximately 66% each year). MSM=men who have sex with men, PWID=people who use injection drugs, PIR=partner with identified risk, NIR=partner with no identified risk. See technical notes for more information on exposure categories (including Other) and **Table 5.1** and **Table 5.2** for underlying data.

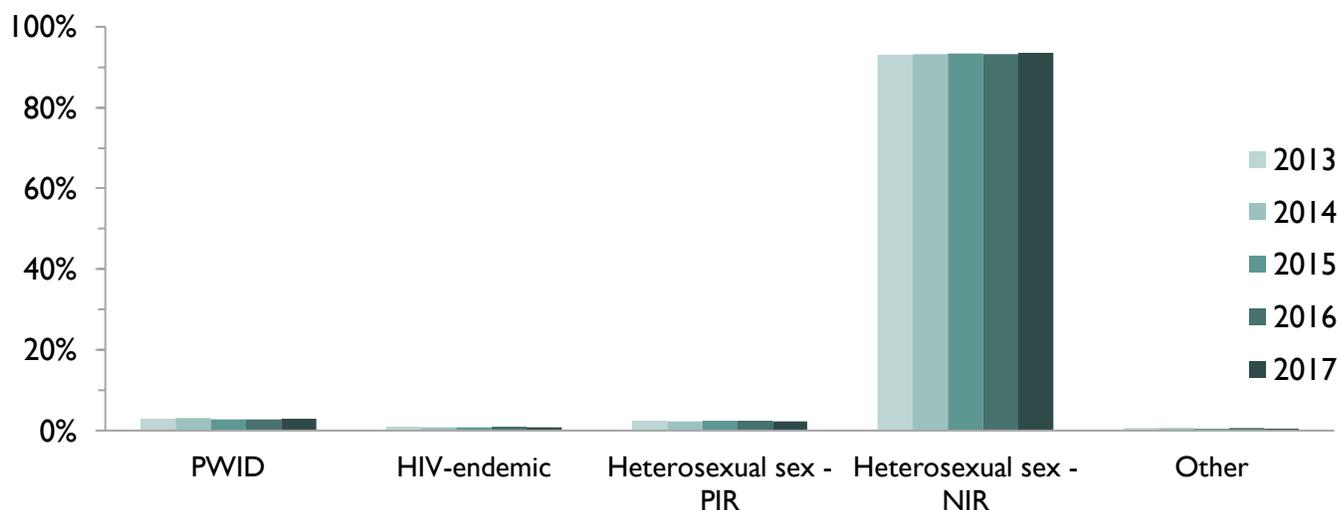
Figure 5.2 Percent of HIV tests by exposure category (where known), males, Ontario, 2013 to 2017



Snapshot

Between 2013 and 2017, the percent of HIV tests among males attributed to the MSM exposure category increased from 23.7% to 30.9%. The majority of tests were consistently among heterosexual males reporting partners with no identified risk, however this percent decreased over time.

Figure 5.3 Percent of HIV tests by exposure category (where known), females, Ontario, 2013 to 2017

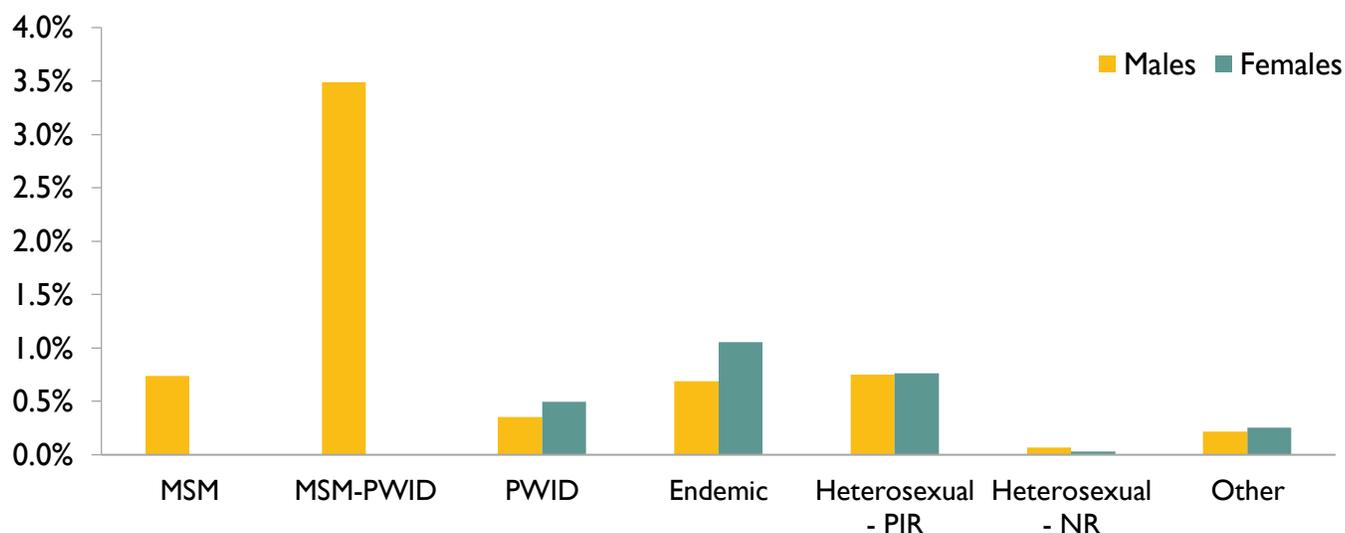


Snapshot

Between 2013 and 2017, the percent of HIV tests remained stable within exposure categories. The majority of HIV tests among females were consistently among heterosexual females reporting partners with no identified risk factors.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown exposure category were excluded (62% in males, 69% in females). MSM=men who have sex with men, PWID=people who use injection drugs, PIR=partner with identified risk, NIR=partner with no identified risk. See technical notes for more information on exposure categories (including Other) and **Table 5.3, Table 5.4, Table 5.5,** and **Table 5.6** for underlying data.

Figure 5.4 HIV test positivity rate by sex and exposure category (where known), Ontario, 2017



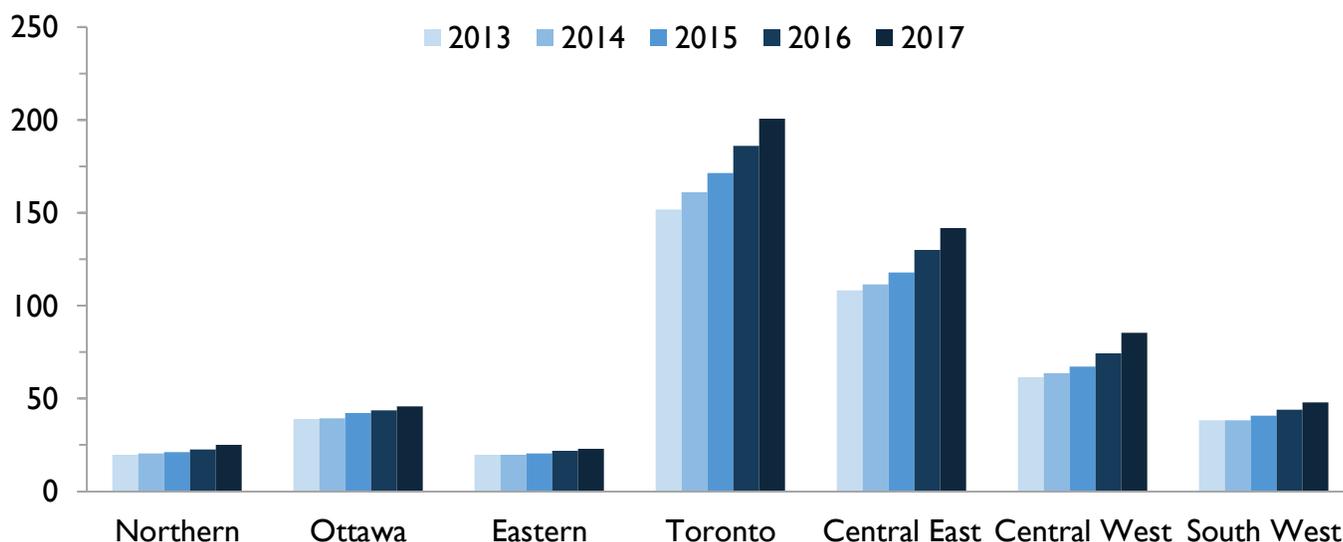
Snapshot

In 2017, the HIV test positivity rate among males was highest for MSM-PWID, while the rate among females was highest for people from HIV-endemic countries. Test positivity rates could be affected by re-testing of people who already know their status. This may explain the higher test positivity for people with endemic exposures.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown exposure category were excluded (62% in males, 69% in females). MSM=men who have sex with men, PWID=people who use injection drugs, PIR=partner with identified risk, NIR=partner with no identified risk. Positivity rate refers to the percent of tests that were HIV-positive and includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere. See technical notes for more information on exposure categories (including Other) and **Table 5.7** and **Table 5.8** for underlying data.

6. By health region

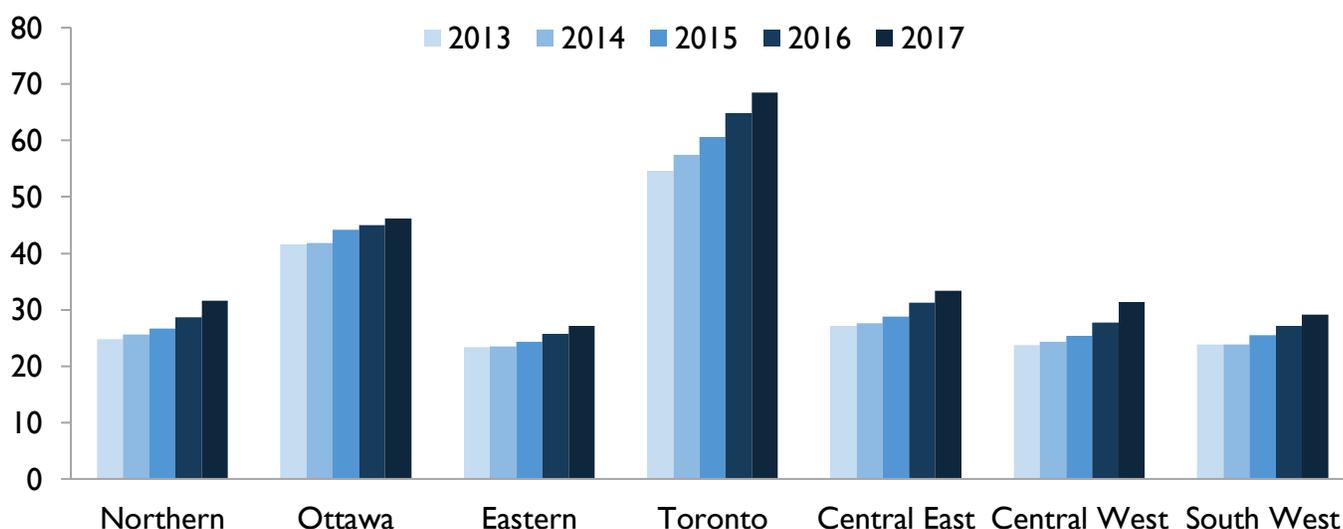
Figure 6.1 Number of HIV tests (thousands) by health region, Ontario, 2013 to 2017



Snapshot

Between 2013 and 2017, the number of HIV tests performed increased across all health regions. The number of HIV tests was highest in Toronto followed by Central East, and lowest in Northern and Eastern health regions.

Figure 6.2 HIV testing rate per 1,000 people by health region, Ontario, 2013 to 2017

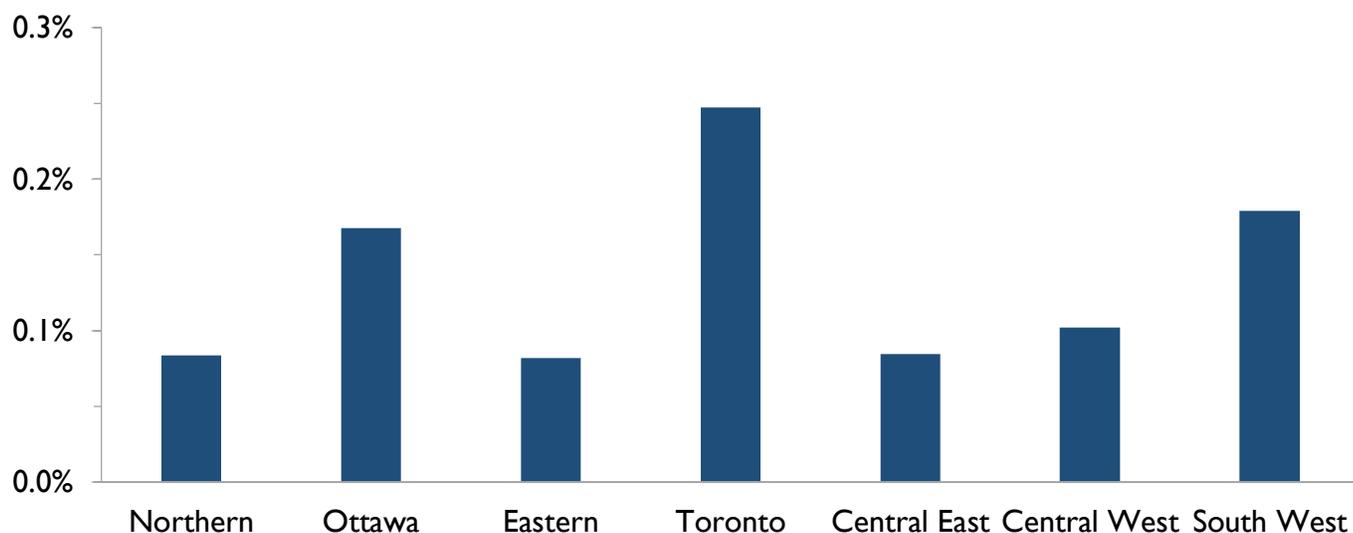


Snapshot

Between 2013 and 2017, the HIV testing rates increased across all regions. The HIV testing rate per 1,000 people was highest in Toronto followed by Ottawa, and then relatively similar in the remaining health regions.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests from out of province (0.6% since 2011) or with unknown health region (0.007% since 2011) were excluded. Population estimates (all ages) retrieved from Statistics Canada, accessed 04/09/2018. Diagnoses assigned to a health region based on their address of residence or, if unknown, the address of the ordering provider. See **Table 6.1** for underlying data.

Figure 6.3 HIV test positivity rate by health region, Ontario, 2017



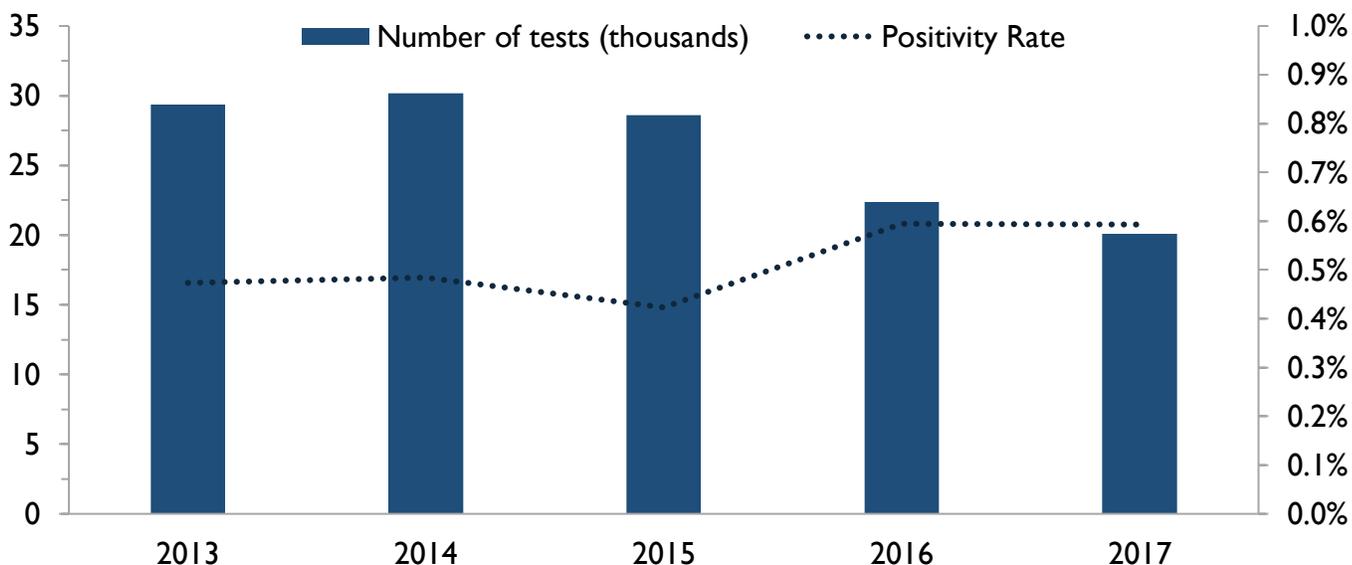
Snapshot

In 2017, the HIV test positivity rate was highest in Toronto, followed by South West and Ottawa and lowest in Central East, Eastern, and Northern health regions.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests from out of province (0.6% since 2011) or with unknown health region (0.007% since 2011) were excluded. Diagnoses assigned to a health region based on their address of residence or, if unknown, the address of the ordering provider. Positivity rate refers to the percent of tests that were HIV-positive and includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere. See **Table 6.2** for underlying data.

7. Rapid/point-of-care (POC) testing

Figure 7.1 Number of POC HIV tests (thousands) and positivity rate (confirmed positive POC tests), Ontario, 2013 to 2017



	2013	2017
Number of tests	29,362	20,068
Positivity rate	0.47%	0.59%

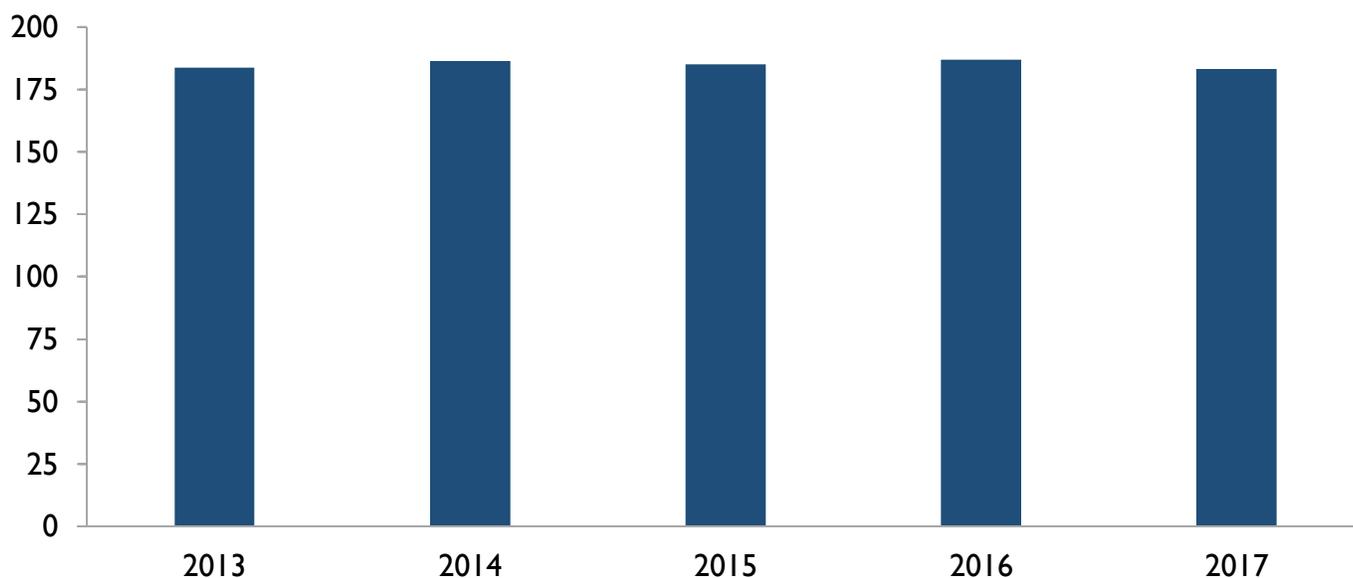
Snapshots

Between 2013 and 2017, there was a 31.7% decrease in the number of POC tests and an increase in the percent of POC HIV tests that were HIV-positive.

Notes: Data provided by Public Health Ontario Laboratory. Positivity rate refers to the percent of tests that were HIV-positive and includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere. POC=point-of-care. See **Table 7.1** for underlying data.

8. Prenatal testing

Figure 8.1 Estimated number of prenatal HIV tests (thousands), Ontario, 2013 to 2017

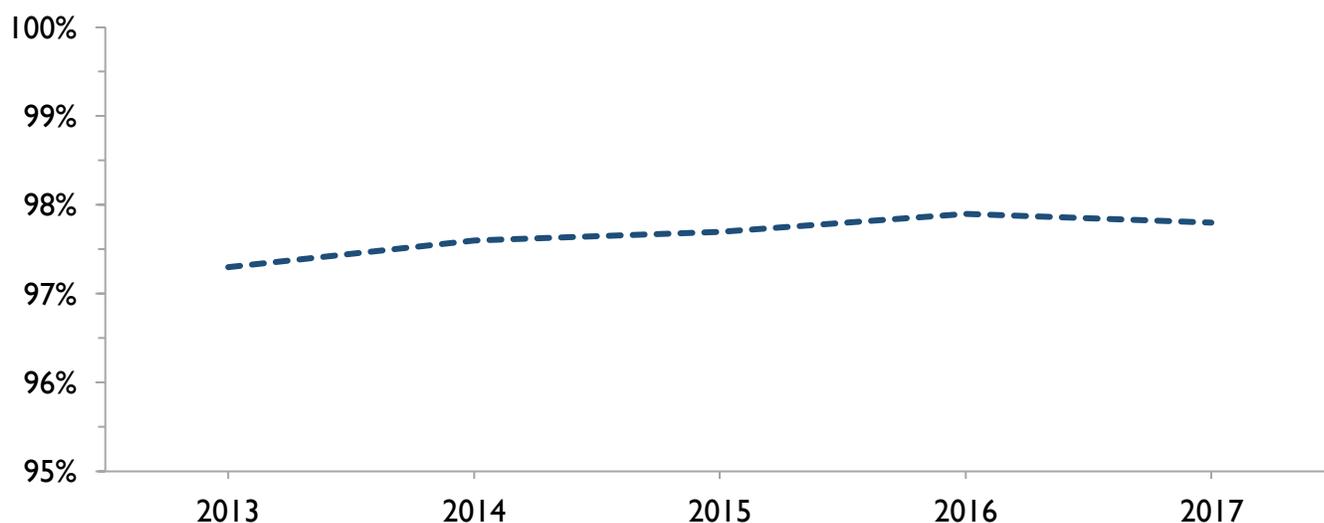


2013	2017
183,841	183,226

Snapshots

Between 2013 and 2017, the number of prenatal HIV tests was stable and ranged from a low of 183,226 tests in 2017 to a high of 186,942 tests in 2016.

Figure 8.2 Among individuals receiving prenatal laboratory testing, the estimated proportion that received an HIV test, Ontario, 2013 to 2017



2013	2017
97.3%	97.8%

Snapshots

Among individuals receiving prenatal laboratory testing between 2013 and 2017, the estimated proportion that received an HIV test has increased.

Notes: Data provided by Public Health Ontario Laboratory. The Public Health Ontario Laboratory receives all prenatal specimens (for HIV tests and other laboratory testing). Of these, those who had received a diagnostic HIV test within the past 220 days comprise the proportion that received an HIV test. See **Table 8.1** for underlying data and **Prenatal HIV tests** under Technical notes for more information.

Definitions

Anonymous testing

An approach to diagnostic HIV testing where no identifying information on the individual getting tested is collected on the test requisition form (although a unique number is included on each requisition). Under the *Ontario Health Protection and Promotion Act*, designated anonymous testing sites are exempt from reporting identifying information on individuals testing HIV-positive to local public health authorities. Anonymous testing was introduced in Ontario in 1992 and expanded in 2006. There are currently 38 active anonymous testing site organizations in Ontario, all of which are provided with rapid/point-of-care tests.

Coded testing

An approach to diagnostic HIV testing where a code assigned by a health care provider, instead of the name of the individual getting tested, is included on the test requisition form.

Exposure category

A category meant to represent an individual's most likely means of HIV transmission. An individual getting tested is assigned to an exposure category based on reported HIV risk factors collected on the test requisition form. Exposure categories are mutually exclusive, which means an individual can only be assigned to one category. When more than one exposure category is applicable for a single individual, a hierarchy is used to assign them to a single category. This hierarchy is based on the level of HIV risk associated with different exposure categories. While data on HIV testing are broken down by exposure categories, data on new HIV diagnoses (i.e. HIV-positive tests) are broken down by non-mutually exclusive priority populations (and can be found in a separate report). See technical notes for more information on exposure categories.

Health regions

Aggregations of public health units that have historically been used in HIV epidemiology and surveillance reports. There are seven health regions: Northern, Ottawa, Eastern, Toronto, Central East, Central West and Southwest. See technical notes for more information on these aggregations and boundaries.

Laboratory enhancement program

In Ontario, if a diagnostic HIV test result is HIV-positive, a Laboratory Enhancement Program (LEP) form is sent to the health care provider who conducted the test in order to collect further information on the person who tested HIV-positive. This includes information collected on the original test requisition, as well as additional information. Since 2009, the LEP form has collected information on race/ethnicity and country of birth, both of which were not historically collected on the HIV test requisition form. However, the test requisition was revised in 2018 to collect this information. As LEP data are not available for HIV-negative tests, only data from the test requisition are used in this report.

New HIV diagnosis

An individual receiving a first confirmed HIV-positive test in Ontario. A reactive rapid/point-of-care test result (i.e. suggestive of an HIV-positive result) must be confirmed through laboratory testing to be counted as a new HIV diagnosis. Individuals with previous record of an HIV-positive test in Ontario are excluded to prevent double-counting. However, individuals who test HIV-positive in Ontario through both non-nominal (anonymous or coded) and nominal testing, or who test HIV-positive more than once

through non-nominal testing, may be double-counted due to the lack of identifying information to link these tests in the laboratory database. New HIV diagnosis data are used to calculate test positivity rates in this report.

Of note, individuals diagnosed with HIV for the first time outside of Ontario, but who subsequently moved to the province and tested again, are included as a new diagnosis. This means that migration can potentially influence trends in new diagnoses in Ontario.

Nominal test

An approach to diagnostic HIV testing in which the name of the person being tested is collected on the test requisition form.

Non-nominal test

An approach to diagnostic HIV testing in which the name of the person being tested is NOT collected on the test requisition form. This includes anonymous and coded testing.

Prenatal HIV test

Ontario has an HIV testing program that is offered to all pregnant individuals in Ontario. The Public Health Ontario Laboratory receives all prenatal specimens (for HIV tests and other laboratory testing). Of these, individuals who had received a diagnostic HIV test within the past 220 days comprise the estimated proportion that received an HIV test.

Positivity rate

The percent of HIV diagnostic tests with a confirmed HIV-positive result. Test positivity rates can provide insight into which sub-populations have a higher level of HIV risk. However, positivity rates should be interpreted with caution as they are influenced by both HIV risk as well as those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere (known to be HIV-positive at the time of testing). Of note, HIV-positive prenatal tests ARE included in this report for calculation of positivity rates. From 2013 to 2017, the annual number of HIV-positive prenatal tests ranged from four to 15.

Public health unit

A health agency that provides health promotion and disease prevention programs. There are 36 public health units in Ontario and each has its own unique geographical boundary. See technical notes for more information.

Rapid/point-of-care (POC) testing

HIV diagnostic testing that provides initial results at the same visit as the test. The rapid test currently used in Ontario can provide results within minutes. Rapid testing was first introduced in Ontario in 2007. Rapid tests are provided to all 38 currently active anonymous testing organizations as well as four other organizations that are not legislated to provide anonymous testing. If a POC test is reactive (i.e. suggestive of an HIV-positive result), the result is not considered to be a final diagnosis. To confirm the result, a blood sample must be taken and sent to the laboratory for additional testing. If a POC test is non-reactive, it is included in the total testing numbers as a negative test. This report includes POC tests provided by the Ministry of Health (MOH) only.

Testing rate per 1,000 people

Refers to the number of HIV tests per 1,000 people in Ontario. While the number of tests is influenced by the size of the underlying population (e.g. greater population = greater number of tests), rates take population size into account and remove it as a possible explanatory factor for any observed differences over time or between populations.

Importantly, this report uses the number of HIV tests in Ontario to calculate testing rates. It does NOT use the number of unique individuals tested. This means trends may reflect changes in both the number of times an individual gets tested in a year as well as the total number of unique people who get tested.

Test requisition form

A form filled out by a health care provider along with each HIV test that is conducted. It collects information on the age, sex and HIV risk factors of the person getting tested. As of 2018, the HIV test requisition form also collects information on race/ethnicity and country of birth (information collected on the LEP form since 2009). This report is only based on data from the old test requisition form.

Test type

There are three main test types as defined by the type of identifier collected on the test requisition form. HIV tests can be conducted under a patient's name (nominal), a code assigned by a healthcare provider or a unique anonymous number. Coded and anonymous testing are both forms of non-nominal testing.

Abbreviations

ACB = African Caribbean and Black

ART = Antiretroviral treatment

LEP = Laboratory Enhancement Program

MSM = Men who have sex with men

OHESI = Ontario HIV Epidemiology and Surveillance Initiative

PHU = Public health unit

POC = Point-of-care testing

PWID = People who use injection drugs

Technical Notes

Data source

The data in this report come from laboratory databases at Public Health Ontario Laboratory (PHOL). These data are collected for clinical purposes and completeness is reliant on clinicians and other providers completing the test requisitions and other related forms.

All HIV diagnostic testing conducted by health care providers in Ontario is done by PHOL. This includes tests conducted in Canada as part of an immigration medical exam. Information on test results and the two forms which are completed as part of the testing process (requisition and LEP forms) are compiled in a central database at Public Health Ontario, known as the 'HIV Datamart'. Tests conducted for purposes of blood/tissue/organ donation and life insurance eligibility are conducted outside of the public health laboratory system and are not included in this report. Prenatal HIV tests are part of an HIV testing program that is offered to all pregnant individuals as part of their prenatal care. Prenatal HIV testing results are presented separately (Section 7) and are not included in the number of HIV tests or population testing rates elsewhere in this report. However, for the calculation of HIV positivity rates, HIV-positive prenatal tests are included in the numerator while HIV-negative prenatal tests are not included in the denominator. From 2012 to 2017, the annual number of HIV-positive prenatal tests ranged from four to 15.

When someone gets an HIV test in Ontario, the health care provider conducting the test fills out an HIV test requisition that collects information on the individual getting tested for HIV, including age, sex and HIV risk factors. With most HIV testing in Ontario, a blood sample is also taken and sent with the form to PHOL. However, with rapid/POC testing, a blood sample is only taken and sent to the laboratory if the test is reactive (i.e. suggestive of an HIV-positive result). This is done in order for the result to be confirmed through additional testing at the laboratory. A blood sample may also be taken and sent to the laboratory if a rapid/POC test is non-reactive but there is reason to believe the person is in the window period (period of time during which an individual has been potentially exposed to HIV but the HIV test may not give an accurate result). This is done in order for the sample to be tested using an HIV test with a shorter window period. Unless followed by a confirmatory laboratory test, POC tests are included in the total testing numbers as negative tests.

If laboratory testing confirms an HIV-positive result and the person has no previous HIV-positive test in the laboratory database system, a second form is sent to the health care provider who ordered the test in order to collect information that may have been missed on the HIV test requisition. This second form was implemented in 1999 and is referred to as the LEP form. The LEP form was changed in 2009 to collect information on race/ethnicity and country of birth, both of which were only collected on the HIV test requisition since 2018. Data from the requisition and LEP forms are combined and used for describing trends in new HIV diagnoses (i.e. HIV-positive tests) in Ontario. However, only data from the test requisition are used in this report as LEP data are not available for HIV-negative tests.

New HIV diagnosis definition

Information on new HIV diagnoses (i.e. confirmed HIV-positive test results) are used to calculate HIV positivity rates in this report.

Only individuals with a confirmed HIV-positive test result and no previous HIV-positive test in the database system are considered to be a new HIV diagnosis. Exclusion of those with a previous diagnosis occurs when that individual's previous positive result is identified by PHOL. Most excluded individuals are those who have had two or more HIV-positive tests conducted nominally or using the same code within Ontario, since these tests include identifying information that can be used to link tests.

It is not possible to exclude all individuals with a previous HIV-positive result from the new diagnoses numbers. Many individuals who test HIV-positive through coded or anonymous testing also test HIV-positive a second time through nominal testing (e.g. confirming an HIV-positive test is standard practice for some healthcare providers when an HIV-positive person first presents to care). Since these two tests cannot be linked together, both are reported as a new diagnosis - leading to double-counting of these individuals. This means that the reported number of new HIV diagnoses each year is likely higher than the true number of diagnoses and may influence the positivity rates reported.

Of note, individuals diagnosed with HIV for the first time outside of Ontario, but who subsequently moved to the province and tested again, are included as a new diagnosis. This means that changes in migration can potentially influence trends seen in the positivity rates reported.

Exposure categories

An attempt is made to assign each HIV test to an exposure category based on what reported HIV risk factor information is collected on the requisition form. The exposure category is meant to represent an individual's most likely source of HIV risk. The exposure categories are mutually exclusive. When more than one risk factor is reported for a single individual, a hierarchy is used to assign an HIV test to a single exposure category. This hierarchy is as follows:

1. Mother-to-child transmission (MTC): Being a child of an HIV-positive mother or aged less than 18 months
2. Men who have sex with men and who use injection drugs (MSM-PWID): Being male and indicating sex with men and needle use
3. Men who have sex with men (MSM): Being male and indicating sex with men
4. People who use injection drugs (PWID): Indicating needle use
5. HIV-endemic: Having lived in an HIV-endemic area or outside of Canada
6. Heterosexual – partner with identified risk (PIR): Being male or female and indicating sex with a person of the opposite sex/gender who is either HIV-positive, a person at risk of HIV, injects drugs, from an HIV-endemic area, had a blood or clotting factor transfusion, or is bisexual.
7. Heterosexual – partner with no identified risk (NIR): Being male or female and indicating sex with a person of the opposite sex/gender who has no identified risk.
8. Clotting factor (pre 1986): Indicating clotting factor pre 1986
9. Transfusion (pre 1986): Indicating a blood transfusion pre 1986
10. No identified risk: Indicating “none” or “other” or “needlestick injury” as a risk factor
11. Unknown/missing: No risk factors indicated (form not completed)

The exposure category data in this report also contain an “Other” category, which includes tests assigned to the MTC (category #1), clotting factor (category #8) and transfusion categories (category #9). Tests categorized as “no identified risk” (category #10), or where the form is not completed (category #11), are excluded from the exposure category data in this report.

HIV-endemic areas (category #5) are classified by the Public Health Agency of Canada as countries where the prevalence of HIV among adults (15-49 years old) is 1.0% or greater and one of the following criteria is met: at least 50% are attributed to heterosexual transmission; a male to female ratio of 2:1 or less among prevalent infections; or HIV prevalence greater than or equal to 2% among women receiving prenatal care. A list of these countries can be found [here](#).

HIV risk factor data used to determine an individual’s exposure category is missing for about half of requisitions and marked as “none” for 16.2% of requisitions since 2008. These tests are excluded from breakdowns by exposure category. Due to the extent of missing risk factor information necessary for determination of exposure category, it may be more valid to focus on trends over time rather than the actual numbers or proportions.

It is unknown whether individuals with certain HIV risk factors, and hence exposure categories, are more likely to be missing information, which could introduce bias into the exposure category breakdowns. Also, provider practices for filling out the requisition forms may vary, leading to further bias. For example, some providers may ask people getting tested about their risk factors, while others may make assumptions or not ask.

Geographic regions

Individuals who receive an HIV diagnostic test are assigned to a geographic region based on their residence or, if unknown, the address of the ordering provider. Since 2011, 25.2% of total tests and 34.5% of diagnoses are missing information on address of residence and assigned based on provider address.

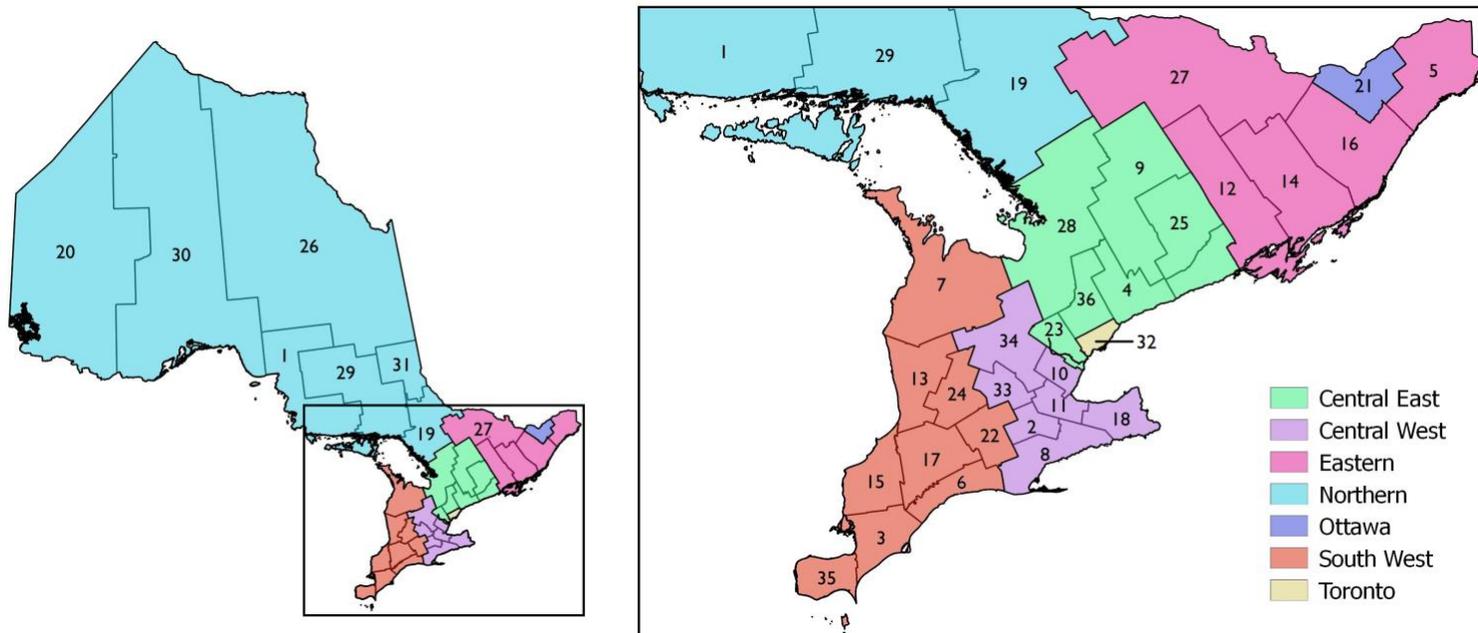
Ontario can be divided geographically by health region or public health unit (PHU). These are defined below. For this report, HIV testing is reported by health regions.

- Health regions – Aggregations of PHUs that have historically been used in HIV epidemiology and surveillance reports.
- Public health unit – A health agency that provides health promotion and disease prevention programs. There were 36 PHUs in Ontario in 2017 and each has its own unique geographical boundary.
 - HIV testing data by public health unit is included in the OHESI report entitled “[HIV in Ontario by public health unit: Testing, new diagnoses and care cascade](#),” released in 2018.

Health regions

Health regions are aggregations of public health units and their boundaries (see figure below).

Figure ii. Geographic map of health region and public health unit boundaries as of 2017.



Public health units (map legend)

- | | | | |
|-------------------------------------|---|---------------------------|--------------------------------|
| 1. Algoma | 11. Hamilton | 19. North Bay Parry Sound | 30. Thunder Bay |
| 2. Brant | 12. Hastings and Prince Edward Counties | 20. Northwestern | 31. Timiskaming |
| 3. Chatham-Kent | 13. Huron | 21. Ottawa | 32. Toronto |
| 4. Durham | 14. Kingston, Frontenac, Lennox & Addington | 22. Oxford | 33. Waterloo |
| 5. Eastern Ontario | 15. Lambton | 23. Peel | 34. Wellington-Dufferin-Guelph |
| 6. Elgin-St. Thomas | 16. Leeds, Grenville and Lanark | 24. Perth | 35. Windsor-Essex |
| 7. Grey Bruce | 17. Middlesex-London | 25. Peterborough | 36. York |
| 8. Haldimand-Norfolk | 18. Niagara | 26. Porcupine | |
| 9. Haliburton, Kawartha, Pine Ridge | | 27. Renfrew | |
| 10. Halton | | 28. Simcoe Muskoka | |
| | | 29. Sudbury | |

Note: Map created using Statistics Canada boundary files

Aggregations of public health units for each health region

Toronto health region

- Toronto

Ottawa health region

- Ottawa

Northern health region

- Algoma
- North Bay Parry Sound
- Northwestern
- Porcupine
- Sudbury
- Thunder Bay
- Timiskaming

Eastern health region

- Eastern Ontario
- Hastings and Prince Edward Counties
- Kingston, Frontenac, Lennox & Addington
- Leeds, Grenville and Lanark
- Renfrew

Central East health region

- Durham
- Haliburton, Kawartha, Pine Ridge
- Peel
- Peterborough
- Simcoe Muskoka
- York

Central West health region

- Brant
- Haldimand-Norfolk
- Halton
- Hamilton
- Niagara
- Waterloo
- Wellington-Dufferin-Guelph

South West health region

- Grey Bruce
- Elgin-St. Thomas
- Huron
- Chatham-Kent
- Lambton
- Middlesex-London
- Oxford
- Perth
- Windsor-Essex

Prenatal HIV tests

Total number of prenatal specimens tested (a). Counts of all prenatal specimens tested (for HIV and otherwise) at PHOL were compiled by year. These are comprised of all specimens for female patients accompanied by the prenatal testing requisition or the general test requisition with “prenatal” indicated as the reason for testing. Specimens were assigned to a year based on the date the specimen was received at PHOL.

Number of unique prenatal specimens not tested for HIV (b). PHOL automatically appends a reminder letter to all *unique* prenatal specimens for whom the patient has not had an HIV diagnostic serology test within the last 220 days. Counts of these letters comprise the number of unique prenatal specimens not tested for HIV.

Estimated number of prenatal HIV tests (a-b). To estimate the number of prenatal HIV tests, the number of unique prenatal specimens not tested for HIV was subtracted from the number of total prenatal specimens tested.

Estimated proportion that received an HIV test (1-b/a). This is estimated by calculating the proportion not receiving an HIV test (number of unique prenatal specimens not tested for HIV divided by the number of prenatal specimens tested), and then subtracting this proportion from one.

The number of prenatal HIV tests and proportion that received an HIV tests are estimates because the prenatal specimens not tested for HIV are unique to individual patients, while the total number of prenatal specimens is not.

Data limitations

Limitations are described in different sections of the technical notes above. Please see pages 8-9 for a summary of key limitations.

Data Tables

I. Overall

Table I.1 Number and HIV testing rate per 1,000 people, Ontario, 2008 to 2017

Year	Number of tests	Population (all ages)	Rate per 1,000
2008	414,912	12,882,625	32.2
2009	425,284	12,997,687	32.7
2010	418,349	13,135,063	31.8
2011	428,607	13,263,544	32.3
2012	436,255	13,413,702	32.5
2013	441,801	13,555,754	32.6
2014	457,898	13,680,425	33.5
2015	485,241	13,789,597	35.2
2016	527,252	13,976,320	37.7
2017	574,035	14,193,384	40.4

Table I.2 Number of HIV tests and test positivity rate, Ontario, 2008 to 2017

Year	Number of tests	Positive results	Positivity rate
2008	414,912	1,066	0.26%
2009	425,284	947	0.22%
2010	418,349	974	0.23%
2011	428,607	970	0.23%
2012	436,255	844	0.19%
2013	441,801	784	0.18%
2014	457,898	820	0.18%
2015	485,241	822	0.17%
2016	527,252	875	0.17%
2017	574,035	916	0.16%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests. Positive results and positivity rate includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere (known to be HIV-positive at the time of testing). Population estimates retrieved from Statistics Canada, accessed 04/09/2018.

2. By test type

Table 2.1 Number of HIV tests and test positivity rate by test type, Ontario, 2008 to 2017

Year	Nominal			Coded			Anonymous		
	Number of tests	Positive results	Positivity rate	Number of tests	Positive results	Positivity rate	Number of tests	Positive results	Positivity rate
2008	382,718	825	0.22%	20,143	122	0.61%	12,049	119	0.99%
2009	389,136	738	0.19%	22,085	87	0.39%	14,058	122	0.87%
2010	380,575	755	0.20%	22,824	77	0.34%	14,905	142	0.95%
2011	389,304	760	0.20%	23,161	78	0.34%	16,142	132	0.82%
2012	397,250	657	0.17%	22,888	72	0.31%	16,116	115	0.71%
2013	401,897	609	0.15%	22,727	57	0.25%	17,173	118	0.69%
2014	423,273	690	0.16%	17,227	21	0.12%	17,392	109	0.63%
2015	452,674	699	0.15%	15,518	29	0.19%	17,047	94	0.55%
2016	501,437	755	0.15%	10,368	14	0.14%	15,443	106	0.69%
2017	550,433	804	0.15%	8,992	18	0.20%	14,609	94	0.64%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests. Positive results and positivity rate includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere (known to be HIV-positive at the time of testing). Population estimates retrieved from Statistics Canada, accessed 04/09/2018.

Table 2.2 Percent of HIV tests by test type, both sexes, Ontario, 2008 to 2017

Year	Nominal	Coded	Anonymous
	Percent of tests	Percent of tests	Percent of tests
2008	92.2%	4.9%	2.9%
2009	91.5%	5.2%	3.3%
2010	91.0%	5.5%	3.6%
2011	90.8%	5.4%	3.8%
2012	91.1%	5.2%	3.7%
2013	91.0%	5.1%	3.9%
2014	92.4%	3.8%	3.8%
2015	93.3%	3.2%	3.5%
2016	95.1%	2.0%	2.9%
2017	95.9%	1.6%	2.5%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal HIV tests.

3. By sex

Table 3.1 Number of HIV tests and test positivity rate, by sex, Ontario, 2000 to 2017

Year	Males			Females			Unknown sex		
	Number of tests	Positive results	Positivity rate	Number of tests	Positive results	Positivity rate	Number of tests	Positive results	Positivity rate
2008	188,983	804	0.43%	218,188	256	0.12%	7,741	6	0.08%
2009	193,915	729	0.38%	220,657	210	0.10%	10,712	8	0.07%
2010	191,515	778	0.41%	212,960	181	0.08%	13,874	15	0.11%
2011	199,622	753	0.38%	212,606	202	0.10%	16,379	15	0.09%
2012	203,948	655	0.32%	216,070	184	0.09%	16,237	5	0.03%
2013	209,714	649	0.31%	217,424	129	0.06%	14,663	6	0.04%
2014	218,870	647	0.30%	223,237	167	0.07%	15,791	6	0.04%
2015	231,284	659	0.28%	236,316	160	0.07%	17,641	3	0.02%
2016	251,487	691	0.27%	256,343	176	0.07%	19,422	8	0.04%
2017	277,849	717	0.26%	276,987	195	0.07%	19,199	4	0.02%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests. Positive results and positivity rate includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere (known to be HIV-positive at the time of testing).

Table 3.2 Number and rate of HIV tests per 1,000 people, by sex, Ontario, 2008 to 2017

Year	Males			Females		
	Number of tests	Population (all ages)	Rate per 1,000	Number of tests	Population (all ages)	Rate per 1,000
2008	188,990	6,341,504	29.8	218,195	6,541,121	33.4
2009	193,933	6,389,905	30.3	220,661	6,607,782	33.4
2010	191,533	6,452,783	29.7	212,962	6,682,280	31.9
2011	199,637	6,513,580	30.6	212,607	6,749,964	31.5
2012	203,963	6,591,394	30.9	216,072	6,822,308	31.7
2013	209,724	6,658,710	31.5	217,427	6,897,044	31.5
2014	218,878	6,719,723	32.6	223,237	6,960,702	32.1
2015	231,297	6,773,184	34.1	236,319	7,016,413	33.7
2016	250,660	6,868,640	36.5	255,508	7,107,680	35.9
2017	277,849	6,980,810	39.8	276,987	7,212,574	38.4

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests.

Table 3.3 Percent of HIV tests by sex, Ontario, 2008 to 2017

Year	Male	Female
	Percent of tests	Percent of tests
2008	46.4%	53.6%
2009	46.8%	53.2%
2010	47.3%	52.7%
2011	48.4%	51.6%
2012	48.6%	51.4%
2013	49.1%	50.9%
2014	49.5%	50.5%
2015	49.5%	50.5%
2016	49.5%	50.5%
2017	50.1%	49.9%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests.

4. By age

Table 4.1 Number of HIV tests and test positivity rate by age and sex, Ontario, 2017

Age	Total			Male			Female		
	Number of tests	Positive results	Positivity rate	Number of tests	Positive results	Positivity rate	Number of tests	Positive results	Positivity rate
<15	4,614	8	0.17%	2,129	4	0.19%	2,203	2	0.09%
15 to 19	27,457	18	0.07%	9,906	11	0.11%	16,460	7	0.04%
20 to 24	85,513	86	0.10%	37,084	70	0.19%	45,492	16	0.04%
25 to 29	109,704	151	0.14%	52,904	126	0.24%	53,928	25	0.05%
30 to 34	97,118	147	0.15%	45,848	121	0.26%	48,629	25	0.05%
35 to 39	75,989	131	0.17%	36,141	95	0.26%	37,643	35	0.09%
40 to 44	50,385	110	0.22%	25,277	83	0.33%	23,528	27	0.11%
45 to 49	34,324	85	0.25%	18,795	67	0.36%	14,301	18	0.13%
50 to 54	26,907	75	0.28%	15,359	60	0.39%	10,454	15	0.14%
55 to 59	19,974	48	0.24%	11,317	37	0.33%	7,814	11	0.14%
60 to 64	14,428	27	0.19%	8,144	20	0.25%	5,747	7	0.12%
65 to 69	10,335	13	0.13%	5,880	10	0.17%	4,055	3	0.07%
70+	14,869	16	0.11%	8,181	12	0.15%	6,138	4	0.07%

Notes: Data provided by Public Health Ontario Laboratory. Total includes unknown sex. Excludes HIV-negative prenatal HIV tests. Positive results and positivity rate includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere (known to be HIV-positive at the time of testing).

Table 4.2 Number and rate of HIV tests per 1,000 people by age and sex, Ontario, 2017

Age	Total			Male			Female		
	Number of tests	Population	Rate per 1,000	Number of tests	Population	Rate per 1,000	Number of tests	Population	Rate per 1,000
<15	4,614	2,229,217	2.1	2,129	1,142,807	1.9	2,203	1,086,410	2.0
15 to 19	27,457	835,465	32.9	9,906	430,990	23.0	16,460	404,475	40.7
20 to 24	85,513	1,012,586	84.5	37,084	522,745	70.9	45,492	489,841	92.9
25 to 29	109,704	1,013,929	108.2	52,904	505,669	104.6	53,928	508,260	106.1
30 to 34	97,118	968,906	100.2	45,848	474,675	96.6	48,629	494,231	98.4
35 to 39	75,989	926,913	82.0	36,141	452,791	79.8	37,643	474,122	79.4
40 to 44	50,385	905,679	55.6	25,277	443,184	57.0	23,528	462,495	50.9
45 to 49	34,324	949,264	36.2	18,795	468,165	40.1	14,301	481,099	29.7
50 to 54	26,907	1,053,440	25.5	15,359	525,241	29.2	10,454	528,199	19.8
55 to 59	19,974	1,036,290	19.3	11,317	513,032	22.1	7,814	523,258	14.9
60 to 64	14,428	891,943	16.2	8,144	433,282	18.8	5,747	458,661	12.5
65 to 69	10,335	752,449	13.7	5,880	360,625	16.3	4,055	391,824	10.3
70+	14,869	1,617,303	9.2	8,181	707,604	11.6	6,138	909,699	6.7

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal HIV tests. Total includes unknown sex. Population estimates retrieved from Statistics Canada, accessed 04/09/2018.

Table 4.3 Rate of HIV tests per 1,000 people by age, 2013 to 2017

Year	Age category (HIV test rate per 1,000 people)												
	<15	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+
2013	1.4	25.3	71.1	87.8	82.9	64.3	44.1	28.5	20.4	15.9	13.4	10.6	7.0
2014	1.3	25.8	72.5	90.8	86.0	67.0	45.4	29.2	20.5	16.2	13.4	11.1	7.4
2015	1.2	27.3	75.1	95.4	89.8	71.4	47.7	31.2	21.9	17.4	14.3	11.5	8.2
2016	1.5	29.7	78.9	99.7	94.9	76.4	52.0	34.4	24.0	18.5	15.9	13.1	9.0
2017	2.1	32.9	84.5	108.2	100.2	82.0	55.6	36.2	25.5	19.3	16.2	13.7	9.2

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-prenatal tests. Population estimates retrieved from Statistics Canada, accessed 04/09/2018 (not shown). Number of tests and population estimates available upon request.

Table 4.4 Rate of HIV tests per 1,000 males by age, males, 2013 to 2017

Year	Age category (HIV test rate per 1,000 males)												
	<15	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+
2013	1.2	18.4	62.0	80.1	76.5	61.2	45.1	31.6	23.0	18.0	15.5	12.8	8.9
2014	1.1	18.7	63.1	84.3	80.6	64.4	46.6	32.2	23.3	18.4	15.6	13.3	9.2
2015	1.0	19.1	63.8	89.2	84.3	68.3	48.2	34.6	24.7	20.3	16.8	13.7	10.3
2016	1.3	20.7	66.4	94.2	89.6	73.4	52.6	38.2	26.9	21.0	18.0	15.1	11.1
2017	1.9	23.0	70.9	104.6	96.6	79.8	57.0	40.1	29.2	22.1	18.8	16.3	11.6

Table 4.5 Rate of HIV tests per 1,000 females by age, females, 2013 to 2017

Year	Age category (HIV test rate per 1,000 females)												
	<15	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+
2013	1.4	30.7	76.1	90.3	84.0	63.4	40.4	23.2	16.1	12.8	10.5	7.8	5.2
2014	1.3	31.2	77.3	91.7	86.1	65.4	41.3	24.0	16.1	12.8	10.3	8.2	5.5
2015	1.4	33.7	81.6	95.6	89.4	69.7	43.9	25.4	17.2	13.0	10.8	8.6	6.0
2016	1.5	36.6	86.2	99.0	94.5	74.4	47.8	27.9	18.9	14.3	12.7	10.3	6.9
2017	2.0	40.7	92.9	106.1	98.4	79.4	50.9	29.7	19.8	14.9	12.5	10.3	6.7

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-prenatal tests. Population estimates retrieved from Statistics Canada, accessed 04/09/2018 (not shown). Number of tests and population estimates available upon request.

5. By exposure category

Table 5.1 Number of HIV tests by exposure category, Ontario, 2013 to 2017

Year	MSM	MSM- PWID	PWID	HIV- endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total	Unknown (excluded)
2013	19,587	213	5,340	1,615	2,337	124,852	917	154,861	286,940
2014	21,853	276	5,218	1,328	2,221	123,417	900	155,213	302,685
2015	24,971	253	5,478	1,338	2,399	130,241	847	165,527	319,714
2016	27,874	259	5,591	1,541	2,625	134,114	1,001	173,005	354,247
2017	31,151	258	6,070	1,446	2,365	141,662	925	183,877	390,158

Table 5.2 Percent of HIV tests by exposure category, Ontario, 2013 to 2017

Year	MSM	MSM- PWID	PWID	HIV- endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total
2013	12.6%	0.1%	3.4%	1.0%	1.5%	80.6%	0.6%	100%
2014	14.1%	0.2%	3.4%	0.9%	1.4%	79.5%	0.6%	100%
2015	15.1%	0.2%	3.3%	0.8%	1.4%	78.7%	0.5%	100%
2016	16.1%	0.1%	3.2%	0.9%	1.5%	77.5%	0.6%	100%
2017	16.9%	0.1%	3.3%	0.8%	1.3%	77.0%	0.5%	100%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests. MSM=men who have sex with men. PWID=people who use injection drugs. PIR=partner with identified risk. NIR=partner with no identified risk. Unknown=exposure category missing or marked as “no identified risk”. Other includes transmissions via clotting factor, transfusions, or mother-to-child.

Table 5.3 Number of HIV tests by exposure category, males, Ontario, 2013 to 2017

Year	MSM	MSM-PWID	PWID	HIV-endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total	Unknown (excluded)
2013	19,587	213	2,988	843	617	57,817	460	82,525	127,189
2014	21,853	276	2,803	680	549	57,377	457	83,995	134,875
2015	24,971	253	3,068	685	571	59,698	402	89,648	141,636
2016	27,874	259	3,111	744	673	61,966	501	95,128	156,359
2017	31,151	258	3,379	728	533	64,441	465	100,955	176,894

Table 5.4 Percent of HIV tests by exposure category, males, Ontario, 2013 to 2017

Year	MSM	MSM-PWID	PWID	HIV-endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total
2013	23.7%	0.3%	3.6%	1.0%	0.7%	70.1%	0.6%	100%
2014	26.0%	0.3%	3.3%	0.8%	0.7%	68.3%	0.5%	100%
2015	27.9%	0.3%	3.4%	0.8%	0.6%	66.6%	0.4%	100%
2016	29.3%	0.3%	3.3%	0.8%	0.7%	65.1%	0.5%	100%
2017	30.9%	0.3%	3.3%	0.7%	0.5%	63.8%	0.5%	100%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests. MSM=men who have sex with men. PWID=people who use injection drugs. PIR=partner with identified risk. NIR=partner with no identified risk. Unknown=exposure category missing or marked as “no identified risk”. Other includes transmissions via clotting factor, transfusions, or mother-to-child.

Table 5.5 Number of HIV tests by exposure category, females, Ontario, 2013 to 2017

Year	PWID	HIV-endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total	Unknown (excluded)
2013	2,121	731	1,720	67,035	420	72,027	145,397
2014	2,150	607	1,672	66,040	395	70,864	152,373
2015	2,155	594	1,828	70,543	404	75,524	160,792
2016	2,202	687	1,952	72,148	436	77,425	178,918
2017	2,431	663	1,832	77,221	398	82,545	194,442

Table 5.6 Percent of HIV tests by exposure category, females, Ontario, 2013 to 2017

Year	PWID	HIV-endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total
2013	2.9%	1.0%	2.4%	93.1%	0.6%	100%
2014	3.0%	0.9%	2.4%	93.2%	0.6%	100%
2015	2.9%	0.8%	2.4%	93.4%	0.5%	100%
2016	2.8%	0.9%	2.5%	93.2%	0.6%	100%
2017	2.9%	0.8%	2.2%	93.6%	0.5%	100%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests. MSM=men who have sex with men. PWID=people who use injection drugs. PIR=partner with identified risk. NIR=partner with no identified risk. Unknown=exposure category missing or marked as “no identified risk”. Other includes transmissions via clotting factor, transfusions, or mother-to-child.

Table 5.7 Number of HIV tests and test positivity rate by exposure category, males, Ontario, 2017

	MSM	MSM- PWID	PWID	HIV- endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total	Unknown (excluded)
Number of tests	31,151	258	3,379	728	533	64,441	465	100,955	176,894
Positive results	230	9	12	5	4	43	1	304	413
Positivity rate	0.74%	3.49%	0.36%	0.69%	0.75%	0.07%	0.22%	0.30%	0.23%

Table 5.8 Number of HIV tests and test positivity rate by exposure category, females, Ontario, 2017

	PWID	HIV- endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total	Unknown (excluded)
Number of tests	2,431	663	1,832	77,221	398	82,545	194,442
Positive results	12	7	14	24	1	58	137
Positivity rate	0.49%	1.06%	0.76%	0.03%	0.25%	0.07%	0.07%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests. Positive results and positivity rate includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere (known to be HIV-positive at the time of testing). MSM=men who have sex with men. PWID=people who use injection drugs. PIR=partner with identified risk. NIR=partner with no identified risk. Unknown=exposure category missing or marked as “no identified risk”. Other includes transmissions via clotting factor, transfusions, or mother-to-child.

6. By health region

Table 6.1 Number and rate of HIV tests per 1,000 people by health region, Ontario, 2013 to 2017

Health Region	2013	2014	2015	2016	2017
Northern					
Number of Tests	19,888	20,521	21,309	22,816	25,096
Population (all ages)	804,255	801,349	797,831	796,098	795,652
Rate per 1,000	25	26	27	29	32
Ottawa					
Number of Tests	38,944	39,584	42,279	43,820	45,890
Population (all ages)	936,102	946,683	956,731	973,561	994,837
Rate per 1,000	42	42	44	45	46
Eastern					
Number of Tests	19,701	19,863	20,532	21,859	23,179
Population (all ages)	842,708	844,173	845,934	849,706	855,359
Rate per 1,000	23	24	24	26	27
Toronto					
Number of Tests	151,923	161,119	171,459	186,055	200,623
Population (all ages)	2,779,328	2,806,618	2,825,561	2,871,145	2,929,885
Rate per 1,000	55	57	61	65	68
Central East					
Number of Tests	108,341	111,673	118,078	130,202	141,679
Population (all ages)	3,994,100	4,052,069	4,103,202	4,173,412	4,245,954
Rate per 1,000	27	28	29	31	33
Central West					
Number of Tests	61,638	63,725	67,113	74,407	85,474
Population (all ages)	2,597,921	2,622,910	2,647,577	2,685,085	2,726,819
Rate per 1,000	24	24	25	28	31
South West					
Number of Tests	38,268	38,215	41,016	44,114	47,992
Population (all ages)	1,601,340	1,606,623	1,612,761	1,627,313	1,644,878
Rate per 1,000	24	24	25	27	29

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests and tests among people who lived out of province. Population estimates retrieved from Statistics Canada, accessed 04/09/2018.

Table 6.2 Number of HIV tests and test positivity rate by health region, Ontario, 2017

Health Region	Number of tests	Positive Results	Positivity Rate
Northern	25,096	21	0.08%
Ottawa	45,890	77	0.17%
Eastern	23,179	19	0.08%
Toronto	200,623	496	0.25%
Central East	141,679	120	0.08%
Central West	85,474	87	0.10%
South West	47,992	86	0.18%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests and tests among people who lived out of province. Positive results and positivity rate includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere (known to be HIV-positive at the time of testing).

7. Rapid/point-of-care (POC) testing

Table 7.1 Number of POC HIV tests, confirmed positive POC tests, and test positivity rate, Ontario, 2013 to 2017

Year	Number of POC tests	Positive POC results	Positivity rate
2013	29,362	139	0.47%
2014	30,188	146	0.48%
2015	28,602	121	0.42%
2016	22,368	133	0.59%
2017	20,068	119	0.59%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests. Positive results and positivity rate includes those being diagnosed for the first time in Ontario after being diagnosed previously elsewhere (known to be HIV-positive at the time of testing). Population estimates retrieved from Statistics Canada, accessed 04/09/2018.

8. Prenatal testing

Table 8.1 Estimated number of prenatal HIV tests and among women receiving prenatal laboratory testing, the estimated proportion that had an HIV test performed, Ontario, 2013 to 2017

Year	Total prenatal HIV tests	Total prenatal specimens	Proportion of specimens that had an HIV test performed
2013	183,841	188,989	97.3%
2014	186,397	191,042	97.6%
2015	185,106	189,374	97.7%
2016	186,942	190,964	97.9%
2017	183,226	187,255	97.8%

Notes: Data provided by Public Health Ontario Laboratory. The Public Health Ontario Laboratory receives all prenatal specimens (for HIV tests and other laboratory testing). Of these, those who had received a diagnostic HIV test within the past 220 days comprise the proportion that received an HIV test. See **Prenatal HIV tests** under Technical notes for more information.