HIV testing in Ontario, 2016

About OHESI

The Ontario HIV Epidemiology and Surveillance Initiative (OHESI) is a collaboration involving the AIDS Bureau of the Ontario Ministry of Health and Long-Term Care (MOHLTC), 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 MOHLTC, 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@ohtn.on.ca
Website: www.OHESI.ca

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Lead Authors

James Wilton, OHTN
Juan Liu, PHO
Ashleigh Sullivan, PHAC
Abigail Kroch, OHTN

OHESI Technical Working Group

James Wilton, OHTN
Juan Liu, PHO
Ashleigh Sullivan, PHAC
Alex Marchand-Austin, PHO
Beth Rachlis, OHTN
Madison Kopansky-Giles, OHTN
Lucia Light, OHTN
Abigail Kroch, OHTN

OHESI Steering Committee Leads

Jean Bacon, OHTN
Doug Sider, PHO
Joanne Lush, AIDS Bureau, MOHLTC
Ken English, AIDS Bureau, MOHLTC
Chris Archibald, PHAC

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Take-home messages

- In 2016, the number of HIV tests in Ontario increased to 525,544, which is equivalent to a testing rate of 37.6 tests per 1,000 people.
- While testing was relatively stable for most of the past decade, the number of tests increased by 19.0% between 2013 and 2016. The testing rate (number of tests per 1,000 people) also increased by 15.4% during this time.
- The recent increase in testing appears to be due to a rise in nominal testing and testing among males and men who have sex with men (MSM). This is likely the result of a combination of programming- and policy-related factors, such as the improved availability of HIV testing, the success of testing campaigns and other promotion efforts, and/or the release of provincial HIV testing guidelines in 2012 with recommendations on test frequency.[1]
- There was a greater increase in HIV testing for males compared to females over the past decade, and the last three years were the first where the male testing rate exceeded the female rate. The increase in testing for males appears to be driven by testing among MSM. Of note, this report does not include the approximately 200,000 HIV-negative prenatal tests conducted among females each year, as they are part of an HIV testing program that is offered to all pregnant individuals.
- As HIV test volume has increased, the percent of tests that are HIV-positive (test positivity rate) has decreased. The overall positivity rate decreased to 0.17% in 2016, meaning that for every 10,000 tests conducted, about 17 were HIV-positive.
- HIV-positive test results were more common for males and for people testing anonymously. In 2016, the positivity rate was four times higher for males compared to females, and between four to five times higher for anonymous testing compared coded and nominal testing. The higher positivity rate among males is largely driven by the higher risk of HIV infection among MSM, while the higher anonymous positivity rate suggests this type of testing attracts people at higher risk of HIV infection.

[1] AIDS Bureau, Ministry of Health and Long-Term Care. *Ontario HIV Testing Frequency Guidelines: Guidance for Counselors and Health Professionals*. April 2012. Available online: http://www.catie.ca/sites/default/files/HIV-testing-frequency-guidelines.pdf

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 Health Promotion and Protection 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. 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.

Local health integration network (LHIN)

A health authority funded by the Ministry of Health and Long-Term Care to plan, integrate and fund health services. There are 14 LHINs in Ontario and each has its own unique geographical boundary. See technical notes for more information.

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 the 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. For example, increased migration of people living with HIV to Ontario could lead to an increase in new diagnoses.

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.

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 the number and types of people getting tested and it is difficult to disentangle these effects.

Priority populations

Populations outlined as priorities for HIV programming in Ontario's HIV/AIDS Strategy, including gay, bisexual and other men who have sex with men, including trans men; African, Caribbean and Black communities; Indigenous peoples; people who inject drugs; and at-risk women, including trans women. Information from the test requisition and LEP forms are used to assign a new HIV diagnosis (i.e. HIV-positive test) to a priority population, where applicable. The LEP form collects information on race/ethnicity and country of birth, information which is required to assign new diagnoses to specific priority populations and was only added to the test requisition in 2018. Unlike exposure categories, priority populations are not mutually exclusive, meaning that a new HIV diagnosis can be assigned to more than one population. The HIV test data in this report are NOT broken down by priority population because information from the LEP form is not available for HIV-negative tests.

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.

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

ART = antiretroviral treatment

LEP = Laboratory Enhancement Program

LHIN = local health integration network

MSM = men who have sex with men

PHU = public health unit

POC = point-of-care testing

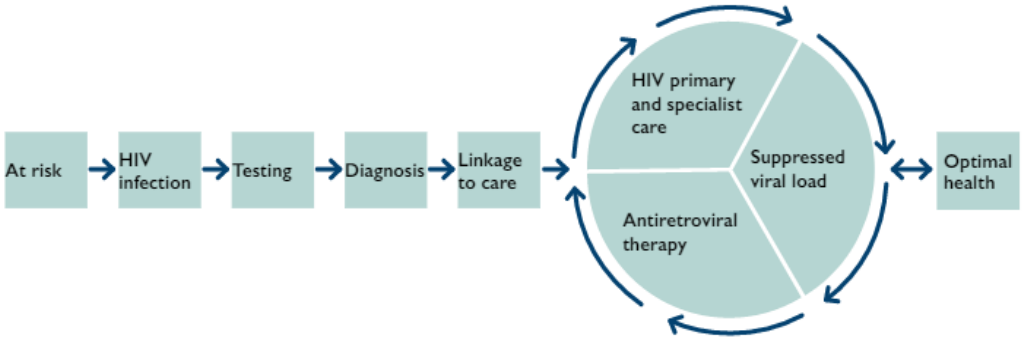
PWID = people who use injection drugs

Background

Why look at patterns in HIV testing?

- HIV testing is an early step in the cascade of HIV prevention, engagement and care (Figure i) and is a critical step in order for people living with HIV to know their status and be linked to HIV 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, positivity rates should be interpreted with caution as they are influenced by both HIV risk as well as the number and types of people getting tested and it is difficult to disentangle these effects.
- 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 gets tested in a year as well as the total number of unique people who get 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 getting tested for HIV, including their age, sex and HIV risk factors.

- If a test 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 individual tested. This includes information collected on the test requisition, as well as additional information. However, only data from the test requisition are used in this report, as LEP data is not available for HIV-negative tests.

What are some of the strengths of these data?

- All HIV diagnostic testing conducted by health care providers in Ontario is done by PHOL and is therefore included in this report.
- Age, sex and geography data on the test requisition are very complete and available for more than 93% of HIV tests.
- Trends in HIV tests are presented as numbers and, where possible, as a testing rate (i.e. the number of tests per 1,000 people). While the number of tests are 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.

What are some of the limitations of these data?

- Prenatal tests with an HIV-negative result are not included in this report, as they are part of an HIV testing program that is offered to all pregnant individuals. Approximately 200,000 HIV-negative prenatal tests are conducted in Ontario each year. However, HIV-positive prenatal tests ARE included in this report for the calculation of positivity rates. In recent years, the annual number of HIV-positive prenatal tests ranged from five to 16.
- Information on health region and local health integration network (LHIN) is only available from 2011 onwards, as address of residence was not collected prior to that year. For this reason, health region and LHIN figures only present data for the year 2016. Data from 2011 onwards are available in the data tables at the end of the report.
- Race/ethnicity, country of birth and transgender status were not collected on the HIV test requisition form prior to 2018. Lack of race/ethnicity and country of birth information means it was not possible to look at tests by priority population in this report. A revised requisition which collects these data was implemented in early 2018.
- Instead of priority populations, HIV tests in this report are broken down by exposure category, which are meant to represent an individual's most likely risk of HIV infection based on reported risk factors documented on the HIV test requisition. Unlike priority populations, exposure categories are mutually exclusive – meaning that an individual getting tested can only be assigned to one category.
- Risk factor information is missing or indicated as "none" for over half of test requisition forms, and therefore an exposure category could not be assigned. These tests were excluded from the exposure category section of this report. Due to the extent of missing information, exposure category data are presented as the percent of HIV tests where exposure category was known. The total number of tests by exposure category is not presented as they are underestimates.
- If a specific exposure category is more likely to be missing information compared to others (for example, individuals from a specific exposure category may be less likely to disclose their risk factors to a provider), that category may be underrepresented in the data. This could introduce bias into the findings of this report.

Key Trends

Overall

- In 2016, there were 525,544 HIV tests in Ontario – equivalent to a rate of 37.6 tests per 1,000 people.
- The test positivity rate in 2016 was 0.17%. This means that for every 10,000 tests, approximately 17 were HIV-positive.
- While relatively stable for most of the past decade, the number of tests increased by 19.0% between 2013 and 2016. The testing rate per 1,000 people also increased by 15.4% during this time.
- As HIV test volume has increased over time, the positivity rate has decreased. Between 2007 and 2016, the positivity rate decreased from 0.24% to 0.17%.

By test type

- In 2016, the vast majority of tests (95.1%) were nominal and the remainder were coded (2.0%) or anonymous (2.9%).
- Trends over time varied by test type. Nominal and coded testing were both relatively stable for most of the past decade, while anonymous testing increased following its expansion in Ontario in 2006 and rose to 17,393 tests by 2014. In recent years, only nominal testing has increased, while both coded and anonymous testing have decreased.
- While the 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 2016, the test positivity rate was 0.69% for anonymous testing and 0.15% and 0.14% for nominal and coded testing, respectively.

By sex

- In recent years, the number and rate of tests were similar for males and females. In 2016, 49.5% of people tested were males and 50.5% were females, while the testing rate per 1,000 people was 36.5 for males and 35.9 for females.[2]
- Over the past decade, there was a greater increase in HIV testing for males compared to females. While historically the female testing rate exceeded the male rate, the past three years were the first where the testing rate was higher for males. Of note, the approximately 200,00 HIV-negative prenatal tests conducted among females each year were not included in this report.
- While the test positivity rate decreased over time for both sexes, it was consistently three to four times higher for males compared to females. In 2016, the positivity rate was 0.28% for males and 0.07% for females.

By age

- Over the past decade and for both sexes, the rate of tests per 1,000 people was consistently highest in the 25 to 29 age category and increased for most age groups (all except those aged 24 or less). However, the testing rate increased for all age categories from 2013-2014 to 2015-2016.

[2] The overall population in Ontario is not split equally by sex - there are a higher number of females compared to males. This explains why the test rate per 1,000 people in 2016 was higher for males but the percent of tests was lower for males.

- In 2016, the positivity rate was highest in the 50 to 54 age category for males (0.59%) and 55 to 59 age category for females (0.19%). The higher positivity rate among older males may be due to a consistently higher risk of HIV diagnosis among those born in the 1960s (males who were in their 20s during the 1980s – the height of the HIV epidemic).[3]

By exposure category

- See Technical notes for exposure category definitions and the hierarchy used to assign a test to a single category. HIV test data in this report are not presented by priority population, as the HIV test requisition form prior to 2018 did not collect race/ethnicity and country of birth, both of which are required to assign tests to specific priority populations.
- Over the past decade, the majority of male and female HIV tests each year were performed on heterosexual people reporting partners with no identified HIV risk factors.
- Between 2007 and 2016, the percent of male tests who were men who have sex with men (MSM) increased from 17.7% to 28.6% – possibly reflecting the success of testing initiatives and campaigns prioritized to this population, as well as the release of guidelines recommending more frequent testing for this population.[4]
- In 2016, the highest positivity rate for males was among MSM and who used injection drugs (1.9%), whereas for females it was individuals from countries identified as HIV-endemic (0.9%) or who used injection drugs (0.8%). Higher positivity rates in specific exposure categories may reflect a combination of factors, such as a higher risk of HIV infection in general and/or a higher risk of HIV infection among individuals who end up getting tested.

By health region

- Health regions are aggregations of public health units. See Technical notes for more information.
- In 2016, the testing rate per 1,000 people was highest in Toronto (65) followed by Ottawa (45). The rate ranged from 26 (Eastern) to 31 (Central East) in the other regions.
- The 2016 positivity rate was highest in Toronto (0.23%), South West (0.22%) and Ottawa (0.20%). The rate ranged from 0.07% (Central East) to 0.15% (Central West) in the other regions.

By local health integration network

- In 2016, the testing rate per 1,000 people was more than twice as high in Toronto Central (83) compared to the other LHINs, where the rate ranged from 23 (North Simcoe Muskoka) to 41 (Central).
- The 2016 positivity rate was highest in Toronto Central (0.32%) followed by South West (0.26%). The positivity rate ranged from 0.07% (Mississauga Halton) to 0.18% (Champlain) in the other LHINs.

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.

[3] Analysis of trends in new HIV diagnoses in Ontario suggest a consistently higher risk of HIV diagnosis among men born in the 1960s (compared to some other birth cohorts). This may be due to a higher risk of HIV infection in this population.
[4] AIDS Bureau, Ministry of Health and Long-Term Care. *Ontario HIV Testing Frequency Guidelines: Guidance for Counselors and Health Professionals*. April 2012. Available online: http://www.catie.ca/sites/default/files/HIV-testing-frequency-guidelines.pdf

- 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 will be included in a publication to be released later in 2018.

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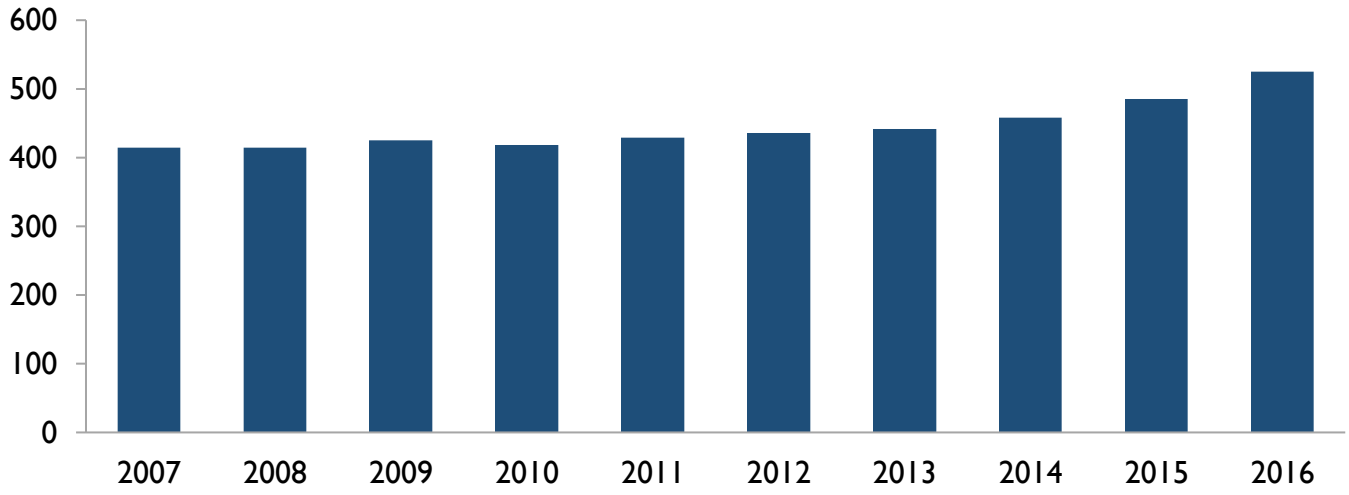
Data and figures

The figures in this section describe trends in HIV testing over the past decade (2007 to 2016). In general, each page contains two figures and each figure is accompanied by a brief description of trends as well as a table displaying data for the earliest (2007) and most recent (2016) years.

See Technical notes section for more information on the data source and how these numbers were calculated, and Data tables section for all the numbers underlying the figures. Where possible, tables contain more historical data than presented in the figures.

1. Overall

Figure 1.1 Number of HIV tests (thousands), both sexes, Ontario, 2007 to 2016

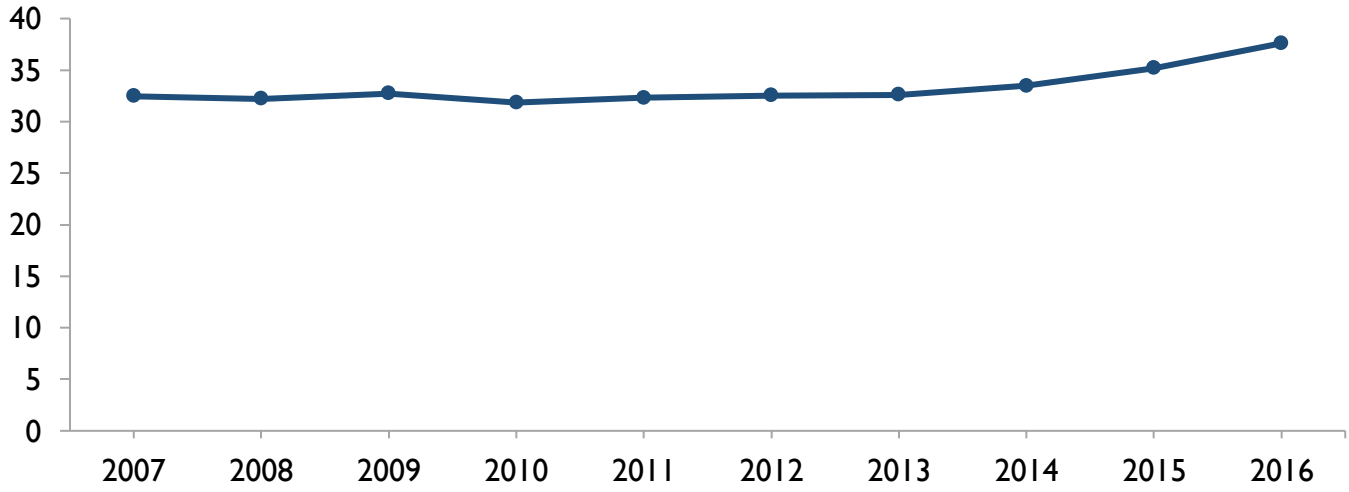


	2007	2016
Both sexes	414,488	525,544

Trends

The number of HIV tests was relatively stable at approximately 410,000 to 440,000 between 2007 and 2013, and then increased to 525,544 by 2016.

Figure 1.2 HIV testing rate per 1,000 people, both sexes, Ontario, 2007 to 2016



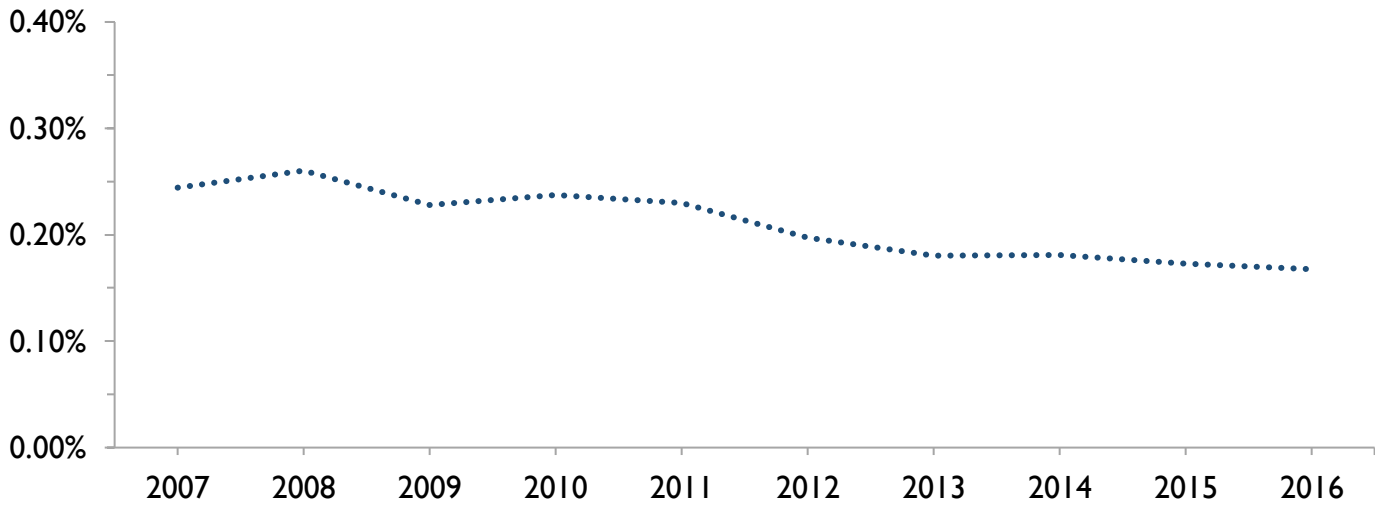
	2007	2016
Both sexes	32.5	37.6

Trends

The number of tests per 1,000 people was relatively stable at 33 between 2007 and 2013, and then increased to 37.6 by 2016.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Population estimates (all ages) retrieved from Statistics Canada. See Tables 1.1 and 1.2 for data.

Figure 1.3 HIV test positivity rate, both sexes, Ontario, 2007 to 2016



	2007	2016
Both sexes	0.24%	0.17%

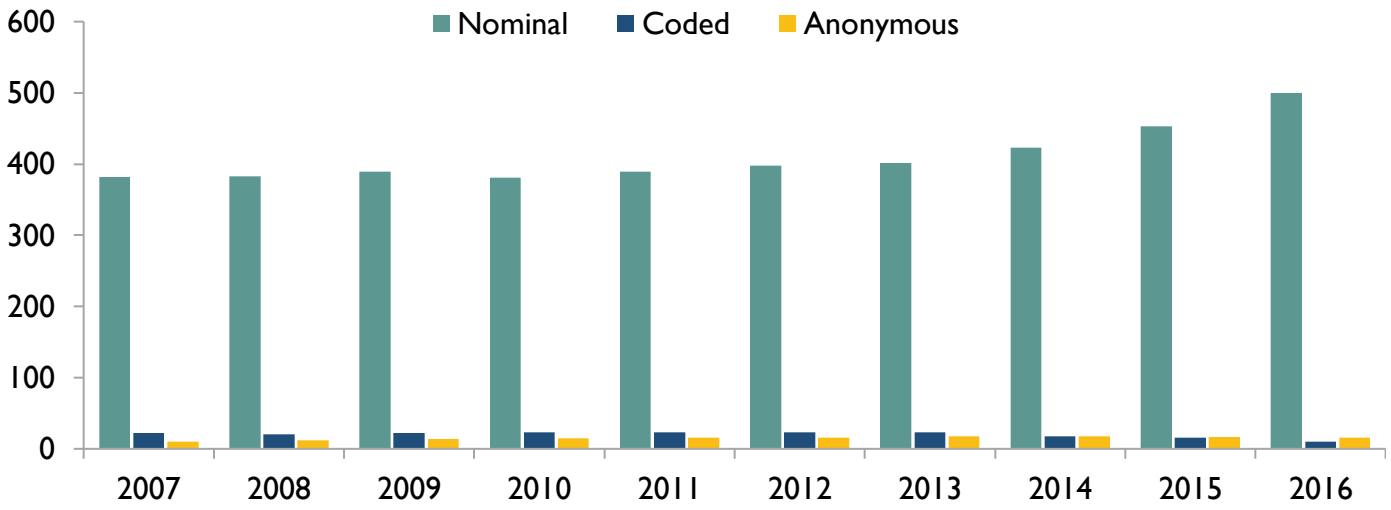
Trends

Between 2007 and 2016, 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. See Table 1.1 for data.

2. By test type

Figure 2.1 Number of HIV tests (thousands) by test type, Ontario, 2007 to 2016

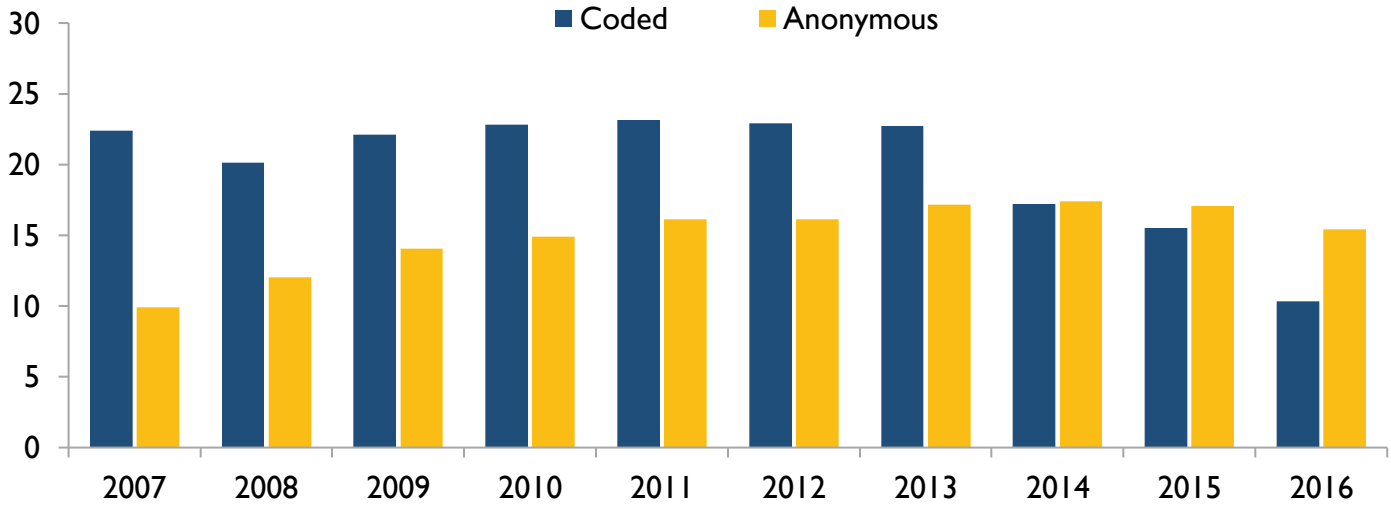


	2007	2016
Nominal	382,208	499,758

Trends

The number of nominal tests was relatively stable between 2007 and 2013, and then increased to almost 500,000 by 2016. 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, 2007 to 2016



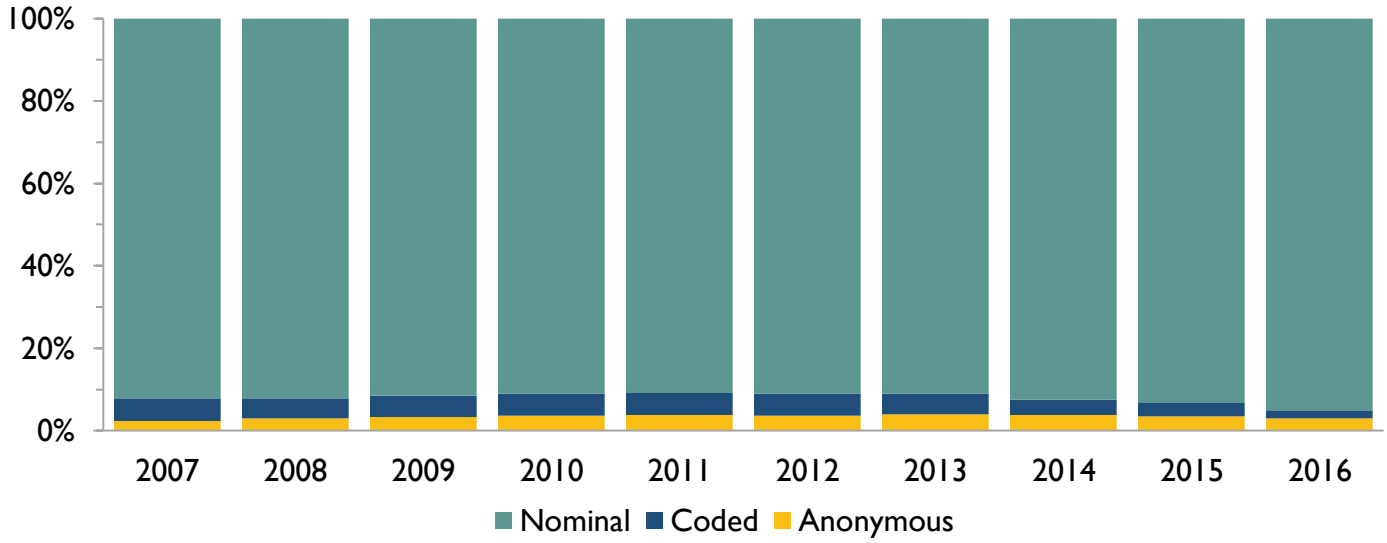
	2007	2016
Coded	22,381	10,349
Anonymous	9,890	15,433

Trends

The number of coded tests was relatively stable between 2007 and 2013 – decreasing thereafter. The number of anonymous tests increased to 17,393 by 2014 – also decreasing thereafter. See Figure 2.1 above for trends in nominal tests.

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

Figure 2.3 Percent of HIV tests by test type, Ontario, 2007 to 2016

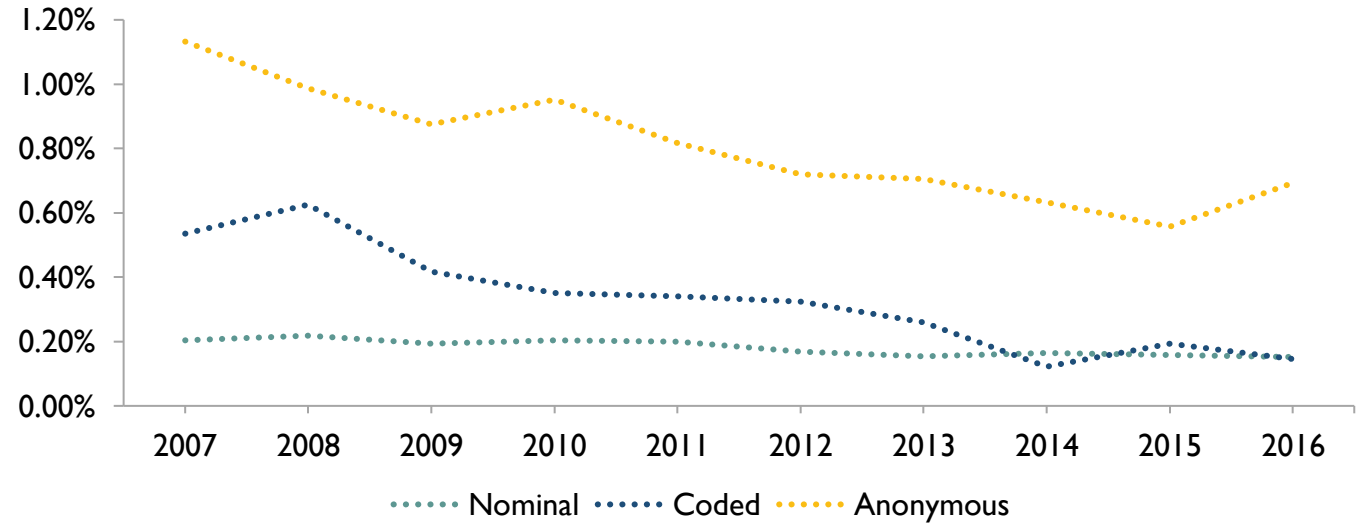


	2007	2016
Nominal	92.2%	95.1%
Coded	5.4%	2.0%
Anonymous	2.4%	2.9%

Trends

Between 2007 and 2016, the vast majority of tests were consistently nominal. While the percent nominal and anonymous both increased slightly over time, the percent coded decreased.

Figure 2.4 HIV test positivity rate by test type, Ontario, 2007 to 2016



	2007	2016
Nominal	0.20%	0.15%
Coded	0.54%	0.14%
Anonymous	1.13%	0.69%

Trends

Between 2007 and 2016, 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. See Tables 2.1 and 2.2 for data.

3. By sex

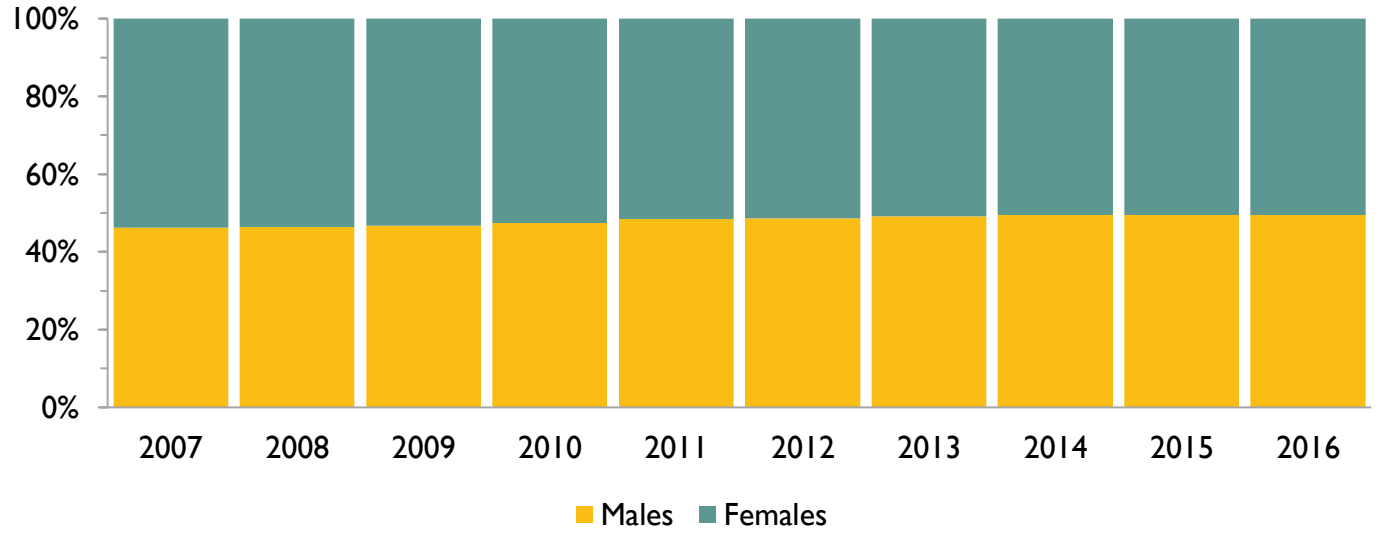
Figure 3.1 Number of HIV tests (thousands) by sex, Ontario, 2007 to 2016

	2007	2016
Males	187,529	250,660
Females	217,998	255,508

Trends

Between 2007 and 2016, the number of tests increased over time for both sexes, with a greater increase for males. In recent years, the number of tests was similar for both sexes.

Figure 3.2 Percent of HIV tests by sex, Ontario, 2007 to 2016



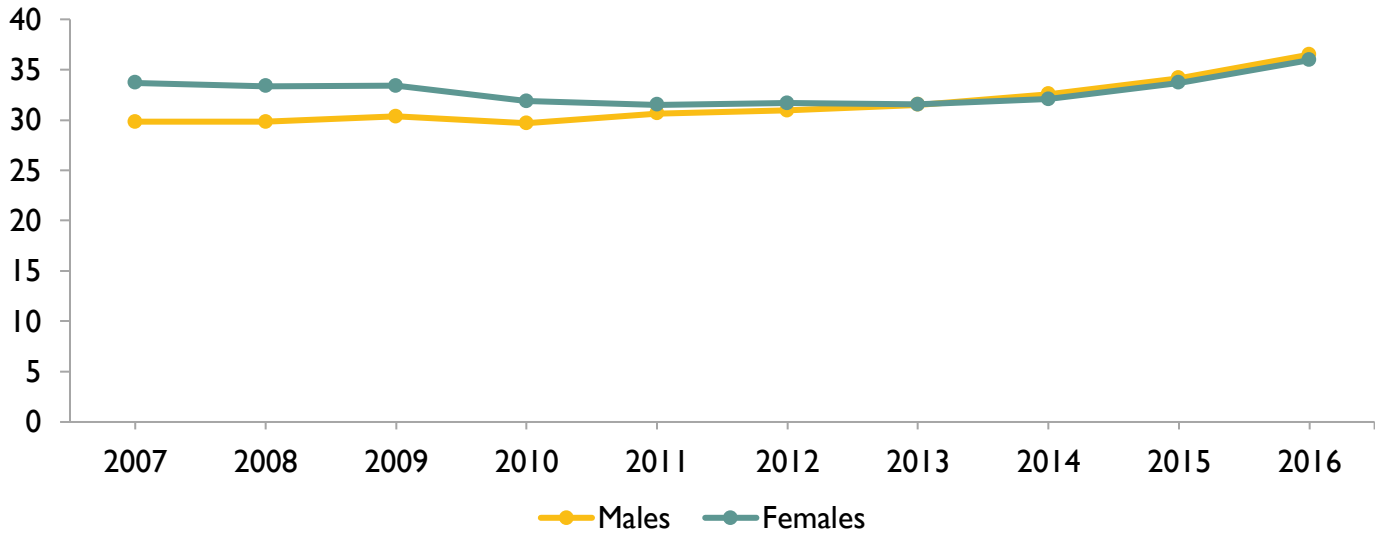
	2007	2016
Males	46.2%	49.5%
Females	53.8%	50.5%

Trends

Between 2007 and 2016, there was an increase in the percent of tests who were male.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown sex were excluded (approximately 7% each year). See Tables 1.1 and 1.3 for data.

Figure 3.3 HIV testing rate per 1,000 people by sex, Ontario, 2007 to 2016

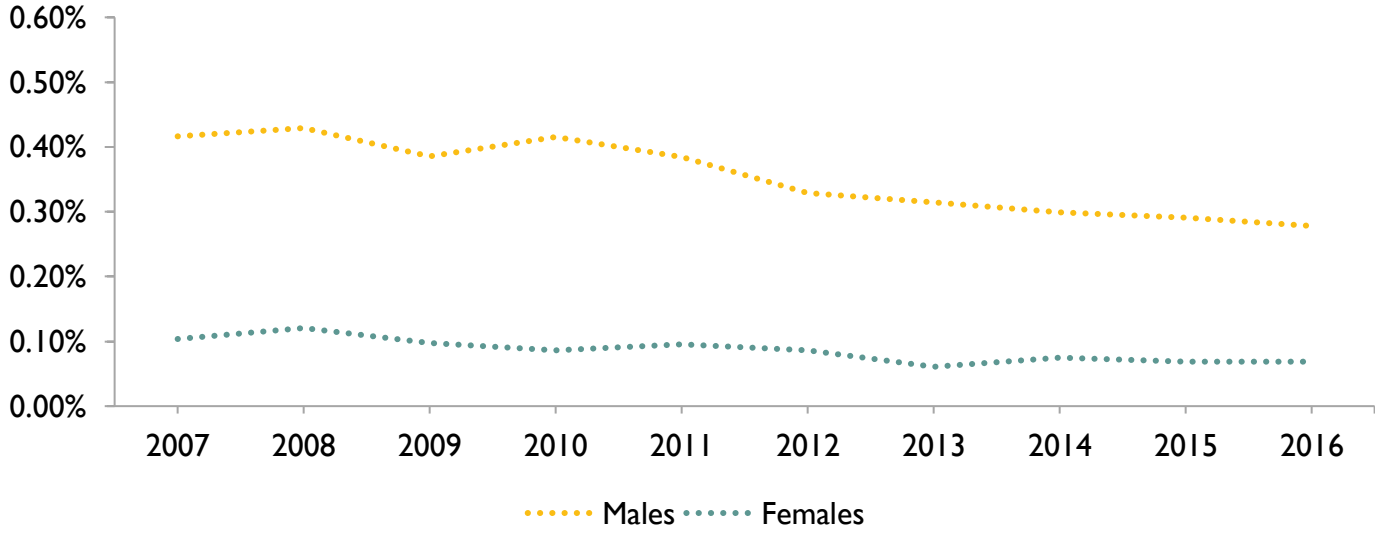


	2007	2016
Males	29.8	36.5
Females	33.7	35.9

Trends

Between 2007 and 2016, the number of tests per 1,000 people increased for both sexes, with a greater increase for males. In recent years, the rate was similar for males and females.

Figure 3.4 HIV test positivity rate by sex, Ontario, 2007 to 2016



	2007	2016
Males	0.42%	0.28%
Females	0.10%	0.07%

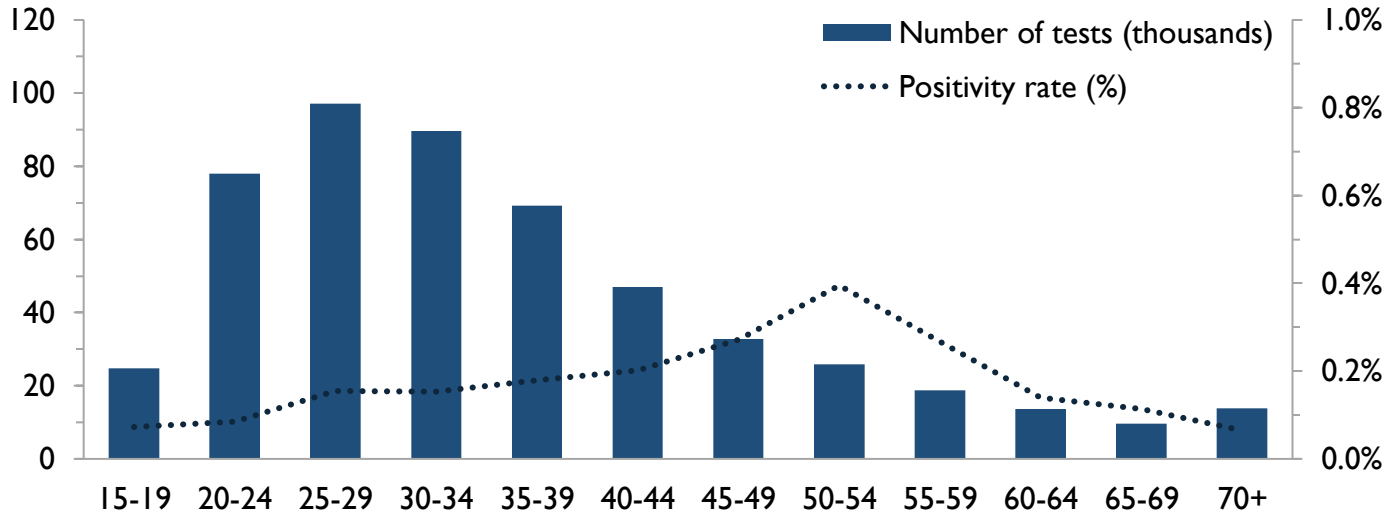
Trends

Between 2007 and 2016, the positivity rate decreased for 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 7% each year). Positivity rate refers to the percent of tests that were HIV-positive. Population estimates (all ages) retrieved from Statistics Canada. See Tables 1.1 and 1.2 for data.

4. By age

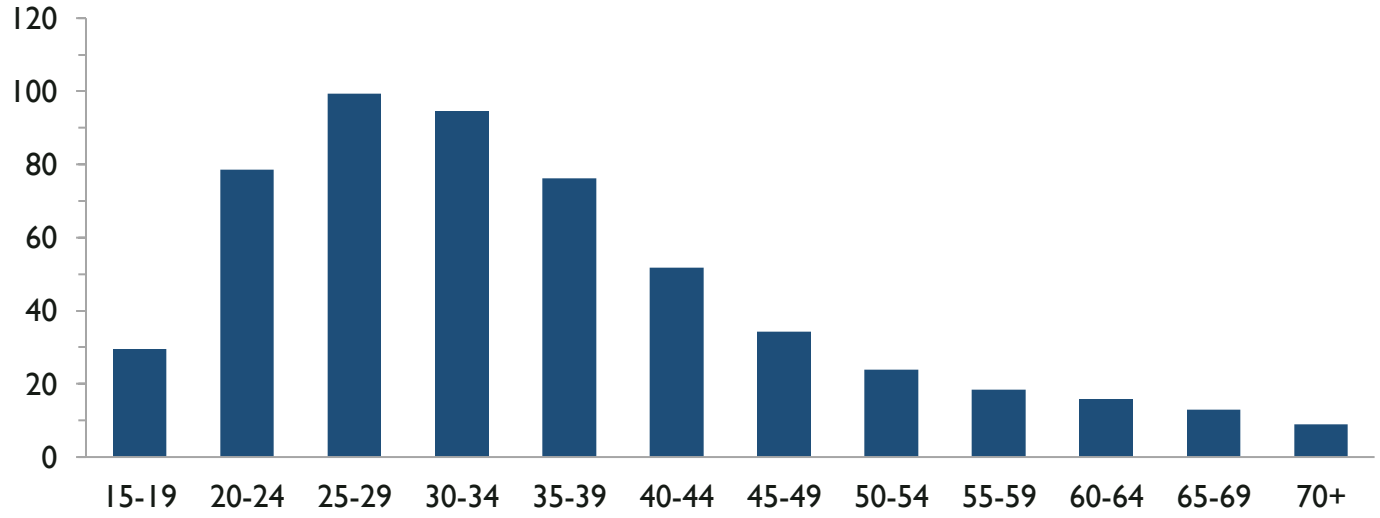
Figure 4.1 Number of HIV tests (thousands) and test positivity rate by age, both sexes, Ontario, 2016



Snapshot

In 2016, the number of HIV tests was highest in the 25 to 29 age category (97,146), while the positivity rate was highest in the 50 to 54 age category (0.40%).

Figure 4.2 HIV testing rate per 1,000 people by age, both sexes, Ontario, 2016

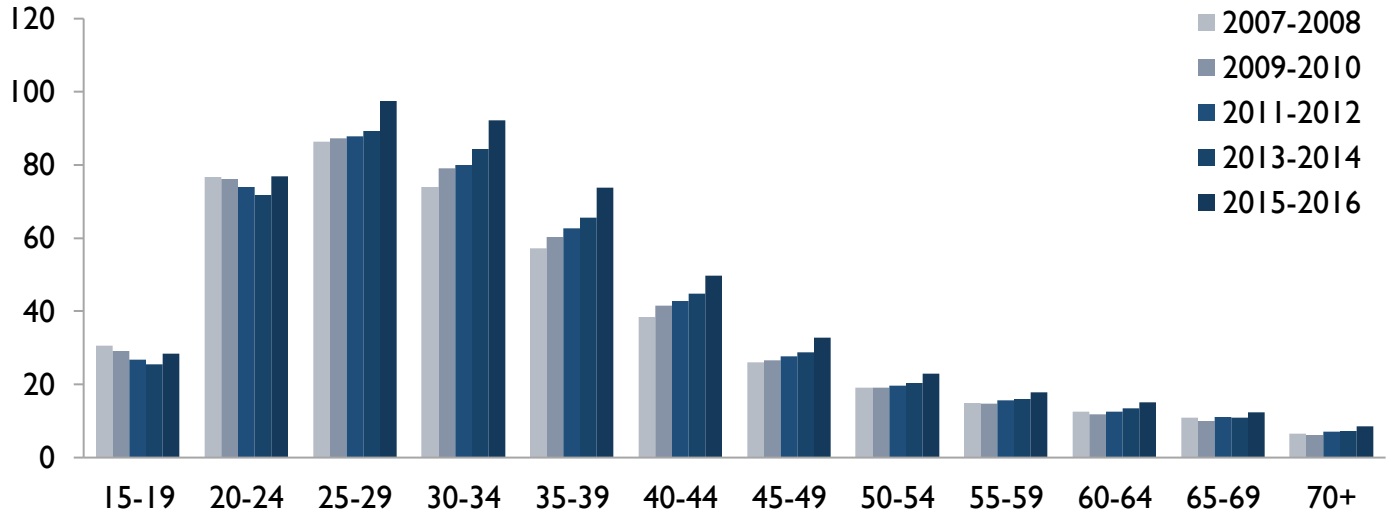


Snapshot

In 2016, the number of tests per 1,000 people was highest in the 25 to 29 age category (99.4) and then decreases with older age.

Notes: Data provided by Public Health Ontario Laboratory. Prenatal tests not included. Tests with unknown age were excluded (less than 1%). Positivity rate refers to the percent of tests that were HIV-positive. Population estimates retrieved from Statistics Canada. See Tables 3.1 and 3.2 for data.

Figure 4.3 HIV testing rate per 1,000 people by age, both sexes, Ontario, 2007 to 2016

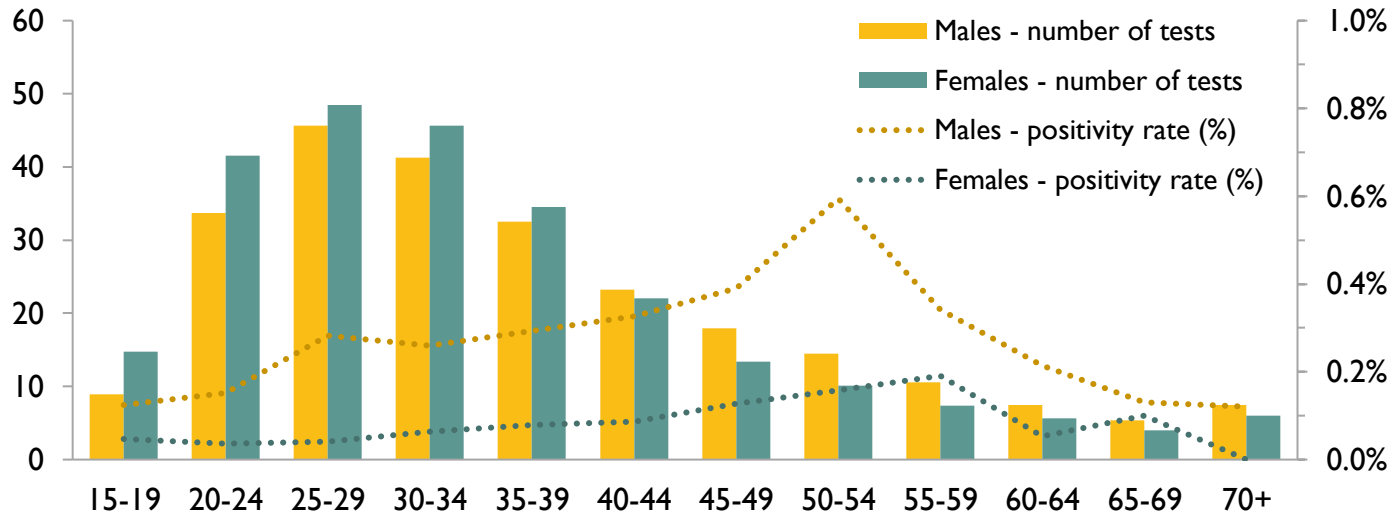


Snapshot

Between 2007 and 2016, the number of tests per 1,000 people was consistently highest in the 25 to 29 age category and increased for most age groups (except for those aged 24 or less). Between 2013-2014 and 2015-2016, the rate increased for all age groups.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown age were excluded (less than 1%). Positivity rate refers to the percent of tests that were HIV-positive. See Table 3.3 for data.

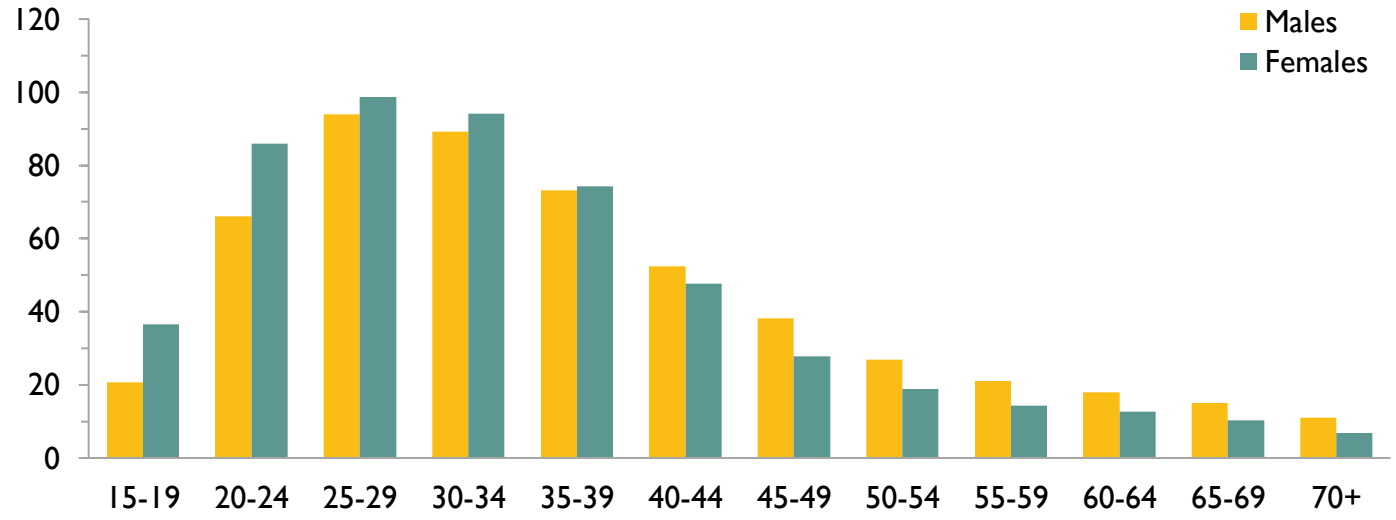
Figure 4.4 Number of HIV tests (thousands) and test positivity rate by age and sex, Ontario, 2016



Snapshot

In 2016, the number of tests was highest in the 25 to 29 age category for both males (45,642) and females (48,478). Testing was higher in younger age categories (less than 40 years of age) for females compared to males. The positivity rate was highest in the 50 to 54 age category for males (0.59%) and 55 to 59 age category for females (0.19%).

Figure 4.5 HIV testing rate per 1,000 people by sex and age, Ontario, 2016

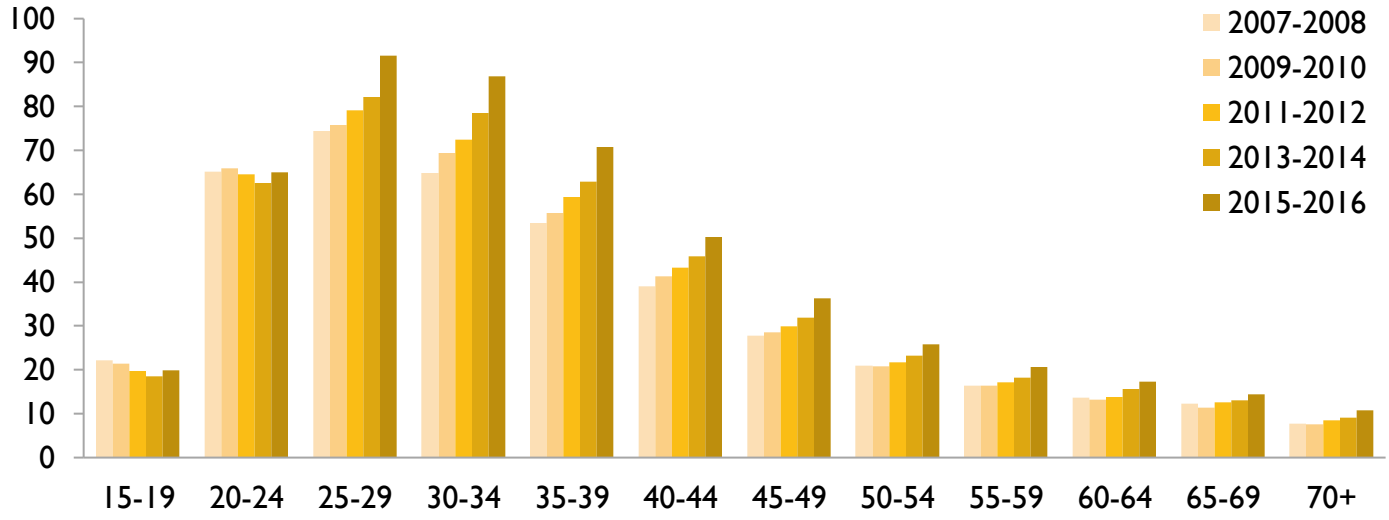


Snapshot

In 2016, the number of tests per 1,000 people was highest in the 25 to 29 age category for both males (93.9) and females (98.7). Rates were higher in younger age categories (less than 40 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 7%). Population estimates retrieved from Statistics Canada. Positivity rate refers to the percent of tests that were HIV-positive. See Tables 3.1 and 3.2 for data.

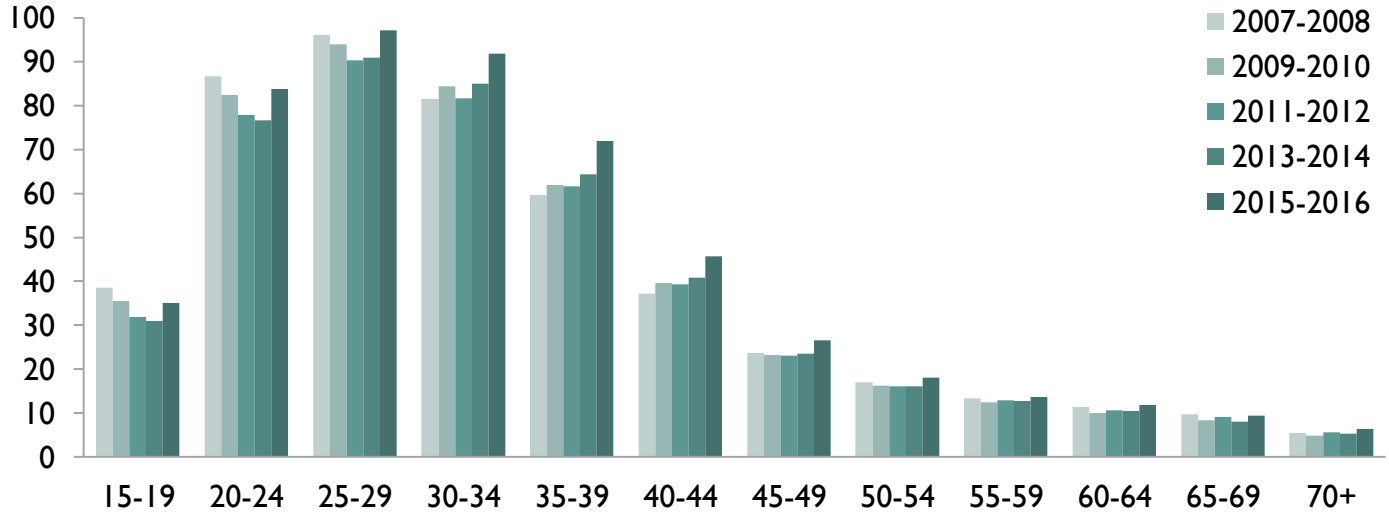
Figure 4.6 HIV testing rate per 1,000 people by age, **males**, Ontario, 2007 to 2016



Snapshot

Between 2007 and 2016, the number of tests per 1,000 males was consistently highest in the 25 to 29 age category and increased for most age groups (except for those aged 24 or less). Between 2013-2014 and 2015-2016, the rate increased for all age groups.

Figure 4.7 HIV testing rate per 1,000 people by age, **females**, Ontario, 2007 to 2016



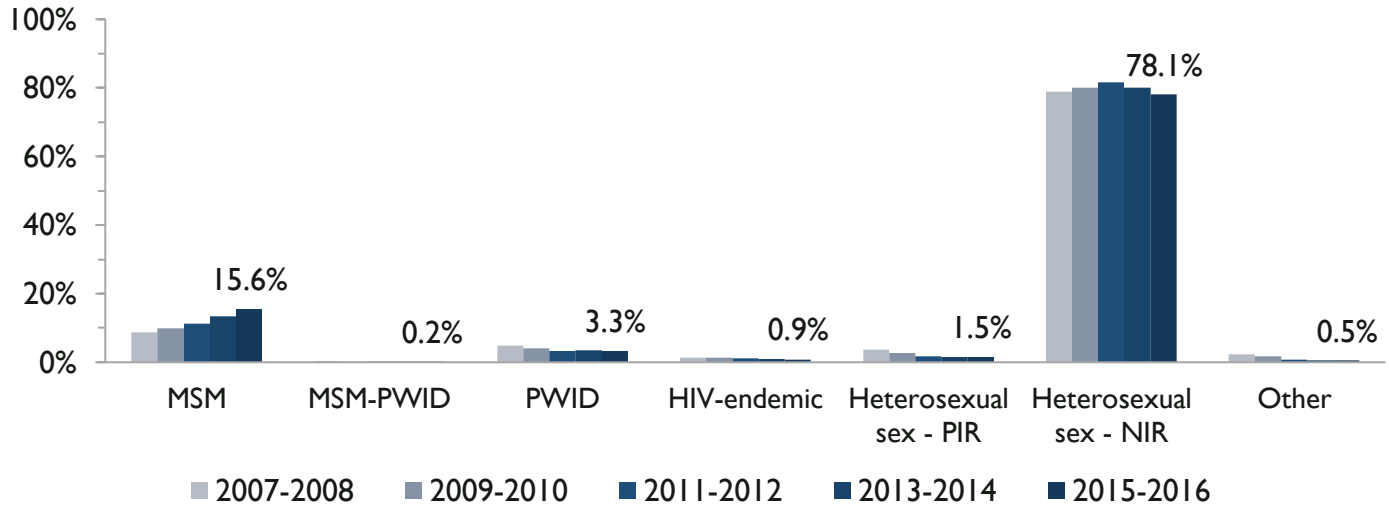
Snapshot

Between 2007 and 2016, the number of tests per 1,000 females was consistently highest in the 25 to 29 age category and increased for most age groups (except those aged 24 or less). Between 2013-2014 and 2015-2016, the rate increased for all age groups.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Population estimates retrieved from Statistics Canada. Tests with unknown age and sex were excluded (approximately 7%). See Tables 3.4 and 3.5 for data.

5. By exposure category

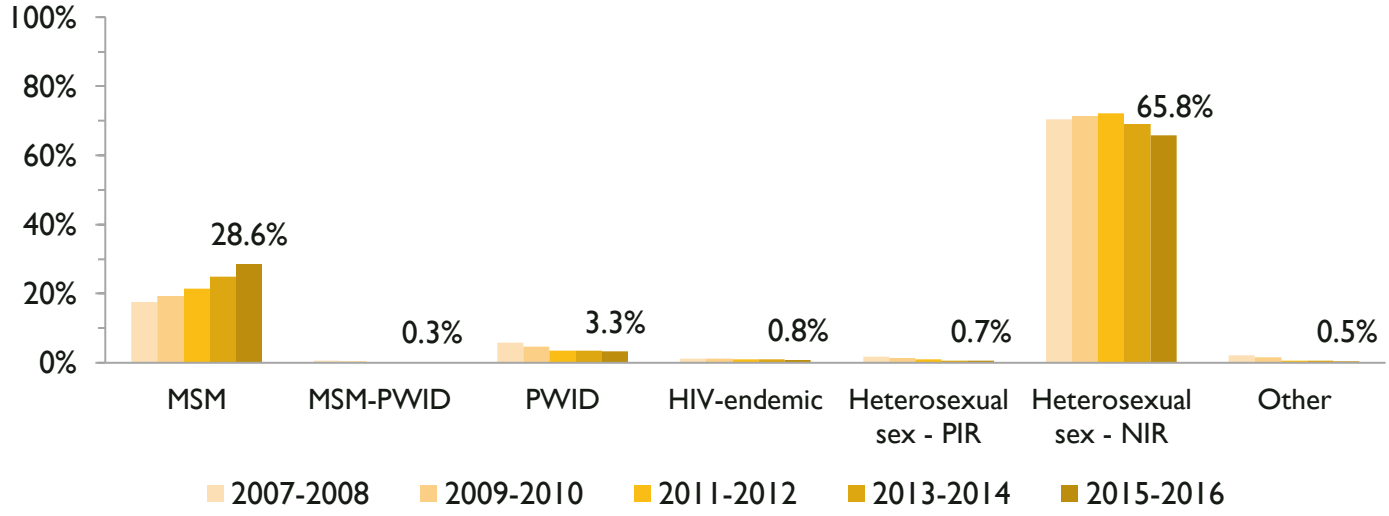
Figure 5.1 Percent of HIV tests by exposure category (where known), both sexes, Ontario, 2007 to 2016



Snapshot

Between 2007 and 2016, the percent of tests who were MSM increased from 8.8% to 15.6%. The majority of tests were consistently among heterosexual people reporting partners with no identified risk factors.

Figure 5.2 Percent of HIV tests by exposure category (where known), **males**, Ontario, 2007 to 2016

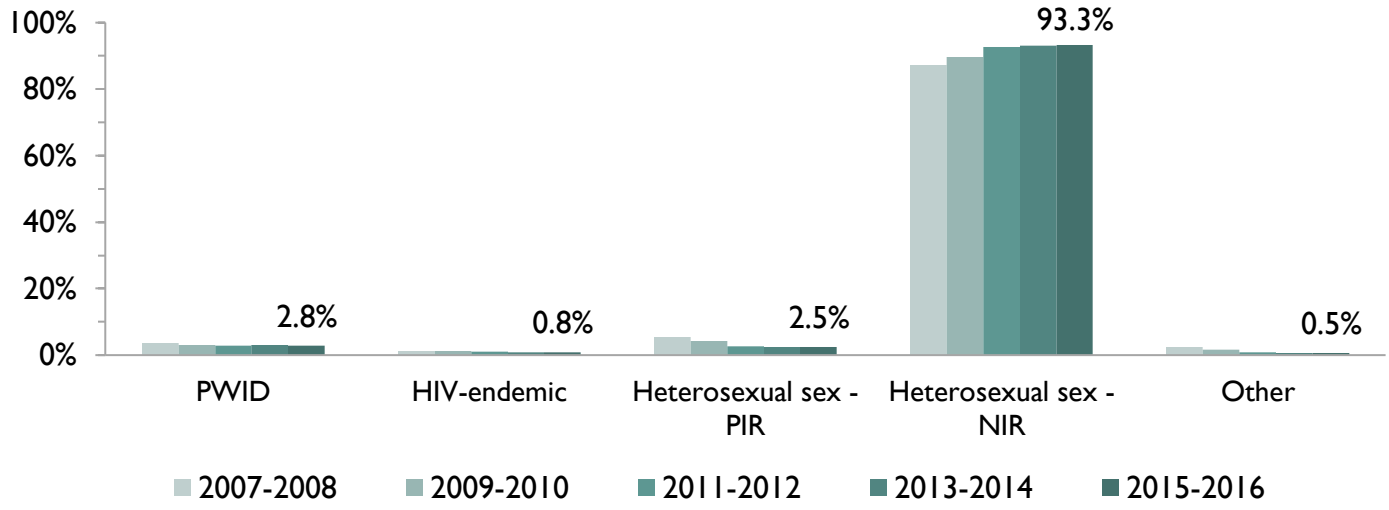


Snapshot

Between 2007 and 2016, the percent of male tests who were MSM increased from 17.7% to 28.6%. The majority of tests were consistently among heterosexual males reporting partners with no identified risk.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown exposure category were excluded (approximately 65% 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 Tables 4.1 and 4.2 for data.

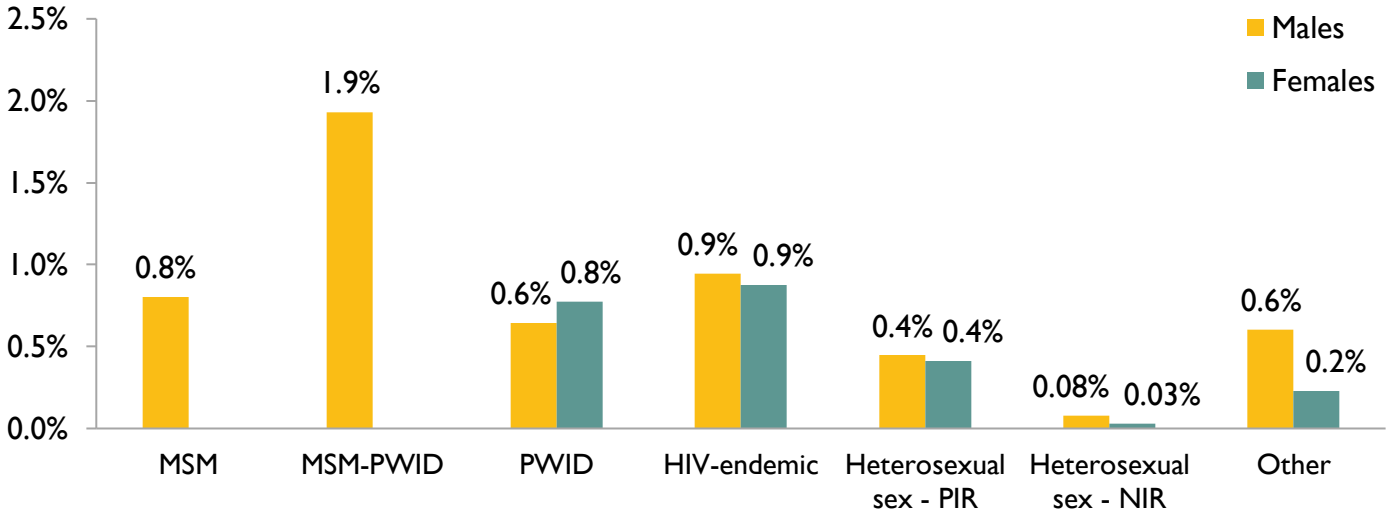
Figure 5.3 Percent of HIV tests by exposure category (where known), **females**, Ontario, 2007 to 2016



Snapshot

Between 2007 and 2016, the majority of female tests were consistently among heterosexual females reporting partners with no identified risk factors.

Figure 5.4 HIV test positivity rate by sex and exposure category (where known), Ontario, 2016



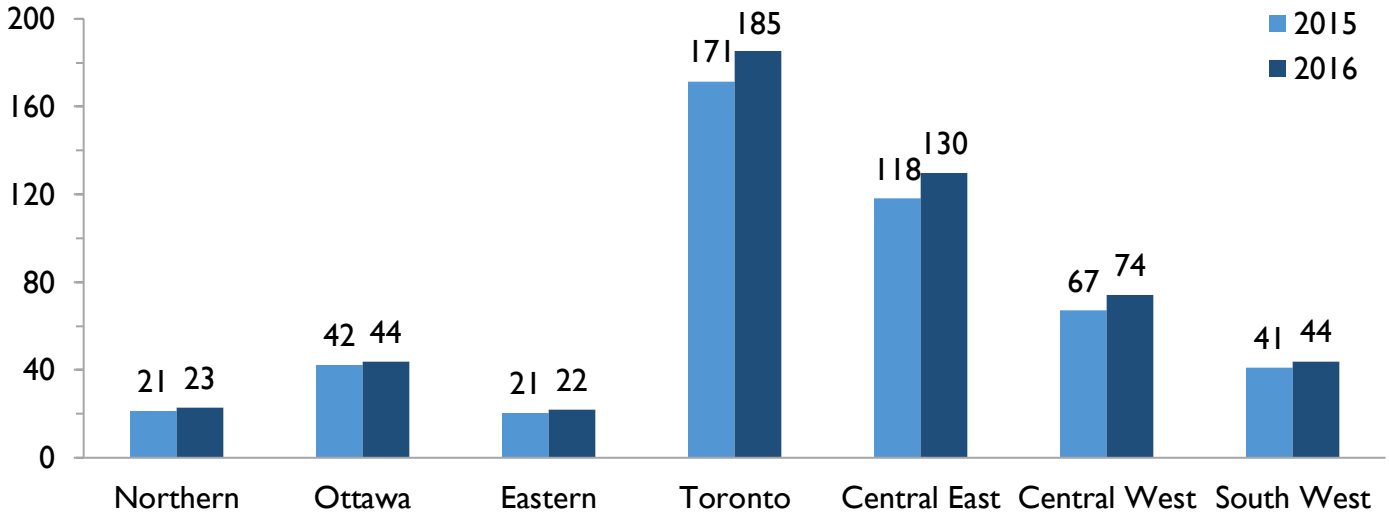
Snapshot

In 2016, the positivity rate was highest among MSM-PWID for males and people from HIV-endemic countries for females.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests with unknown exposure category were excluded (approximately 65% 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 Tables 4.2-4.5 for data.

6. By health region

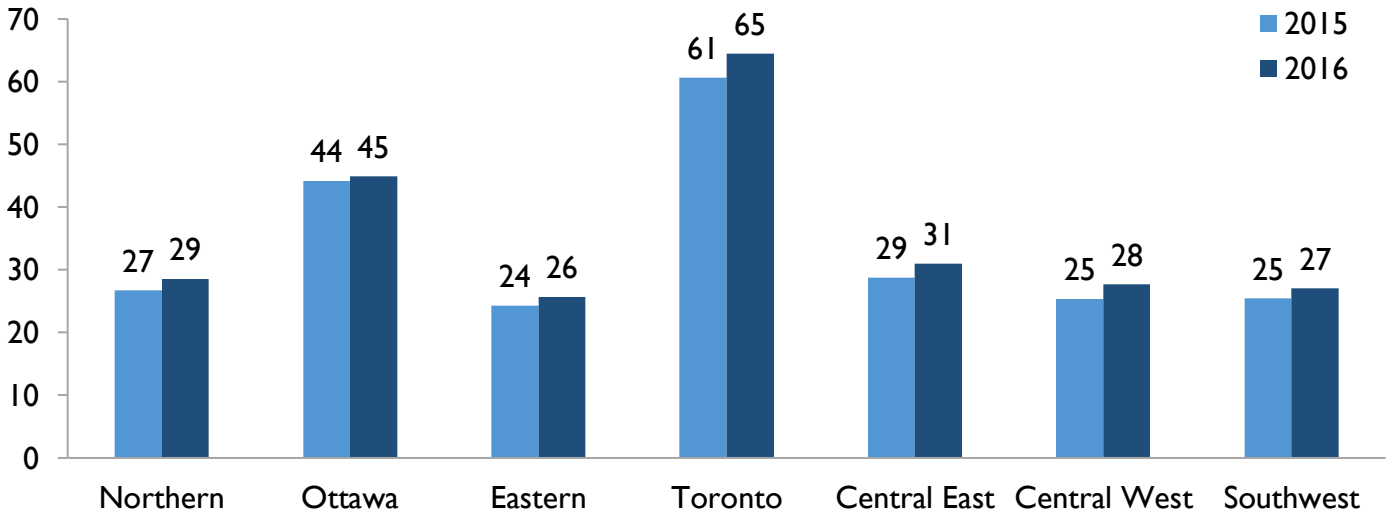
Figure 6.1 Number of HIV tests (thousands) by health region, both sexes, Ontario, 2015 and 2016



Snapshot

In 2016, the number of tests was highest in Toronto followed by Central East, and lowest in Northern and Eastern. Between 2015 and 2016, there were increases in all health regions.

Figure 6.2 HIV testing rate per 1,000 people by health region, both sexes, Ontario, 2015 and 2016

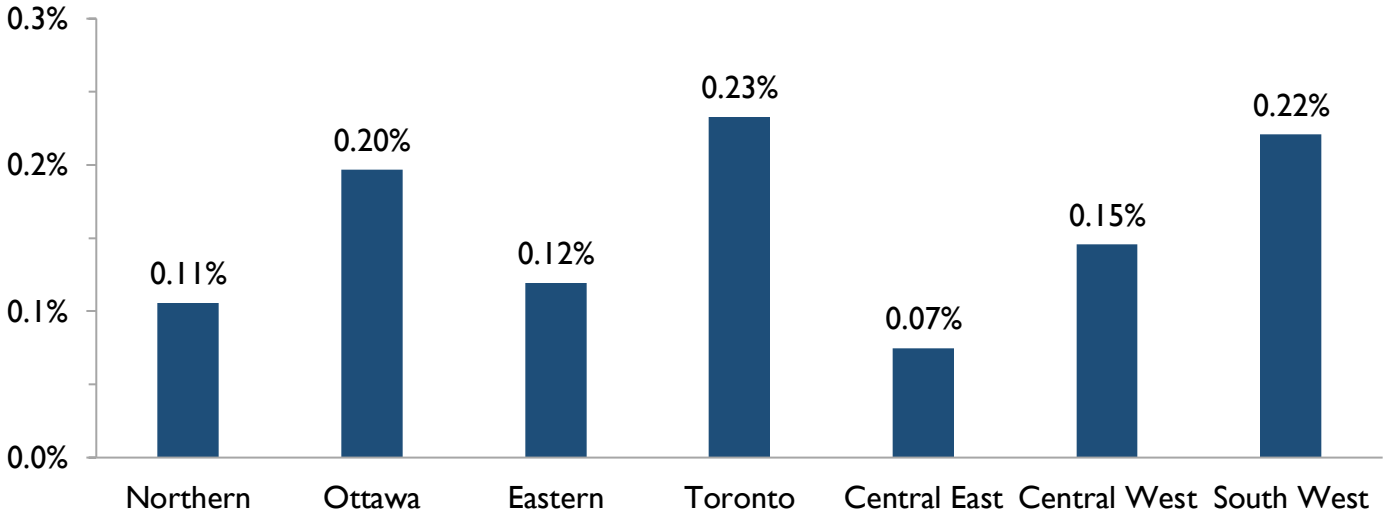


Snapshot

In 2016, the number of tests per 1,000 people was highest in Toronto followed by Ottawa, and relatively similar in the remaining health regions. Between 2015 and 2016, there were increases in all regions.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests from out of province (less than 1%) or with unknown health region (approximately 0.01%) were excluded. Population estimates (all ages) retrieved from Statistics Canada. Diagnoses assigned to a health region based on their address of residence or, if unknown, the address of the ordering provider. See Table 5.1 for data.

Figure 6.3 HIV test positivity rate by health region, both sexes, Ontario, 2016



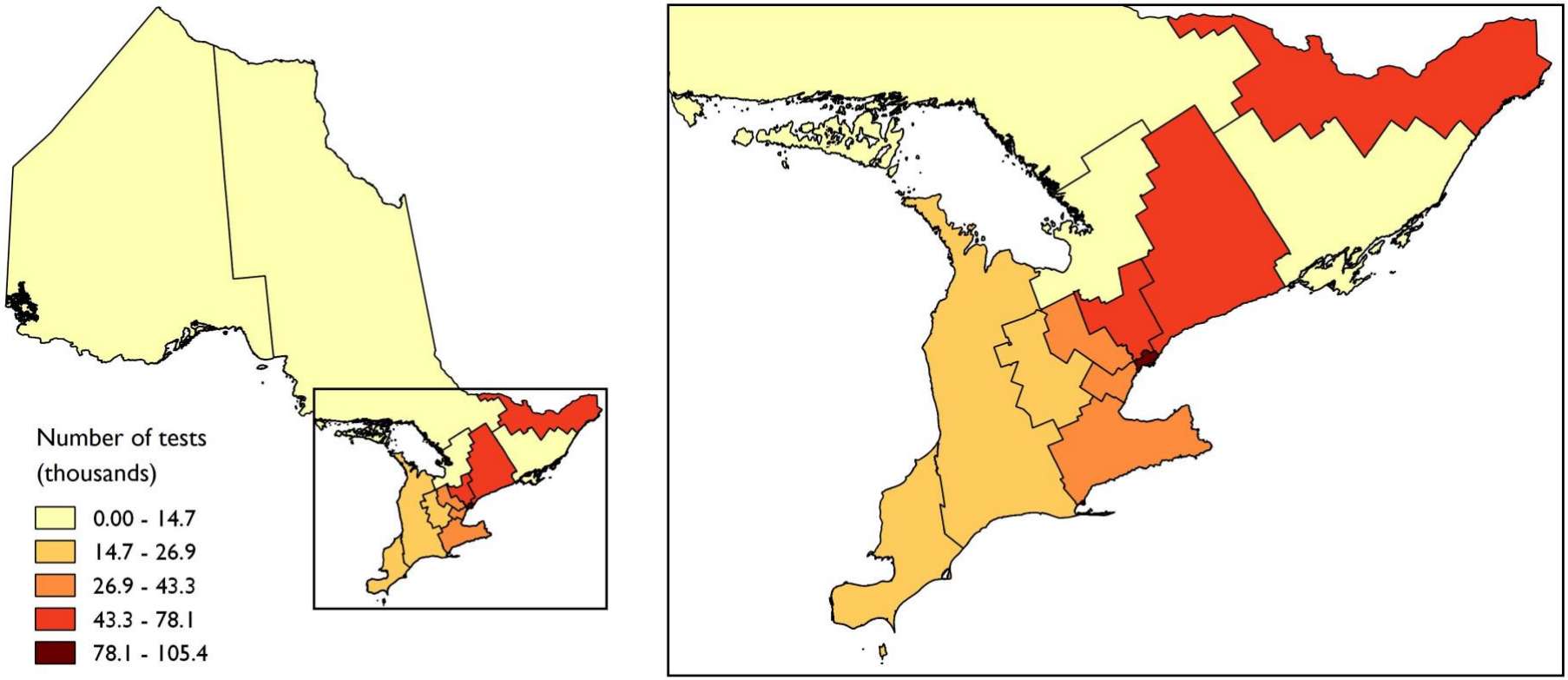
Snapshot

In 2016, the positivity rate was highest in Toronto, South West and Ottawa and lowest in Central East.

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests from out of province (less than 1%) or with unknown health region (approximately 0.01%) were excluded. Diagnoses assigned to a health region based on their address of residence or, if unknown, the address of the ordering provider. See Table 5.2 for data.

7. By local health integration network

Figure 7.1 Number of HIV tests (thousands) by local health integration network, both sexes, Ontario, 2016

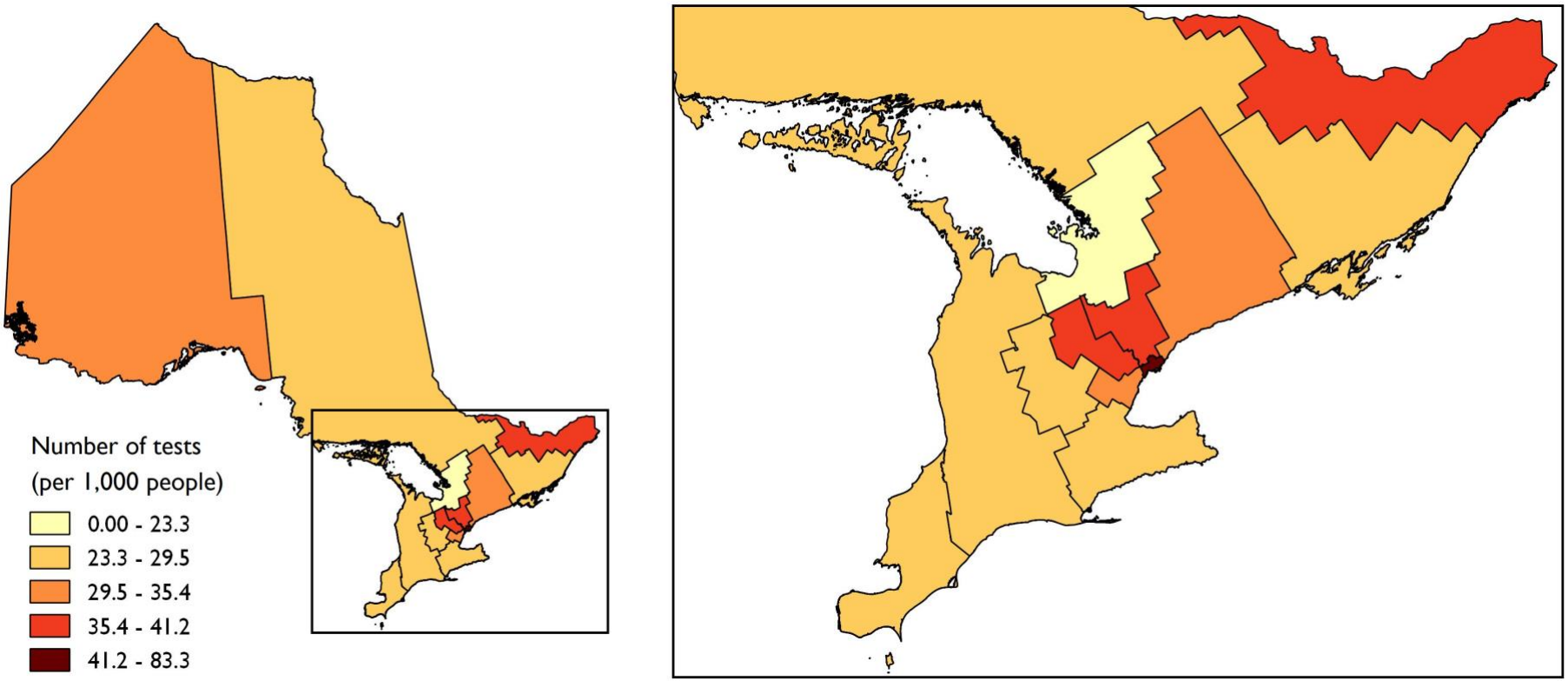


Snapshot

In 2016, the number of HIV tests was highest in Toronto Central (105,375) and lowest in South East (14,675), North East (14,375), North Simcoe Muskoka (11,307) and North West (8,367).

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests from out of province (less than 1%) or with unknown LHIN (approximately 0.01%) were excluded. Diagnoses assigned to a LHIN based on their address of residence or, if unknown, the address of the ordering provider. Maps created using Statistics Canada boundary files. See technical notes for location of specific LHINs and Table 6.1 for data.

Figure 7.2 HIV testing rate per 1,000 people by local health integration network, both sexes, Ontario, 2016

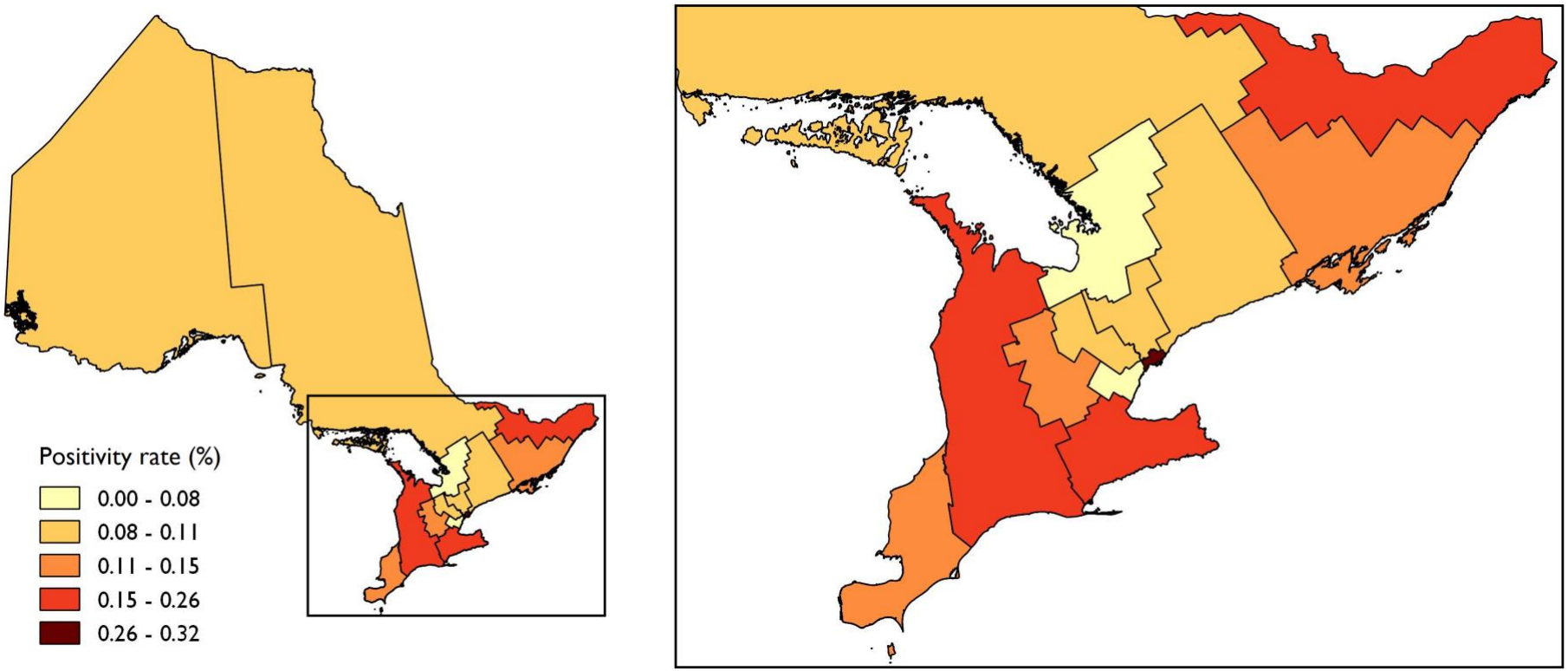


Snapshot

The number of tests per 1,000 people was highest in Toronto Central (83.3) and lowest in North Simcoe Muskoka (23.3).

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests from out of province (less than 1%) or with unknown LHIN (approximately 0.01%) were excluded. Diagnoses assigned to a LHIN based on their address of residence or, if unknown, the address of the ordering provider. Population estimates (all ages) retrieved from Statistics Canada. Maps created using Statistics Canada boundary files. See technical notes for location of specific LHINs and Table 6.1 for data.

Figure 7.3 HIV test positivity rate by local health integration network, both sexes, Ontario, 2016



Snapshot

In 2016, the positivity rate was highest in Toronto Central (0.32%) and lowest in North Simcoe Muskoka (0.08%) and Mississauga Halton (0.07%).

Notes: Data provided by Public Health Ontario Laboratory. HIV-negative prenatal tests not included. Tests from out of province (less than 1%) or with unknown LHIN (approximately 0.01%) were excluded. Diagnoses assigned to a LHIN based on their address of residence or, if unknown, the address of the ordering provider. Maps created using Statistics Canada boundary files. See technical notes for location of specific LHINs and Table 6.2 for data.

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 tests with HIV-negative results are also not included in this report as they are part of an HIV testing program that is offered to all pregnant individuals as part of their prenatal care. Of note, HIV-positive prenatal tests ARE included in this report for calculation of positivity rates, but the annual number of these tests is relatively low (five to 16 in recent years).

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. This is done in order for the sample to be tested using an HIV test with a shorter window period.

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 added to the HIV test requisition in 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. This also means that trends in diagnoses may be influenced by the number of people testing HIV-positive through anonymous and coded testing.

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 in new diagnoses in Ontario. For example, increased migration of people living with HIV to Ontario could lead to an increase in new diagnoses.

Exposure categories

Each test is assigned to an exposure category based on reported HIV risk factor information 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, clotting factor and transfusion categories. 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 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 about 15%. 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. About 27% of tests are missing information on address of residence and assigned based on provider address.

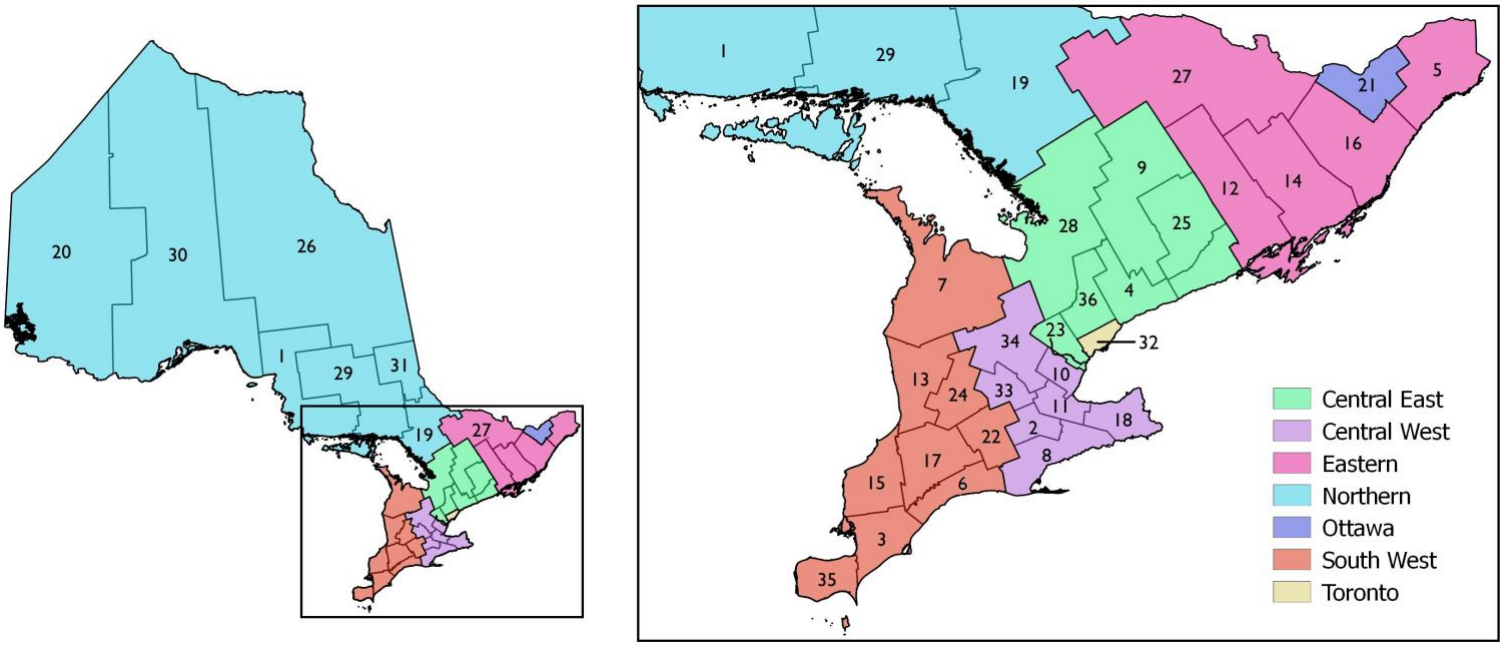
Ontario can be divided geographically by health region, local health integration network (LHIN) or public health unit (PHU). These are defined below:

- Health regions – Aggregations of PHUs that have historically been used in HIV epidemiology and surveillance reports (see pg. 37).
- Local health integration network – A health authority funded by the Ministry of Health and Long-Term Care to plan, integrated and fund health services. There are 14 LHINs in Ontario and each has its own unique geographical boundary. LHINs are not perfect aggregations of PHUs and therefore some PHUs are located within more than one LHIN (see pg. 39).
- Public health unit – A health agency that provides health promotion and disease prevention programs. There are 36 PHUs in Ontario and each has its own unique geographical boundary. Testing data by PHU is not provided in this report but will be available in a future publication.

Health regions

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

Figure. Geographic map of health region and public health unit boundaries.



Public health units (map legend)

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

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

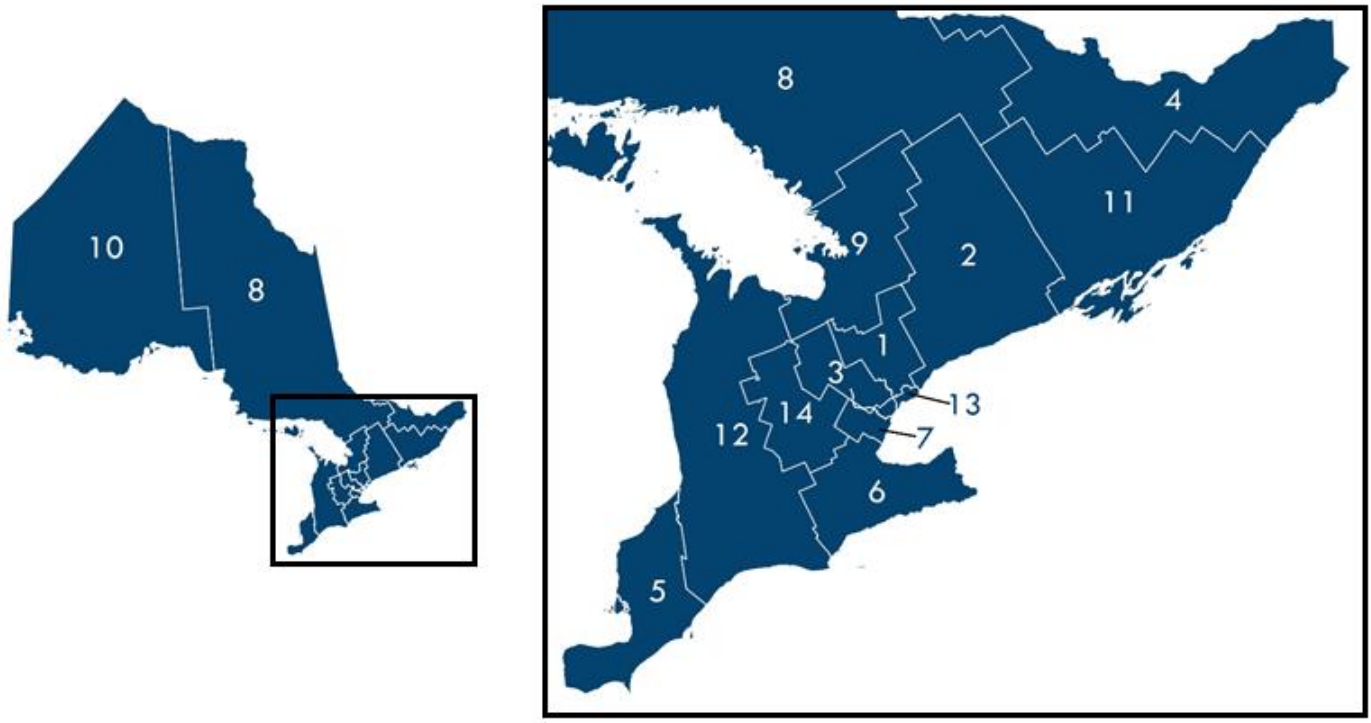
Central East health region
- Durham
- Haliburton, Kawartha, Pine Ridge
- Peel
- Peterborough
- Simcoe Muskoka
- York

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

Local health integration networks

Figure. Map of local health integration networks and their geographic boundaries



Map legend

1. Central
2. Central East
3. Central West
4. Champlain
5. Erie St.Clair
6. Hamilton Niagara Haldimand Brant
7. Mississauga Halton
8. North East
9. North Simcoe Muskoka
10. North West
11. South East
12. South West
13. Toronto Central
14. Waterloo Wellington

Note: Map created using Statistics Canada boundary files

Local health integration networks and corresponding public health units

Erie St. Clair
- Chatham-Kent Health Unit
- Lambton Health Unit
- Windsor-Essex County Health Unit

South West
- Huron County Health Unit
- Middlesex-London Health Unit
- Grey Bruce Health Unit
- Haldimand-Norfolk Health Unit
- Elgin-St. Thomas Health Unit
- Perth District Health Unit
- Oxford County Public Health

Mississauga Halton
- Peel Public Health
- Halton Region Health Department
- Toronto Public Health

Waterloo Wellington
- Wellington-Dufferin-Guelph Health Unit
- Grey Bruce Health Unit
- Region of Waterloo, Public Health

Hamilton Niagara Haldimand Brant
- Brant County Health Unit
- Hamilton Public Health Services
- Halton Region Health Department
- Haldimand-Norfolk Health Unit
- Niagara Region Public Health Department

Central West
- Wellington-Dufferin-Guelph Health Unit
- York Region Public Health Services
- Toronto Public Health

Toronto Central
- Toronto Public Health

Central
- York Region Public Health Services
- Toronto Public Health

Central East
- Peterborough Public Health
- Haliburton, Kawartha, Pine Ridge District Health Unit
- Toronto Public Health
- Durham Region Health Department

North Simcoe Muskoka
- Simcoe Muskoka District Health Unit
- Grey Bruce Health Unit

South East
- Hastings and Prince Edward Counties Health Unit
- Leeds, Grenville and Lanark District Health Unit
- Kingston, Frontenac and Lennox & Addington Health Unit
- Haliburton, Kawartha, Pine Ridge District Health Unit

Champlain
- Leeds, Grenville and Lanark District Health Unit
- Eastern Ontario Health Unit
- Ottawa Public Health
- Renfrew County and District Health Unit

North East
- Northwestern Health Unit
- Timiskaming Health Unit
- North Bay Parry Sound District Health Unit
- Algoma Public Health Unit
- Sudbury and District Health Unit
- Porcupine Health Unit

North West
- Northwestern Health Unit
- Thunder Bay District Health Unit

Note: LHINs do not map perfectly to PHU boundaries and therefore some PHUs are located within more than one LHIN.

PHOL vs. iPHIS data

The integrated Public Health Information System (iPHIS) is an electronic, web-based system used by public health units (PHUs) for case-management and reporting to the Ontario Ministry of Health and Long-term Care (MOHTLC) on diseases of public health significance, including HIV. It is the main source of data used by Public Health Ontario (PHO) to produce reportable disease surveillance reports. iPHIS includes information elicited during public health follow up of HIV cases. On the other hand, OHESI uses laboratory data on HIV-positive laboratory tests housed at PHOL, and also includes information documented by the ordering provider on test requisition forms.

The number of HIV cases in iPHIS does not correspond to the number of new HIV diagnoses in PHOL HIV surveillance. Potential sources of discrepancy include:

- Additional exclusion within iPHIS of repeated HIV-positive tests based on information elicited during PHU follow-up, whereas this may not be possible in PHOL data due to lack of identifying information to link tests (e.g. when an HIV-positive individual initially tests anonymously and then nominally).
- iPHIS does not include HIV diagnoses that arise from testing non-Ontario residents (e.g., Quebec residents testing in Ontario are included in provincial totals in PHOL HIV surveillance).
- iPHIS includes diagnoses who have moved to Ontario, been reported to the local PHU as an HIV case, but who have not received a HIV diagnostic lab test in Ontario.
- iPHIS may include more complete information on an individual's address (obtained during public health follow up) than lab data (which is solely based on what is documented on the test requisition form), and this may influence the PHU to which an HIV case is assigned.
- Data entry errors within iPHIS that result in cases being misclassified and not captured in final counts.
- Cases may be assigned to different dates in PHOL and iPHIS data (e.g., date of confirmed diagnosis vs. date of report to PHU). Therefore, case counts based on calendar year may differ.

Data limitations

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

Data tables

1. Overall and by sex

Table 1.1 Number of HIV tests and test positivity rate, overall and by sex, Ontario, 2000 to 2016

Year	Total			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	Number of tests	Positive results	Positivity rate
2000	262,181	856	0.33%	110,684	660	0.60%	140,599	179	0.13%	10,898	17	0.16%
2001	279,475	936	0.33%	117,763	696	0.59%	150,668	227	0.15%	11,044	13	0.12%
2002	336,793	1,107	0.33%	144,791	826	0.57%	182,860	269	0.15%	9,142	12	0.13%
2003	346,715	1,058	0.31%	149,232	768	0.51%	189,357	278	0.15%	8,126	12	0.15%
2004	372,866	1,137	0.30%	161,730	844	0.52%	202,299	287	0.14%	8,837	6	0.07%
2005	392,017	1,085	0.28%	173,675	816	0.47%	210,186	261	0.12%	8,156	8	0.10%
2006	415,561	1,104	0.27%	183,877	779	0.42%	222,146	318	0.14%	9,538	7	0.07%
2007	414,488	1,013	0.24%	187,529	781	0.42%	217,998	226	0.10%	8,961	6	0.07%
2008	414,926	1,080	0.26%	188,990	811	0.43%	218,195	263	0.12%	7,741	6	0.08%
2009	425,306	969	0.23%	193,933	747	0.39%	220,661	214	0.10%	10,712	8	0.07%
2010	418,369	994	0.24%	191,533	796	0.42%	212,962	183	0.09%	13,874	15	0.11%
2011	428,623	986	0.23%	199,637	768	0.38%	212,607	203	0.10%	16,379	15	0.09%
2012	436,272	861	0.20%	203,963	670	0.33%	216,072	186	0.09%	16,237	5	0.03%
2013	441,814	797	0.18%	209,724	659	0.31%	217,427	132	0.06%	14,663	6	0.04%
2014	457,906	828	0.18%	218,878	655	0.30%	223,237	167	0.07%	15,791	6	0.04%
2015	485,258	839	0.17%	231,297	673	0.29%	236,319	162	0.07%	17,642	4	0.02%
2016	525,544	881	0.17%	250,660	697	0.28%	255,508	176	0.07%	19,376	8	0.04%

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

Table 1.2 Number and rate of HIV tests per 1,000 people, overall and by sex, Ontario, 2000 to 2016

Year	Total			Males			Females		
	Number of tests	Population (all ages)	Rate per 1,000	Number of tests	Population (all ages)	Rate per 1,000	Number of tests	Population (all ages)	Rate per 1,000
2000	262,181	11,683,290	22.4	110,684	5,768,551	19.2	140,599	5,914,739	23.8
2001	279,475	11,897,370	23.5	117,763	5,879,267	20.0	150,668	6,018,103	25.0
2002	336,793	12,093,299	27.8	144,791	5,976,557	24.2	182,860	6,116,742	29.9
2003	346,715	12,243,758	28.3	149,232	6,050,172	24.7	189,357	6,193,586	30.6
2004	372,866	12,390,068	30.1	161,730	6,120,522	26.4	202,299	6,269,546	32.3
2005	392,017	12,527,990	31.3	173,675	6,188,067	28.1	210,186	6,339,923	33.2
2006	415,561	12,661,566	32.8	183,877	6,251,772	29.4	222,146	6,409,794	34.7
2007	414,488	12,764,195	32.5	187,529	6,292,177	29.8	217,998	6,472,018	33.7
2008	414,926	12,882,625	32.2	188,990	6,341,504	29.8	218,195	6,541,121	33.4
2009	425,306	12,997,687	32.7	193,933	6,389,905	30.3	220,661	6,607,782	33.4
2010	418,369	13,135,063	31.9	191,533	6,452,783	29.7	212,962	6,682,280	31.9
2011	428,623	13,263,544	32.3	199,637	6,513,580	30.6	212,607	6,749,964	31.5
2012	436,272	13,413,702	32.5	203,963	6,591,394	30.9	216,072	6,822,308	31.7
2013	441,814	13,555,754	32.6	209,724	6,658,710	31.5	217,427	6,897,044	31.5
2014	457,906	13,680,425	33.5	218,878	6,719,723	32.6	223,237	6,960,702	32.1
2015	485,258	13,789,597	35.2	231,297	6,773,184	34.1	236,319	7,016,413	33.7
2016	525,544	13,976,320	37.6	250,660	6,868,640	36.5	255,508	7,107,680	35.9

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

Table 1.3 Percent of HIV tests by sex, Ontario, 2000 to 2016

Year	Male	Female
	Percent of tests	Percent of tests
2000	44.0%	56.0%
2001	43.9%	56.1%
2002	44.2%	55.8%
2003	44.1%	55.9%
2004	44.4%	55.6%
2005	45.2%	54.8%
2006	45.3%	54.7%
2007	46.2%	53.8%
2008	46.4%	53.6%
2009	46.8%	53.2%
2010	47.4%	52.6%
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%

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

2. By test type

Table 2.1 Number of HIV tests and test positivity rate by test type, Ontario, 2000 to 2016

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
2000	217,425	471	0.22%	35,104	281	0.80%	9,643	104	1.08%
2001	236,453	540	0.23%	33,375	289	0.87%	9,637	107	1.11%
2002	295,409	686	0.23%	31,536	315	1.00%	9,813	106	1.08%
2003	307,816	703	0.23%	29,267	244	0.83%	9,627	111	1.15%
2004	332,844	783	0.24%	29,584	233	0.79%	10,436	121	1.16%
2005	350,832	765	0.22%	30,114	208	0.69%	11,070	112	1.01%
2006	378,871	858	0.23%	25,560	143	0.56%	11,120	103	0.93%
2007	382,208	781	0.20%	22,381	120	0.54%	9,890	112	1.13%
2008	382,728	835	0.22%	20,147	126	0.63%	12,049	119	0.99%
2009	389,152	754	0.19%	22,090	92	0.42%	14,059	123	0.87%
2010	380,592	772	0.20%	22,827	80	0.35%	14,905	142	0.95%
2011	389,319	775	0.20%	23,162	79	0.34%	16,142	132	0.82%
2012	397,264	671	0.17%	22,890	74	0.32%	16,117	116	0.72%
2013	401,905	617	0.15%	22,729	59	0.26%	17,176	121	0.70%
2014	423,280	697	0.16%	17,227	21	0.12%	17,393	110	0.63%
2015	452,689	714	0.16%	15,519	30	0.19%	17,048	95	0.56%
2016	499,758	759	0.15%	10,349	15	0.14%	15,433	107	0.69%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests. Population estimates retrieved from Statistics Canada.

Table 2.2 Percent of HIV tests by test type, both sexes, Ontario, 2000 to 2016

Year	Nominal	Coded	Anonymous
	Percent of tests	Percent of tests	Percent of tests
2000	82.9%	13.4%	3.7%
2001	84.6%	11.9%	3.4%
2002	87.7%	9.4%	2.9%
2003	88.8%	8.4%	2.8%
2004	89.3%	7.9%	2.8%
2005	89.5%	7.7%	2.8%
2006	91.2%	6.2%	2.7%
2007	92.2%	5.4%	2.4%
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%

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

3. By age

Table 3.1 Number of HIV tests and test positivity rate by age and sex, Ontario, 2016

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 to 19	24,716	18	0.07%	8,875	11	0.12%	14,774	7	0.05%
20 to 24	78,017	66	0.08%	33,672	51	0.15%	41,516	15	0.04%
25 to 29	97,146	150	0.15%	45,642	129	0.28%	48,478	20	0.04%
30 to 34	89,632	137	0.15%	41,296	107	0.26%	45,631	29	0.06%
35 to 39	69,226	124	0.18%	32,491	95	0.29%	34,516	27	0.08%
40 to 44	46,949	95	0.20%	23,245	76	0.33%	22,006	19	0.09%
45 to 49	32,725	89	0.27%	17,969	70	0.39%	13,419	17	0.13%
50 to 54	25,811	102	0.40%	14,466	86	0.59%	10,149	16	0.16%
55 to 59	18,697	50	0.27%	10527	36	0.34%	7,337	14	0.19%
60 to 64	13,667	19	0.14%	7,4,94	16	0.21%	5,631	3	0.05%
65 to 69	9,721	11	0.11%	5,397	7	0.13%	3,996	4	0.10%
70+	13,899	9	0.06%	7,467	9	0.12%	5,958	0	0.00%

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

Table 3.2 Number and rate of HIV tests per 1,000 people by sex and age, Ontario, 2016

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 to 19	24,716	834,423	29.6	8,875	429,759	20.7	14,774	404,664	36.5
20 to 24	78,017	992,443	78.6	33,672	509,266	66.1	41,516	483,177	85.9
25 to 29	97,146	977,347	99.4	45,642	486,074	93.9	48,478	491,273	98.7
30 to 34	89,632	947,072	94.6	41,296	462,441	89.3	45,631	484,631	94.2
35 to 39	69,226	909,239	76.1	32,491	443,955	73.2	34,516	465,284	74.2
40 to 44	46,949	905,202	51.9	23,245	443,556	52.4	22,006	461,646	47.7
45 to 49	32,725	954,852	34.3	17,969	471,389	38.1	13,419	483,463	27.8
50 to 54	25,811	1,078,196	23.9	14,466	538,953	26.8	10,149	539,243	18.8
55 to 59	18,697	1,015,591	18.4	10527	502,163	21.0	7,337	513,428	14.3
60 to 64	13,667	861,664	15.9	7,4,94	418,053	17.9	5,631	443,611	12.7
65 to 69	9,721	747,295	13.0	5,397	358,561	15.1	3,996	388,734	10.3
70+	13,899	1,543,707	9.0	7,467	672,054	11.1	5,958	871,653	6.8

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

Table 3.3 Rate of HIV tests per 1,000 people by age, both sexes, 2007 to 2016

Year	Age category (HIV test rate per 1,000 people)											
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+
2007-2008	30.6	76.7	86.3	74.0	57.1	38.5	26.0	19.2	15.0	12.6	11.0	6.5
2009-2010	29.2	76.2	87.2	79.1	60.3	41.5	26.7	19.0	14.8	11.9	10.0	6.1
2011-2012	26.8	73.9	87.9	79.9	62.7	42.8	27.6	19.7	15.6	12.6	11.2	7.0
2013-2014	25.5	71.8	89.3	84.5	65.6	44.7	28.8	20.5	16.1	13.4	10.8	7.2
2015-2016	28.4	76.9	97.4	92.2	73.8	49.8	32.7	22.9	17.9	15.1	12.3	8.6

Table 3.4 Rate of HIV tests per 1,000 males by age, males, 2007 to 2016

Year	Age category (HIV test rate per 1,000 males)											
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+
2007-2008	22.2	65.1	74.4	64.8	53.4	39.0	27.8	21.0	16.4	13.6	12.2	7.8
2009-2010	21.4	65.8	75.8	69.4	55.8	41.4	28.6	20.8	16.4	13.1	11.4	7.5
2011-2012	19.7	64.5	79.1	72.4	59.4	43.2	30.0	21.7	17.1	13.8	12.6	8.5
2013-2014	18.5	62.5	82.2	78.6	62.8	45.8	31.9	23.2	18.2	15.6	13.0	9.1
2015-2016	19.8	65.0	91.6	86.8	70.8	50.3	36.3	25.8	20.6	17.4	14.4	10.7

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

Table 3.5 Rate of HIV tests per 1,000 females by age, females, 2007 to 2016

Year	Age category (HIV test rate per 1,000 females)											
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+
2007-2008	38.5	86.7	96.1	81.5	59.7	37.2	23.7	17.0	13.4	11.3	9.6	5.4
2009-2010	35.5	82.4	94.0	84.4	61.9	39.6	23.2	16.2	12.4	10.0	8.4	4.9
2011-2012	31.9	77.9	90.4	81.7	61.6	39.3	23.1	16.1	12.9	10.6	9.1	5.5
2013-2014	30.9	76.7	91.0	85.1	64.4	40.9	23.6	16.1	12.8	10.4	8.0	5.3
2015-2016	35.1	83.8	97.2	91.8	71.9	45.8	26.6	18.0	13.7	11.8	9.5	6.4

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

4. By exposure category

Table 4.1 Number and percent of HIV tests by exposure category, both sexes, Ontario, 2007 to 2016

Year	MSM	MSM-PWID	PWID	HIV-endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total	Unknown (excluded)
2007-2008 Number	24,400	873	13,300	3,512	10,095	218,335	6,461	276,976	552,438
2007-2008 Percent	8.8%	0.3%	4.8%	1.3%	3.6%	78.8%	2.3%		
2009-2010 Number	28,746	646	11,799	3,836	8,097	232,456	4,819	290,399	553,276
2009-2010 Percent	9.9%	0.2%	4.1%	1.3%	2.8%	80.0%	1.7%		
2011-2012 Number	33,044	374	9,658	3,086	5,095	237,938	2,146	291,341	573,554
2011-2012 Percent	11.3%	0.1%	3.3%	1.1%	1.7%	81.7%	0.7%		
2013-2014 Number	41,450	489	10,558	2,944	4,558	248,270	1,817	310,086	589,634
2013-2014 Percent	13.4%	0.2%	3.4%	0.9%	1.5%	80.1%	0.6%		
2015-2016 Number	52,768	512	11,050	2,874	5,018	263,862	1,845	337,929	672,873
2015-2016 Percent	15.6%	0.2%	3.3%	0.9%	1.5%	78.1%	0.5%		

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".

Table 4.2 Number and percent of HIV tests by exposure category, males, Ontario, 2007 to 2016

Year	MSM	MSM-PWID	PWID	HIV-endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total	Unknown (excluded)
2007-2008 Number	24,400	873	8,124	1,728	2,565	97,276	3060	138,026	238,493
2007-2008 Percent	17.7%	0.6%	5.9%	1.3%	1.9%	70.5%	2.2%		
2009-2010 Number	28,746	646	7,028	1,829	2,046	106,217	2282	148,794	236,672
2009-2010 Percent	19.3%	0.4%	4.7%	1.2%	1.4%	71.4%	1.5%		
2011-2012 Number	33,044	374	5,435	1,535	1,400	111,125	1058	153,971	249,629
2011-2012 Percent	21.5%	0.2%	3.5%	1.0%	0.9%	72.2%	0.7%		
2013-2014 Number	41,450	489	5,791	1,523	1,166	115,195	917	166,531	262,071
2013-2014 Percent	24.9%	0.3%	3.5%	0.9%	0.7%	69.2%	0.6%		
2015-2016 Number	52,768	512	6,170	1,426	1,243	121,434	901	184,454	297,503
2015-2016 Percent	28.6%	0.3%	3.3%	0.8%	0.7%	65.8%	0.5%		

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".

Table 4.3 Number and percent of HIV tests by exposure category, females, Ontario, 2007 to 2016

Year	PWID	HIV-endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total	Unknown (excluded)
2007-2008 Number	4,984	1,737	7,530	121,059	3321	138,631	297,562
2007-2008 Percent	3.6%	1.3%	5.4%	87.3%	2.4%		
2009-2010 Number	4,422	1,758	6,051	126,239	2442	140,912	292,711
2009-2010 Percent	3.1%	1.2%	4.3%	89.6%	1.7%		
2011-2012 Number	3,814	1,454	3,695	126,813	1037	136,813	291,866
2011-2012 Percent	2.8%	1.1%	2.7%	92.7%	0.8%		
2013-2014 Number	4,271	1,339	3,392	133,075	815	142,892	297,772
2013-2014 Percent	3.0%	0.9%	2.4%	93.1%	0.6%		
2015-2016 Number	4,349	1,279	3,775	142,428	839	152,670	339,157
2015-2016 Percent	2.8%	0.8%	2.5%	93.3%	0.5%		

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".

Table 4.4 Number of HIV tests and test positivity rate by exposure category, males, Ontario, 2016

	MSM	MSM-PWID	PWID	HIV-endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total	Unknown (excluded)
Number of tests	27,792	259	3,102	741	672	61,735	499	94,800	155,860
Positive results	223	5	20	7	3	48	3	309	388
Positivity rate	0.80%	1.93%	0.64%	0.94%	0.45%	0.08%	0.60%	0.33%	0.25%

Table 4.5 Number of HIV tests and test positivity rate by exposure category, females, Ontario, 2016

	PWID	HIV-endemic	Heterosexual - PIR	Heterosexual - NIR	Other	Total	Unknown (excluded)
Number of tests	2,194	685	1,946	71,884	435	77,144	178,364
Positive results	17	6	8	21	1	53	123
Positivity rate	0.77%	0.88%	0.41%	0.03%	0.23%	0.07%	0.07%

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".

5. By health region

Table 5.1 Number and rate of HIV tests per 1,000 people by health region, Ontario, 2015 and 2016

Year	Northern	Ottawa	Eastern	Toronto	Central East	Central West	South West
2015 Number of tests	21,309	42,280	20,533	171,465	118,080	67,116	41,017
2015 Population (all ages)	798,132	956,929	845,673	2,827,234	4,107,607	2,648,326	1,613,137
2015 Rate per 1,000	26.7	44.2	24.3	60.6	28.7	25.3	25.4
2016 Number of tests	22,732	43,735	21,794	185425	129,759	74,173	43,937
2016 Population (all ages)	796,159	973,481	84,9207	2,876,,092	4,181,180	2,682,147	1,624,718
2016 Rate per 1,000	28.6	44.9	25.7	64.5	31.0	27.7	27.0

Table 5.2 Number of HIV tests and test positivity rate by health region, Ontario, 2016

	Northern	Ottawa	Eastern	Toronto	Central East	Central West	South West
Number of tests	21,309	42,280	20,533	171,465	118,080	67,116	41,017
Positive results	24	86	26	432	97	108	97
Positivity rate	0.11%	0.20%	0.12%	0.23%	0.07%	0.15%	0.22%

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.

Table 5.3 Number of HIV tests by health region, Ontario, 2011 to 2016

Year	Northern	Ottawa	Eastern	Toronto	Central East	Central West	South West
2011	180,83	43,923	19,113	148,775	105,961	56,157	34,246
2012	196,34	39,435	19,830	150,805	107,799	59,338	36,956
2013	198,88	38,944	19,701	151,916	108,343	61,640	38,268
2014	205,21	39,585	19,863	161,122	111,675	63,725	38,215
2015	213,09	42,280	20,533	171,465	118,080	67,116	41,017
2016	227,32	43,735	21,794	185,425	129,759	74,173	43,937

Table 5.4 HIV test positivity rate by health region, Ontario, 2011 to 2016

Year	Northern	Ottawa	Eastern	Toronto	Central East	Central West	South West
2011	0.25%	0.23%	0.08%	0.39%	0.10%	0.14%	0.16%
2012	0.10%	0.21%	0.09%	0.35%	0.07%	0.10%	0.16%
2013	0.07%	0.19%	0.09%	0.28%	0.08%	0.13%	0.21%
2014	0.12%	0.22%	0.11%	0.27%	0.10%	0.12%	0.17%
2015	0.14%	0.14%	0.06%	0.27%	0.09%	0.12%	0.19%
2016	0.11%	0.20%	0.12%	0.23%	0.07%	0.15%	0.22%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests and tests among people who lived out of province.

6. By local health integration network (LHIN)

Table 6.1 Number and rate of HIV tests per 1,000 people by LHIN, Ontario, 2016

LHIN	Number of tests	Population (all ages)	Rate per 1,000
Central	78,130	1,895,470	41.2
Central East	52,632	1,636,697	32.2
Central West	37,304	947,935	39.4
Champlain	50,832	1,335,591	38.1
Erie St. Clair	17,044	642,917	26.5
Hamilton Niagara Haldimand Brant	38,497	1,459,113	26.4
Mississauga Halton	43,249	1,255,484	34.4
North East	14,375	561,301	25.6
North Simcoe Muskoka	11,307	484,914	23.3
North West	8,367	236,193	35.4
South East	14,675	497,342	29.5
South West	26,935	981,960	27.4
Toronto Central	105,375	1,264,786	83.3
Waterloo Wellington	22,833	783,281	29.2

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.

Table 6.2 Number of HIV tests and test positivity rate by LHIN, Ontario, 2016

LHIN	Number of tests	Positive results	Positivity rate
Central	78,130	79	0.10%
Central East	52,632	48	0.09%
Central West	37,304	38	0.10%
Champlain	50,832	92	0.18%
Erie St. Clair	17,044	26	0.15%
Hamilton Niagara Haldimand Brant	38,497	65	0.17%
Mississauga Halton	43,249	29	0.07%
North East	14,375	15	0.10%
North Simcoe Muskoka	11,307	9	0.08%
North West	8,367	9	0.11%
South East	14,675	19	0.13%
South West	26,935	71	0.26%
Toronto Central	105,375	336	0.32%
Waterloo Wellington	22,833	34	0.15%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests and tests among people who lived out of province.

Table 6.3 Number of HIV tests by LHIN, Ontario 2011 to 2016

LHIN	2011	2012	2013	2014	2015	2016
Central	64,042	62,833	62,546	66,791	70,715	78,130
Central East	44,886	45,718	46,204	46,872	49,372	52,632
Central West	27,866	28,417	28,578	30,090	32,625	37,304
Champlain	50,570	46,039	45,344	46,113	48,929	50,832
Erie St. Clair	13,325	15,352	16,328	15,685	15,840	17,044
Hamilton Niagara Haldimand Brant	30,299	31,787	32,942	33,874	34,676	38,497
Mississauga Halton	35,419	36,402	36,011	37,437	39,231	43,249
North East	11,813	12,847	13,062	13,094	13,662	14,375
North Simcoe Muskoka	8,604	9,140	9,739	9,989	10,329	11,307
North West	6,287	6,797	6,837	7,445	7,670	8,367
South East	12,323	13,042	13,228	13,337	13,861	14,675
South West	20,932	21,622	21,938	22,554	25,173	26,935
Toronto Central	82,915	85,619	86,868	91,800	98,615	105,375
Waterloo Wellington	16,977	18,182	19,075	19,625	21,102	22,833

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests and tests among people who lived out of province.

Table 6.4 HIV test positivity rate by LHIN, Ontario, 2011 to 2016

LHIN	2011	2012	2013	2014	2015	2016
Central	0.17%	0.12%	0.10%	0.10%	0.12%	0.10%
Central East	0.12%	0.12%	0.09%	0.12%	0.12%	0.09%
Central West	0.16%	0.13%	0.13%	0.18%	0.15%	0.10%
Champlain	0.21%	0.20%	0.17%	0.21%	0.13%	0.18%
Erie St. Clair	0.14%	0.14%	0.21%	0.11%	0.16%	0.15%
Hamilton Niagara Haldimand Brant	0.18%	0.14%	0.17%	0.14%	0.13%	0.17%
Mississauga Halton	0.12%	0.08%	0.09%	0.13%	0.07%	0.07%
North East	0.28%	0.12%	0.07%	0.12%	0.16%	0.10%
North Simcoe Muskoka	0.14%	0.05%	0.05%	0.13%	0.06%	0.08%
North West	0.19%	0.06%	0.07%	0.11%	0.10%	0.11%
South East	0.08%	0.08%	0.11%	0.09%	0.06%	0.13%
South West	0.18%	0.18%	0.20%	0.21%	0.22%	0.26%
Toronto Central	0.51%	0.48%	0.39%	0.35%	0.35%	0.32%
Waterloo Wellington	0.09%	0.07%	0.10%	0.06%	0.13%	0.15%

Notes: Data provided by Public Health Ontario Laboratory. Excludes HIV-negative prenatal tests and tests among people who lived out of province.