

HIV tests in Ontario, 2020



About OHESI

The Ontario HIV Epidemiology and Surveillance Initiative (OHESI) is a collaboration involving the AIDS and HepC Programs, 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: 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 2013-2014, 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 2014-2015, the OHTN AEU initiated the Ontario HIV Epidemiology and Surveillance Initiative (OHESI) and continues to provide administrative and technical support for the partnership.

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Acknowledgements

We acknowledge the members of the OHESI Champions Committee for their review of this report.

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Date of publication

June 14, 2022

Suggested citation

Ontario HIV Epidemiology and Surveillance Initiative. *HIV tests in Ontario, 2020*. Toronto, Ontario, June 14, 2022.

Summary

The COVID-19 pandemic, which affected Ontario beginning in 2020, disrupted access to many health services, including HIV testing. After a record 677,254 HIV tests in 2019, the number decreased 26.1% to 500,517 in 2020¹.

Note: this number does not include tests done as part of the HIV prenatal testing program. Prenatal HIV tests are analyzed separately from diagnostic and routine HIV testing².

Number of tests dropped in 2020 but overall positivity rate remained stable

Between 2013 and 2019, the annual number of diagnostic and routine HIV tests increased steadily from 441,648 to 677,254 while the rate of HIV tests per 1,000 people increased from 32.7 in 2013 to a record high of 46.6 in 2019. However, in 2020, the rate dropped 27.1% compared to 2019 to 33.9 – likely due to the impact of the COVID-19 pandemic.

The number of positive results also decreased in 2020 from 2019, by 24.6% from 683 to 515 - likely related in part to the decrease in HIV tests.

Trends in HIV test positivity rates (proportion of tests that were HIV-positive) can be challenging to interpret, in that they are a function of both what we are trying to measure (i.e. HIV transmission or new infections) and the way that we monitor HIV transmissions (i.e. through HIV testing services). The numbers of HIV tests and positive results decreased proportionally to each other in 2020 compared to 2019, and the test positivity rate remained unchanged in 2020 (0.10%) compared to 2019. Prior to 2020, as the number of tests (test volume) increased, the HIV test positivity rate decreased from 0.19% in 2011 to 0.10% in 2019.

Positivity rate increased in males and decreased in females

The HIV test positivity rate has consistently been three to five times higher among males than females, and this continued in 2020. However, when we look at HIV test positivity rates separately by sex, we see different trends:

- The HIV test positivity rate in males increased after years of decreasing. It was 0.169% in 2020: up 10% from 0.154% in 2019. While a higher test positivity rate can mean an increase in HIV transmission, in 2020 it was more likely due to fewer HIV tests in males with more of the males who were tested being at higher risk of HIV.
- The HIV test positivity rate in females decreased after being relatively stable since 2013. It was 0.042% in 2020: down 18% from 0.051% in 2019. This decrease could be due to a drop in HIV transmission and/or uptake of testing among females at lower HIV risk.

Younger people saw the largest decreases in HIV tests

The HIV test rate per 1,000 people decreased across all age groups in 2020 compared to 2019, for both males and females. However, younger individuals experienced the largest decreases, with those aged 15-19 having the largest relative decrease (41%), and those aged 20-24 having the largest absolute decrease (from 96.2 to 63.9).

¹ Does not include HIV tests with previous evidence of HIV; that is, it excludes people who already knew their HIV status at the time of their first positive nominal diagnostic test in Ontario. Please refer to section 5 of the appendix for further explanations of HIV tests with previous evidence of HIV.

² The number of pregnant people who received a prenatal HIV test in Ontario was essentially unchanged in 2020 (138,229) compared to 2019 (138,038).

Positivity rates higher in older age groups

As in previous years, the numbers of HIV tests, test rates per 1,000 people, and numbers of positive results in 2020 were all highest in younger males and females (i.e. aged 20-39), while the HIV test positivity rates were highest in older age categories (i.e. aged 45-64) for both males and females. This could be a result of cumulative risk with time and/or relatively more diagnostic as opposed to screening testing in older age groups.

Significant decreases in anonymous testing

Over the last decade, the vast majority of HIV tests were conducted through standard testing programs using patient name (nominal testing), and nominal HIV tests made up an increasing proportion of tests since 2013. The number of tests conducted anonymously was fairly stable between 2011 and 2019 (~16,000 per year), however in 2020, the number of anonymous tests decreased by 67.8% compared to 2019 likely due to the temporary suspension of services at public health sexual health clinics that offer anonymous testing during COVID-19. As a result, anonymous testing accounted for only 1.1% of HIV testing in 2020 – down from ~3.8% in the first half of the decade.

Although there were fewer anonymous tests in males in 2020, a greater proportion of those tests were positive (1.04% compared to 0.54% in 2019). This indicates that males at higher risk continued to seek out anonymous testing. The number of anonymous tests among females dropped by about two-thirds in 2020 compared to 2019, and none were positive.

Distribution of tests across HIV exposure categories similar to previous years

Despite the decrease in HIV tests in 2020, the distribution of tests across HIV exposure categories was similar to prior years³. This finding indicates that the lack of access to testing/reduction in testing in 2020 did not disproportionately affect any one group. Where HIV exposure category was reported³, heterosexual contact with no identified risk⁴ was most frequently reported among both males and females in 2020 (which is consistent with previous years), followed by male-to-male sexual contact among males.

Between 2016 and 2019, the HIV test positivity rate among males was highest for male-to-male sexual contact + injection drug use (IDU); however, in 2020, there were no positive results reporting this category on the HIV test requisition. This change may be due to decreased disclosure of HIV risk factors on test requisition forms in 2020. Instead, male-to-male sexual contact, which had the second-highest rates in past years, had the highest HIV test positivity rate among males in 2020. Among females, the HIV test positivity rate was highest for IDU in 2020, followed by heterosexual contact with identified risk², which decreased from prior years. HIV test positivity rates of other HIV exposure categories in 2020 were consistent with recent years for both males and females.

³ Where HIV exposure category was reported (not reported for 74.6% of HIV tests in 2020, average of 69.3% of HIV tests between 2016 and 2020).

⁴ “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male.

Testing decreased in all health regions

Between 2019 and 2020, the number of HIV tests and the HIV test rate per 1,000 people decreased in all seven health regions for both males and females. As with prior years, the HIV test rate per 1,000 people was highest in Toronto in 2020, followed by Ottawa, despite these regions seeing the largest relative decreases. HIV test positivity rates across the health regions in 2020 were largely consistent with that of prior years for both males and females, with the exception of a continued downward trend in the South West region. The HIV test positivity rate continued to be highest in Toronto among males in 2020, and in the Northern region among females for the second consecutive year.

Smaller proportion of tests done in sexual health clinics

In 2020, as with 2019, HIV tests submitted by other physicians/clinics/labs⁵ made up the largest proportion of HIV tests (41.2%), followed by immigration physicians/clinics (17.4%). Compared to 2019, the number of HIV tests decreased for all submitter types in 2020, with the greatest relative decreases seen in sexual health clinics/public health units (PHUs, 56.0%), community health centres (42.8%), and other physicians/clinics/labs⁴ (31.1%), likely related to closures due to COVID-19. The largest numbers of positive results were submitted by HIV treating physicians for both males and females in 2020. Compared to 2019, for both males and females, the numbers of positive tests submitted by immigration physicians/clinics, sexual health clinics/PHUs, community health centres, and other physicians/clinics/labs⁴ all decreased in 2020.

Latino/a/e/x people saw the largest decrease in HIV tests

A new test requisition form was created in 2018, expanding gender categories, race/ethnicity categories, and reasons for testing. In 2020, approximately 40% of HIV tests (195,931) were submitted using the new HIV test requisition form, an increase from the 33% in 2019, though a smaller absolute number. Among this subset in 2020, 106 represented transgender females and 55 tests represented transgender males.

In terms of race/ethnicity, 120,123 (60.4%) HIV tests either didn't report that data or said it was unknown in 2020, 44,813 (22.5%) reported the person was white and 8,679 (4.4%) reported the person was Black. Between 2019 and 2020, the number of HIV tests decreased for all race/ethnicity categories, with the largest relative decrease in Latino/a/e/x people (39.9%), followed by people of other/mixed race/ethnicity (35.0%), Black (33.4%), white (32.6%), Middle Eastern (31.7%), and East/Southeast Asian (29.7%) people. However, the number of HIV tests with no race/ethnicity information reported increased by 6.7%. With the limited response on the new requisition form, it is not possible to determine if these results are representative of tests overall.

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

⁵ “Other physicians/clinics/labs” includes physicians who are *not* classified as: HIV treating physicians/clinics, correctional facilities, immigration physicians/clinics, sexual health clinics/public health units, hospitals, community health centres, or laboratories in a hospital site.

Table of Contents

Summary	3
Table of Contents.....	6
List of Figures	8
List of Tables	10
Introduction.....	12
About the Data.....	13
Data and Figures	15
1. Overall.....	16
2. By sex.....	18
3. By age.....	21
4. By test type.....	27
5. By exposure category.....	31
6. By health region.....	39
7. By HIV test submitter type.....	45
8. Transgender identity and race/ethnicity (new HIV test requisition)	50
9. Point-of-Care (POC) HIV tests	52
10. Prenatal HIV testing.....	56
Appendices	57
1. Definitions	57
2. Abbreviations.....	60
3. Technical notes.....	61
4. Population-based rates: Statistics Canada data	62
5. Exclusion of HIV tests with previous evidence of HIV	62
6. HIV exposure categories.....	63
7. Health regions	66
8. HIV test submitter types	68
Data Tables.....	69
1. Overall.....	69
2. By sex.....	70
3. By age.....	72
4. By test type.....	77
5. By exposure category.....	80
6. By health region.....	84

7.	By HIV test submitter type.....	87
8.	Transgender identity and race/ethnicity (new HIV test requisition)	89
9.	Point-of-Care (POC) HIV testing.....	90
10.	Prenatal HIV testing.....	93

List of Figures

1. Overall

Figure 1.1 Number of HIV tests (thousands), Ontario, 2011 to 2020	16
Figure 1.2 HIV test rate per 1,000 people, Ontario, 2011 to 2020	17
Figure 1.3 HIV test positivity rate, Ontario, 2011 to 2020	17

2. By sex

Figure 2.1 Number of HIV tests (thousands) by sex, Ontario, 2011 to 2020	19
Figure 2.2 HIV test rate per 1,000 people by sex, Ontario, 2011 to 2020	20
Figure 2.3 HIV test positivity rate by sex, Ontario, 2011 to 2020	20

3. By age

Figure 3.1 HIV test rate per 1,000 people by age, Ontario, 2016 to 2020	21
Figure 3.2 HIV test rate per 1,000 people by age, males, Ontario, 2016 to 2020	22
Figure 3.3 HIV test rate per 1,000 people by age, females, Ontario, 2016 to 2020	22
Figure 3.4 Number of HIV tests and HIV test rate per 1,000 people by age, Ontario, 2020	23
Figure 3.5 Number of positive HIV test results and HIV test positivity rate by age, Ontario, 2020	23
Figure 3.6 Number of HIV tests and HIV test rate per 1,000 people by age, males, Ontario, 2020	24
Figure 3.7 Number of positive HIV test results and HIV test positivity rate by age, males, Ontario, 2020	24
Figure 3.8 Number of HIV tests and HIV test rate per 1,000 people by age, females, Ontario, 2020	25
Figure 3.9 Number of positive HIV test results and HIV test positivity rate by age, females, Ontario, 2020	25
Figure 3.10 HIV test positivity rate by age, males, Ontario, 2018 to 2020	26
Figure 3.11 HIV test positivity rate by age, females, Ontario, 2018 to 2020	26

4. By test type

Figure 4.1 Number of HIV tests (thousands) by test type, Ontario, 2011 to 2020	27
Figure 4.2 Number of anonymous HIV tests (thousands), Ontario, 2011 to 2020	28
Figure 4.3 Percent of HIV tests that were anonymous HIV tests, Ontario, 2011 to 2020	28
Figure 4.4 Number of nominal HIV tests (thousands) by sex, Ontario, 2011 to 2020	29
Figure 4.5 Number of anonymous HIV tests (thousands) by sex, Ontario, 2011 to 2020	29
Figure 4.6 HIV test positivity rate by test type, males, Ontario, 2011 to 2020	30
Figure 4.7 HIV test positivity rate by test type, females, Ontario, 2011 to 2020	30

5. By HIV exposure category

Figure 5.1 Number of HIV tests by exposure category (thousands), Ontario, 2016 to 2020	32
Figure 5.2 Percent of HIV tests by exposure category (where reported), Ontario, 2016 to 2020	33
Figure 5.3 Number of HIV tests by exposure category (thousands), males, Ontario, 2016 to 2020	34
Figure 5.4 Percent of HIV tests by exposure category (where reported), males, Ontario, 2016 to 2020	35
Figure 5.5 Number of HIV tests by exposure category (thousands), females, Ontario, 2016 to 2020	36
Figure 5.6 Percent of HIV tests by exposure category (where reported), females, Ontario, 2016 to 2020	37
Figure 5.7 HIV test positivity rate by sex and exposure category (where reported), males, Ontario, 2016 to 2020	38
Figure 5.8 HIV test positivity rate by sex and exposure category (where reported), females, Ontario, 2016 to 2020	38

6. By health region

Figure 6.1 Number of HIV tests (thousands) by health region, Ontario, 2016 to 2020	39
Figure 6.2 HIV test rate per 1,000 people by health region, Ontario, 2016 to 2020	40
Figure 6.3 HIV test positivity rate by health region, Ontario, 2016 to 2020	40
Figure 6.4 Number of HIV tests (thousands) by health region, males, Ontario, 2016 to 2020	41
Figure 6.5 HIV test rate per 1,000 people by health region, males, Ontario, 2016 to 2020	41
Figure 6.6 HIV test positivity rate by health region, males, Ontario, 2016 to 2020	42
Figure 6.7 Number of HIV tests (thousands) by health region, females, Ontario, 2016 to 2020	43
Figure 6.8 HIV test rate per 1,000 people by health region, females, Ontario, 2016 to 2020	43
Figure 6.9 HIV test positivity rate by health region, females, Ontario, 2016 to 2020	43

7. By HIV test submitter type

Figure 7.1 Number of HIV tests by submitter type (thousands), Ontario, 2019 to 2020	45
Figure 7.2 Percent of HIV tests by submitter type, Ontario, 2019 to 2020	46
Figure 7.3 Number of positive results by submitter type, Ontario, 2019 to 2020	47
Figure 7.4 Percent of HIV tests by submitter type, males, Ontario, 2019 to 2020	48
Figure 7.5 Percent of HIV tests by submitter type, females, Ontario, 2019 to 2020	48
Figure 7.6 Number of positive results by submitter type and sex, Ontario, 2019 to 2020	49

8. Transgender identity and race/ethnicity (new HIV test requisition)

Figure 8.1 Number of HIV tests by transgender identity, among tests submitted via new HIV test requisition (N = 195,931 with reported gender in 2020, 39.1% of all HIV tests; N = 223,198 with reported gender in 2019, 33.0% of all HIV tests), Ontario, 2019 to 2020	50
Figure 8.2 Number of HIV tests (thousands) by race/ethnicity, among tests submitted via new HIV test requisition (N = 198,979 in 2020, 39.8% of all HIV tests; N = 226,716 in 2019; 33.4% of all HIV tests), Ontario, 2019 to 2020	51

9. Point-of-Care (POC) HIV tests

Figure 9.1 Number of POC HIV tests (thousands), Ontario, 2011 to 2020	52
Figure 9.2 Percent of HIV tests that were POC tests, Ontario, 2011 to 2020	53
Figure 9.3 Number of POC HIV tests (thousands), by sex, Ontario, 2011 to 2020	53
Figure 9.4 POC HIV test positivity rate, Ontario, 2011 to 2020	54
Figure 9.5 Number of POC HIV tests, by age, Ontario, 2019 to 2020	54
Figure 9.6 Percent of POC HIV tests by exposure category, Ontario, 2016 to 2020	55

10. Prenatal HIV testing

Figure 10.1 Number of unique pregnant people who received a prenatal HIV test (thousands), Ontario, 2012 to 2020	56
Figure 10.2 Ratio of pregnant people who received a prenatal HIV test to births (live and stillbirths), Ontario, 2012 to 2020	56

List of Tables

1. Overall

Table 1.1 Number of HIV tests, HIV test rate per 1,000 people, number of positive results, and HIV test positivity rate, Ontario, 2011 to 2020	69
---	----

2. By sex

Table 2.1 Number of HIV tests and HIV test positivity rate, by sex, Ontario, 2011 to 2020	70
Table 2.2 Number and rate of HIV tests per 1,000 people, by sex, Ontario, 2011 to 2020	71

3. By age

Table 3.1 Rate of HIV tests per 1,000 people by age, 2016 to 2020	72
Table 3.2 Rate of HIV tests per 1,000 males by age, males, 2016 to 2020	73
Table 3.3 Rate of HIV tests per 1,000 males by age, females, 2016 to 2020	73
Table 3.4 Number of HIV tests and HIV test positivity rate by age and sex, Ontario, 2020	74
Table 3.5 Number and rate of HIV tests per 1,000 people by age and sex, Ontario, 2020	75
Table 3.6 HIV test positivity rate by age, males, 2018 to 2020	76
Table 3.7 HIV test positivity rate by age, females, 2018 to 2020	76

4. By test type

Table 4.1 Number of HIV tests and HIV test positivity rate by test type, Ontario, 2011 to 2020	77
Table 4.2 Number of HIV tests by test type and sex, Ontario, 2011 to 2020	77
Table 4.3 Percent of HIV tests by test type, Ontario, 2011 to 2020	78
Table 4.4 Number of HIV tests and HIV test positivity rate by test type, males, Ontario, 2011 to 2020	78
Table 4.5 Number of HIV tests and HIV test positivity rate by test type, females, Ontario, 2011 to 2020	79

5. By HIV exposure category

Table 5.1 Number of HIV tests by exposure category, Ontario, 2016 to 2020	80
Table 5.2 Percent of HIV tests by exposure category, Ontario, 2016 to 2020	80
Table 5.3 Number of HIV tests by exposure category, males, Ontario, 2016 to 2020	81
Table 5.4 Percent of HIV tests by exposure category, males, Ontario, 2016 to 2020	81
Table 5.5 Number of HIV tests by exposure category, females, Ontario, 2016 to 2020	82
Table 5.6 Percent of HIV tests by exposure category, females, Ontario, 2016 to 2020	82
Table 5.7 HIV test positivity rate by exposure category, males, Ontario, 2016 to 2020	83
Table 5.8 HIV test positivity rate by exposure category, females, Ontario, 2016 to 2020	83

6. By health region

Table 6.1 Number, rate of HIV tests per 1,000 people, and positivity rate, by health region, Ontario, 2016 to 2020	84
Table 6.2 Number, rate of HIV tests per 1,000 people, and positivity rate, by health region, males, Ontario, 2016 to 2020	85
Table 6.3 Number, rate of HIV tests per 1,000 people, and positivity rate, by health region, females, Ontario, 2016 to 2020	86

7. By HIV test submitter type

Table 7.1 Number and percent of HIV tests by HIV test submitter type, overall and by sex, Ontario, 2019 to 2020	87
Table 7.2 Positive results by HIV test submitter type, overall and by sex, Ontario, 2019 to 2020	88

8. Transgender identity and race/ethnicity (new HIV test requisition)

Table 8.1 Number and percent of HIV tests by transgender identity, among tests submitted via new HIV test requisition (N = 195,931 with reported gender in 2020, 39.1% of all HIV tests; N = 223,198 with reported gender in 2019, 33.0% of all HIV tests), Ontario, 2019 to 2020	89
Table 8.2 Percent of HIV tests by race/ethnicity, among tests submitted via new HIV test requisition (N = 198,979 in 2020, 39.8% of all HIV tests; N = 226,716 in 2019; 33.4% of all HIV tests), Ontario, 2019 to 2020	89

9. Point-of-Care (POC) HIV tests

Table 9.1 Number of POC HIV tests, total number of HIV tests, and percent of total HIV tests that were POC, Ontario, 2011 to 2020	90
Table 9.2 Number of POC HIV tests, confirmed positive POC tests, and test positivity rate, by sex, Ontario, 2011 to 2020	90
Table 9.3 Number of POC HIV tests by age, Ontario, 2019 to 2020	91
Table 9.4 Number of HIV tests by exposure category, Ontario, 2016 to 2020	92
Table 9.5 Percent of HIV tests by exposure category, Ontario, 2016 to 2020	92

10. Prenatal HIV testing

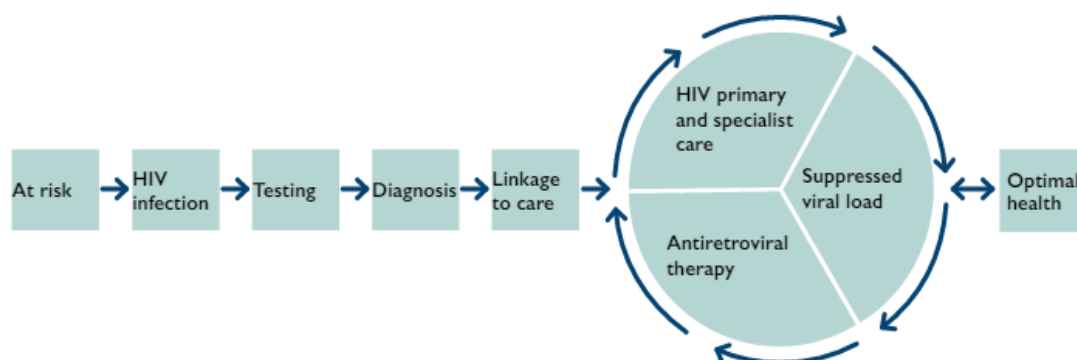
Table 10.1 Number pregnant people who received a prenatal HIV test, number of births (live and stillbirths), and ratio of pregnant people who received a prenatal HIV test to births (live and stillbirths), Ontario, 2012 to 2020	93
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Introduction

Why look at patterns in HIV testing?

- HIV testing is an early step in the HIV prevention, engagement and care cascade (Figure i) and critical for people living with HIV to know their status and be linked to care and treatment. HIV testing is also an important gateway to services for people at high risk who test HIV-negative.
- Testing is closely tied to the 2020 UNAIDS 90-90-90 target of 90% of all people living with HIV knowing their HIV status (see box below). Whereas previous AIDS targets sought to achieve incremental progress in the response, the aim in the post-2015 era is nothing less than the end of the AIDS epidemic by 2030.
- 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 risk of HIV.
- This report includes information on the number of HIV tests in Ontario. It does NOT include information on the number of unique individuals tested. As a result, testing trends may reflect changes in both the number of times individuals test in a year (e.g. people taking HIV pre-exposure prophylaxis [PrEP] usually test four times per year) as well as the total number of unique people who are tested.

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



What's new in this report?

- Due to the impact of the COVID-19 pandemic first affecting Ontario in 2020, this report puts a deliberate focus on the changes in HIV test metrics between 2019 and 2020.
- This report uses a categorization of HIV exposure categories which focus on behavioural risk factors as opposed to identity. More information can be found in the [HIV exposure categories](#) section of the Appendices.

About the Data

Where do these data come from?

- Data in this report come from the Public Health Ontario (PHO) Laboratory, which conducts centralized HIV diagnostic testing for the province. Data on the annual number of pregnant people in Ontario was provided by the Better Outcomes Registry & Network (BORN).
- 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 PHO. 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. LEP data in this report is only used to determine which positive HIV tests were from individuals with [Previous evidence of HIV \(PEH\)](#) so that they could be excluded. An additional 1,238 tests were performed in 2020 for individuals who had PEH (903 males, 320 females, 15 unknown sex). Since 2009, the LEP form has collected information on race/ethnicity, country of birth, and test history (data not historically collected on the HIV test requisition, but collected starting in 2018).
- In February 2018, PHO implemented a revised HIV test requisition that collects additional information on transgender identity, race/ethnicity, and country of birth. This report includes data on transgender identity and race/ethnicity from the subset of HIV tests that were submitted using the new requisition form.
- With rapid/point-of-care (POC) tests, an HIV test requisition form is completed and submitted to PHO 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 HIV test positivity rates if they do not have previous evidence of HIV.
- Prenatal HIV tests are part of an ongoing HIV testing program offered to all pregnant individuals as part of their prenatal care. **Prenatal HIV testing results are included separately in this report (Section 10). They are not included in the number of HIV tests or population test rates in this report.** However, to calculate HIV test 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 2020, the annual number of HIV-positive prenatal tests ranged from 2 to 10 (where no previous evidence of HIV infection was reported).

What are some of the strengths of these data and our approach to presenting it?

- This report uses a new categorization of HIV exposure categories which focus on behavioural risk factors as opposed to identity. More information can be found in the [HIV exposure categories](#) section of the Appendices.
- The vast majority of HIV diagnostic testing conducted by health care providers in Ontario is done by PHO and therefore included in this report.
- Age and sex data on the test requisition are very complete and available for more than 96% of HIV tests since 2011. Approximately 16% of diagnoses are missing information on address of residence in 2020 and assigned based on provider address, leaving 0.02% of tests with unknown health region.
- Trends in HIV tests are presented as numbers and, where possible, as an HIV test 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.

- Counts of HIV tests in this report exclude positive HIV tests from individuals with previous evidence of HIV. This is true for the calculation of HIV test positivity rates as well. We report on HIV tests from individuals without [Previous evidence of HIV \(PEH\)](#) to better understand local transmission in Ontario and, therefore, which populations might be at most risk and benefit most from prevention activities. More information on [Exclusion of HIV tests with previous evidence of HIV](#) can be found in the appendices.

What are some of the limitations of the data summarized in this report?

- In this report, HIV tests are broken down by [HIV exposure category](#), which are meant to represent an individual's most likely risk of HIV infection based on risk factors documented on the HIV test requisition form. The HIV response in Ontario focuses on priority populations or populations most affected by HIV, which are a combination of risk factors (e.g. male-to-male sexual contact, injection drug use), country of birth, and race/ethnicity (e.g. white, Black). As information on race/ethnicity and country of birth was not available on test requisition forms up to and including part of 2018 and uptake of the new form remained low into 2020, we are unable to report on priority populations here. While this report uses a new categorization of HIV exposure categories which focus on behavioural risk factors as opposed to identity, HIV exposure categories do not capture the burden of HIV in communities. More information on [HIV exposure categories](#) can be found in the appendices.
- Risk factor information is missing or indicated as “none” on approximately two thirds of test requisition forms. Due to the extent of missing information, the total number of tests by exposure category is not presented as they are incomplete.
- If information is more likely to be missing for one specific [HIV 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.
- 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. Also, males may be more likely than females to test more than once in a given year.
- While counts of HIV tests in this report exclude positive HIV tests from individuals with previous evidence of HIV as determined by the ‘HIV testing history’ and ‘previous test information’ sections on the test requisition and LEP forms, it is likely these are undercounts as these sections have missing data and/or may not be filled out correctly. This may influence the positivity rates reported. More information on [Exclusion of HIV tests with previous evidence of HIV](#) can be found in the appendices.
- Data on transgender identity and race/ethnicity are reported from a subset of the total HIV tests where the new requisition was used. HIV tests using this new requisition made up approximately 40% of all HIV tests in 2020 and 33% in 2019. Due to this incomplete uptake of the new requisition thus far, these findings may not be representative of all HIV tests in Ontario in these years.

Data and Figures

The figures in this section describe trends in HIV testing overall and by sex, age, test type, HIV exposure category, health region, and HIV test submitter type. Point-of-care (POC), prenatal HIV testing, and supplemental information on gender and race/ethnicity from the subset of tests submitted with the new HIV test requisition are also described. In general, each page contains one to two figures and each figure is accompanied by a brief description of findings and/or trends.

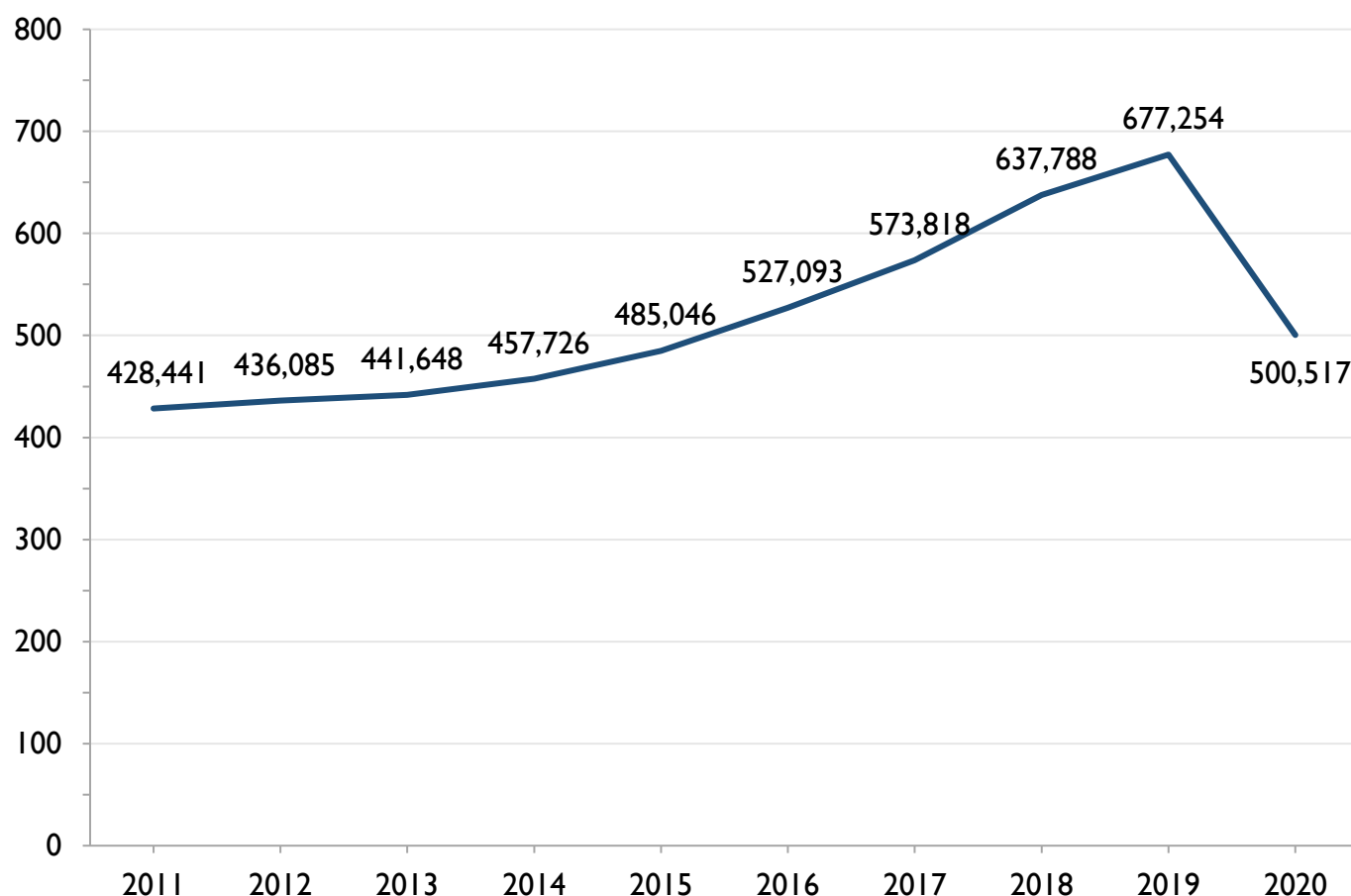
Negative prenatal HIV tests are not included in sections 1 through 9 (approximately 135,000 pregnant people received an HIV test each year). See the [Prenatal HIV testing](#) section (section 10) for information about prenatal HIV tests.

See [Appendices](#) for more information on the data source and how these numbers were calculated, and [Data Tables](#) section for all the numbers underlying the figures.

1. Overall

In 2020, 500,517 HIV tests were conducted in Ontario – equivalent to an HIV test rate of 33.9 tests per 1,000 people. Prior to 2020, the number and rate of HIV tests per capita had been increasing since 2013, before falling by approximately one quarter in 2020 compared to 2019. Despite this decrease, the overall HIV test positivity rate remained the same in 2020 as in 2019 at 0.10% - i.e. for every 10,000 tests, approximately 10 were positive for HIV. The fact that the positivity rate did not decrease may indicate that those at high risk continued to access testing despite the fact that many testing services were curtailed because of COVID.

Figure I.1 Number of HIV tests (thousands), Ontario, 2011 to 2020

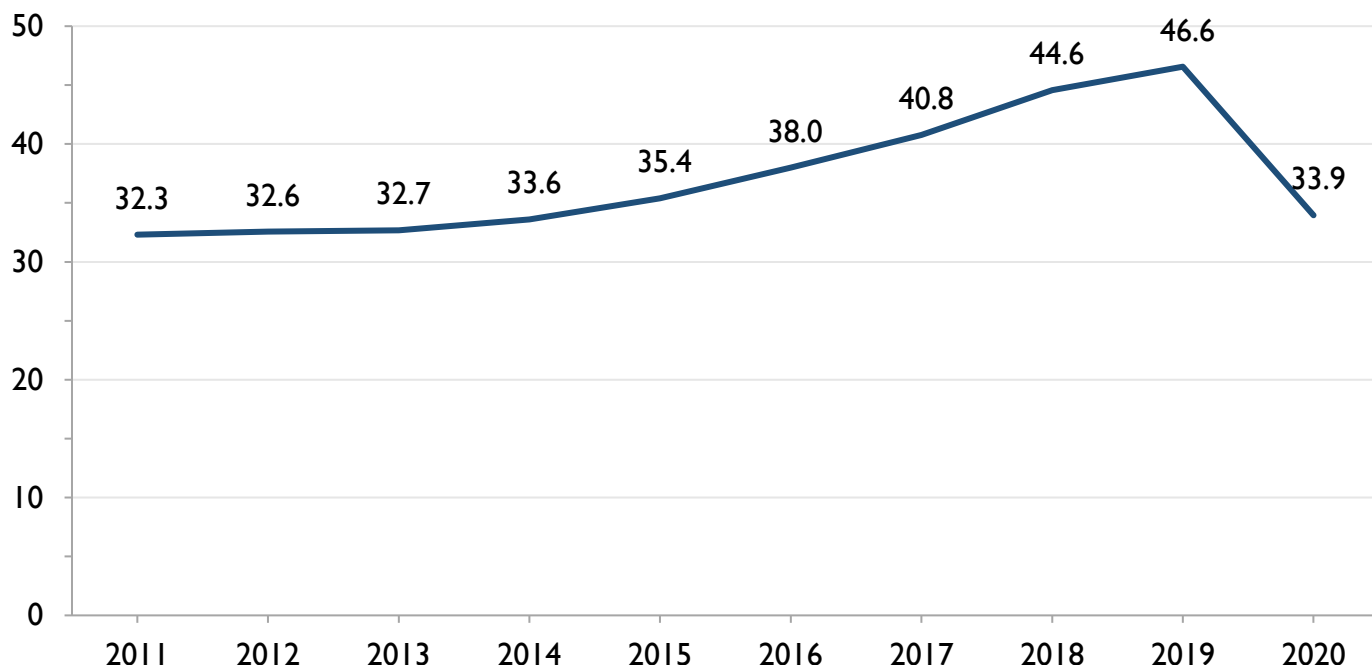


Snapshot

500,517 HIV tests were conducted in 2020, a 26.1% decrease from 677,254 in 2019. Prior to 2020, the annual number of HIV tests had been gradually increasing from 441,648 in 2013.

Notes: Data provided by Public Health Ontario Laboratory. See [Appendices](#) for more information. See **Table I.1** for underlying data.

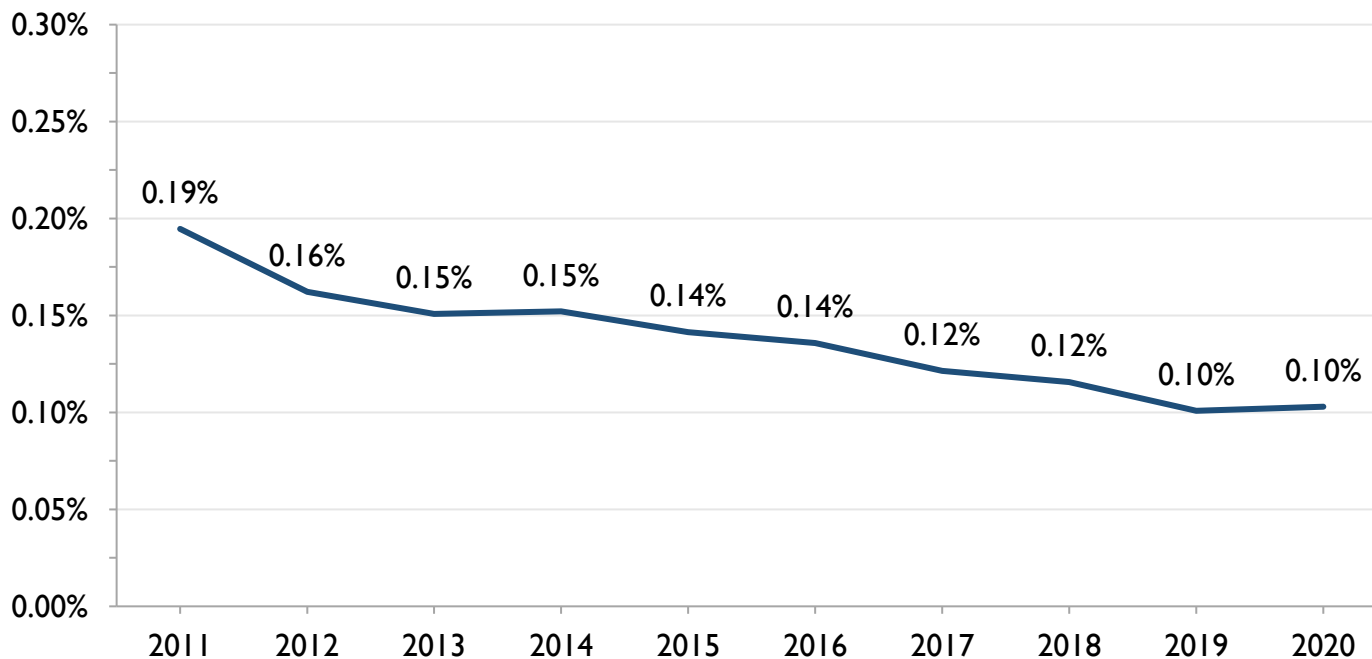
Figure I.2 HIV test rate per 1,000 people, Ontario, 2011 to 2020



Snapshot

The HIV test rate was 33.9 tests per 1,000 people in 2020, a 27.1% decrease from 46.6 in 2019. Prior to 2020, the HIV test rate had been gradually increasing from 32.7 per 1,000 people in 2013.

Figure I.3 HIV test positivity rate, Ontario, 2011 to 2020



Snapshot

The proportion of HIV tests that were HIV-positive (HIV test positivity rate) was 0.10% in 2020, equal to that of 2019. Prior to 2020, the HIV test positivity rate had been steadily decreasing from 0.19% in 2011.

Notes: Data provided by Public Health Ontario Laboratory. Positivity rate refers to the percent of tests that were HIV-positive. HIV tests with previous evidence of HIV not included. See [Appendices](#) for more information. Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. See [Table I.1](#) for underlying data.

2. By sex

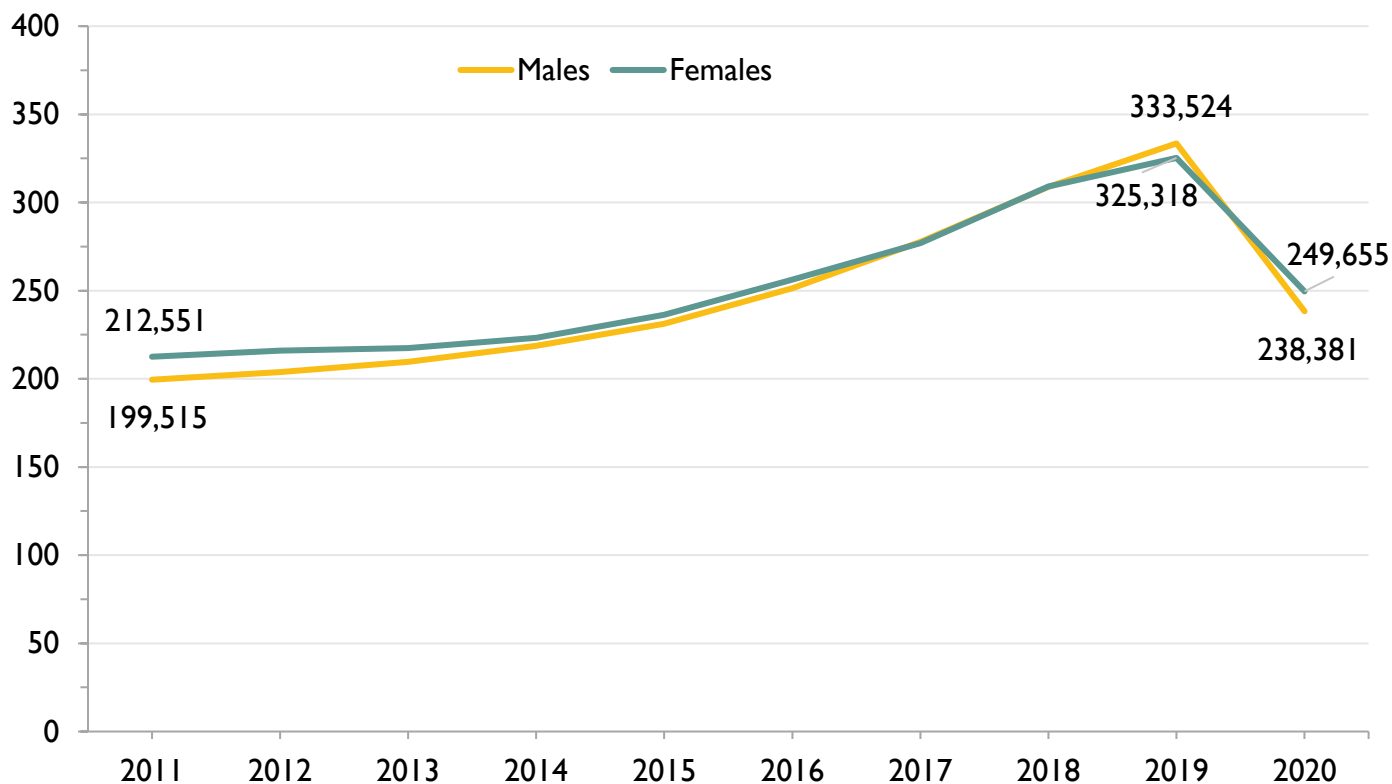
This section describes trends in HIV testing by male and female sex. In February 2018, PHO implemented a revised HIV test requisition that collects information on transgender identity. As only 40% of HIV tests in 2020 were submitted using the new HIV test requisition, data pertaining to transgender identity is presented separately in **Figure 8.1**.

In 2020, both the number and rate of HIV tests per capita decreased for both males (~29% decrease) and females (~24% decrease). Females again made up a slight majority (48.8%) of HIV tests in 2020 (prenatal HIV tests excluded)⁶. There were distinct differences in positivity rates by sex: the rate in males increased by 10.0% in 2020 compared to 2019 while the rate in females decreased by 18.1%. While the increased test positivity rate in males can mean an increase in HIV transmission, in 2020 it was more likely to be due to fewer HIV tests in males and more of the males who were tested being at higher risk of HIV. The decreased positivity rate in females could be due to a drop in HIV transmission and/or to testing among females at lower HIV risk. The HIV test positivity rate has consistently been three to five times higher among males than females, and this continued to be true in 2020.

Recall that negative prenatal HIV tests are not included in these numbers (approximately 135,000 pregnant people received an HIV test each year). See the [Prenatal HIV testing](#) section (section 10) for information about prenatal HIV tests.

⁶ The overall population in Ontario is not split equally by sex - there are a higher number of females than males.

Figure 2.1 Number of HIV tests (thousands) by sex, Ontario, 2011 to 2020



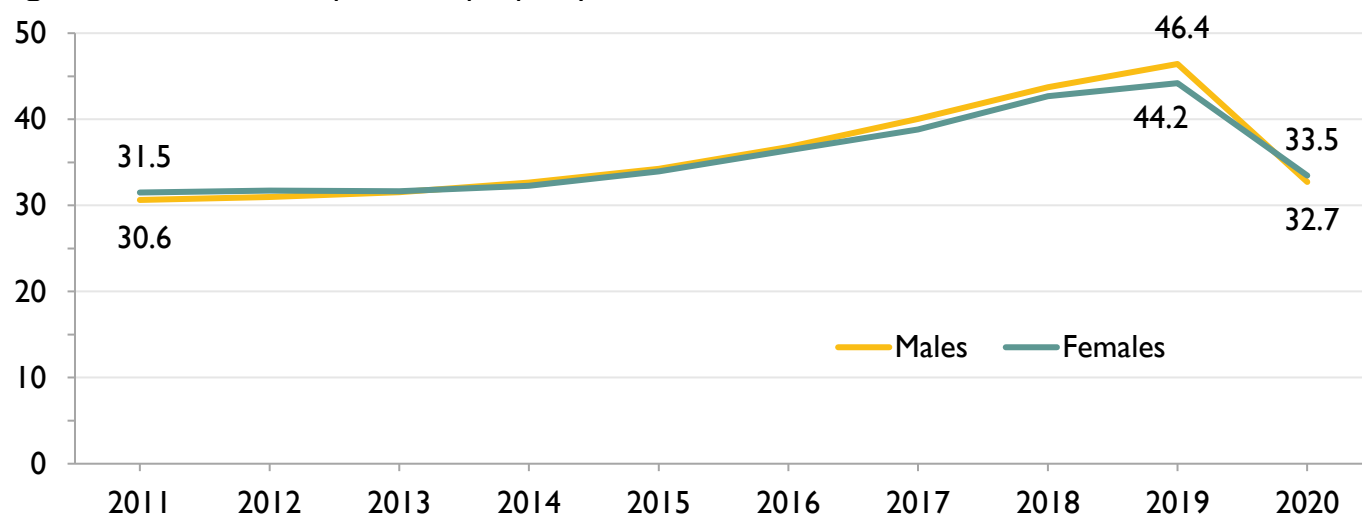
Snapshot

In 2020, the number of HIV tests conducted decreased from 2019 for both males and females. For males, the number of HIV tests decreased by 28.5% from 333,524 in 2019 to 238,381 in 2020, after increasing from 199,515 in 2011. For females, the number of HIV tests decreased by 23.3% from 325,318 in 2019 to 249,655 in 2020, after increasing from 199,515 in 2011. Between 2011 and 2019, there was a greater increase in number of HIV tests in males compared to females, and the number of tests in males outnumbered that of females in 2017 and 2019. In 2020 however, the number of HIV tests in females again outnumbered that of males.

Negative prenatal HIV tests are not included in these numbers (approximately 135,000 pregnant people received an HIV test each year).

Notes: Data provided by Public Health Ontario Laboratory. Tests with unreported sex not included (approximately 3% each year). See [Appendices](#) for more information. See **Table 2.1** for underlying data.

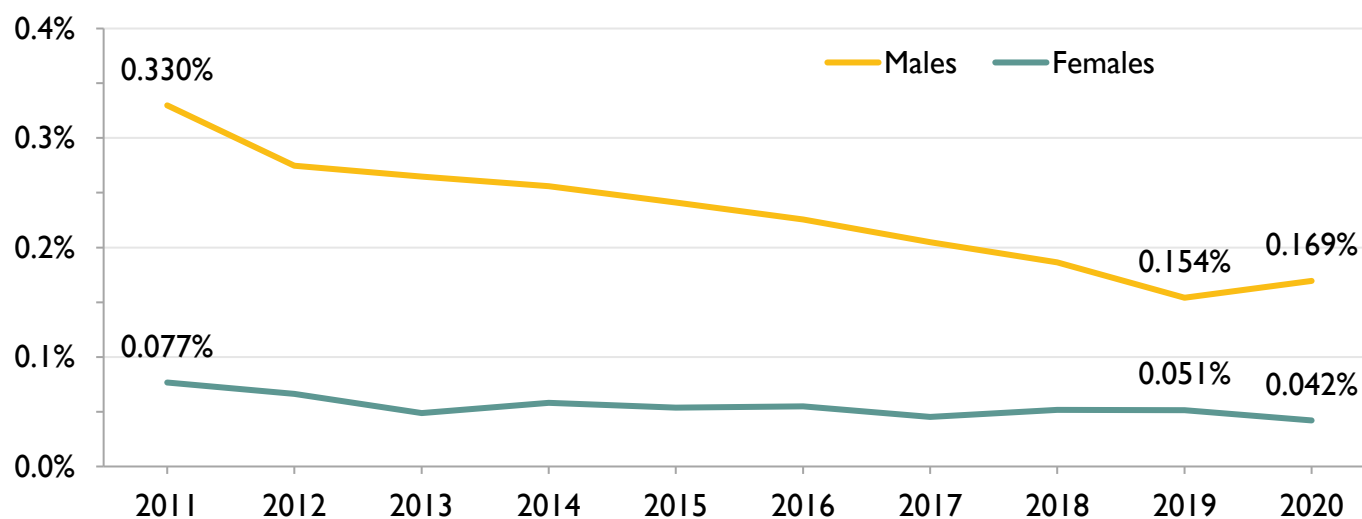
Figure 2.2 HIV test rate per 1,000 people by sex, Ontario, 2011 to 2020



Snapshot

In 2020, the HIV test rate per 1,000 people decreased from 2019 values for both males and females. For males, the HIV test rate per 1,000 people decreased by 29.5% from 46.4 in 2019 to 32.7 in 2020, after increasing from 30.6 in 2011. For females, the HIV test rate per 1,000 people decreased by 24.3% from 44.2 in 2019 to 33.5 in 2020, after increasing from 31.5 in 2011. In 2011, the rate among males was lower than among females; however, it gradually met and then – in 2014 for the first time – surpassed the rate among females. This difference grew between 2014 and 2019, however in 2020 the rate among females again exceeded that of males. Negative prenatal HIV tests are *not* included in these numbers.

Figure 2.3 HIV test positivity rate by sex, Ontario, 2011 to 2020



Snapshot

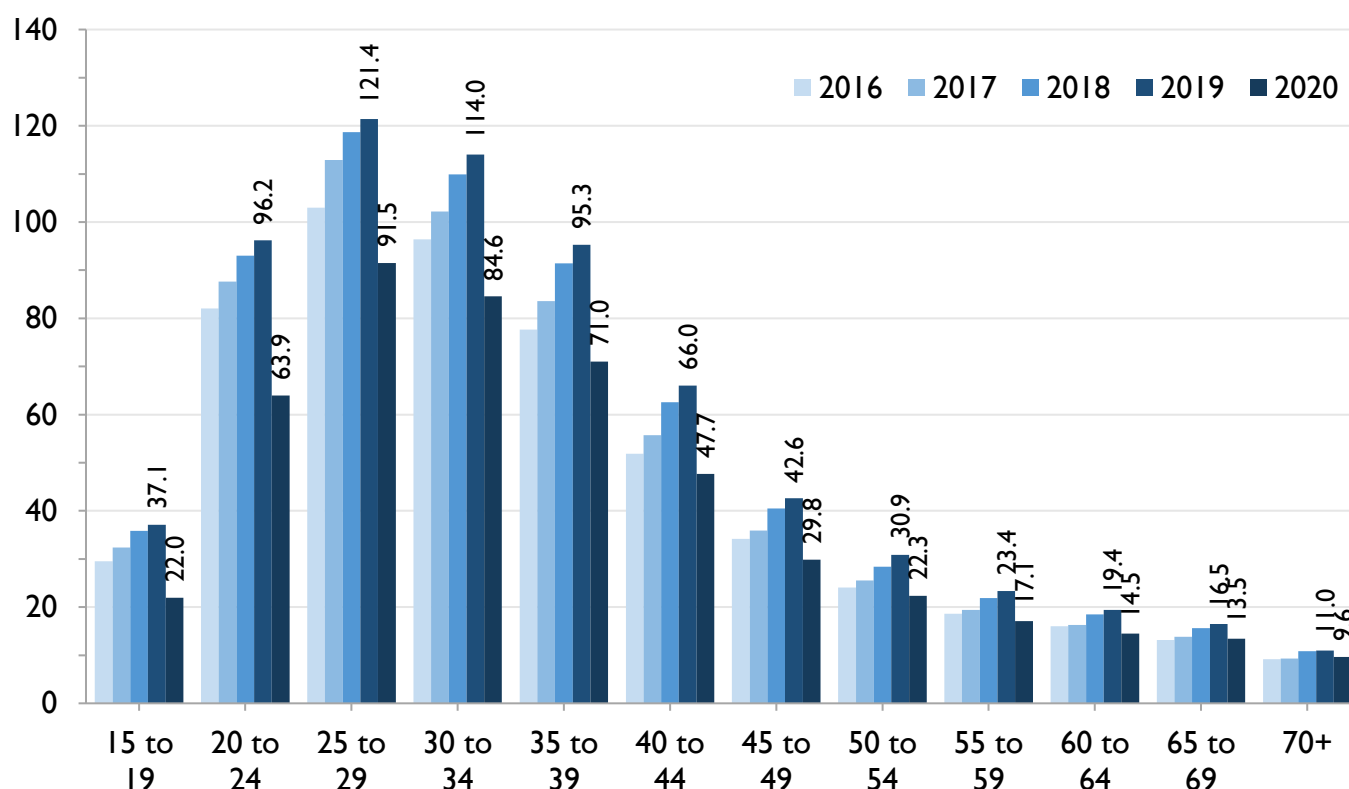
In 2020 the HIV test positivity rate increased among males to 0.169% from 0.154% in 2019, whereas among females it decreased to 0.042% in 2020 from 0.051% in 2019. The HIV test positivity rate was 4 times higher for males than females in 2020. Prior to 2020, the HIV test positivity rate decreased among both males, but had been fairly stable among females since 2013. Negative prenatal HIV tests are *not* included in these numbers.

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unreported sex not included (approximately 3% each year). Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. See [Appendices](#) for more information. See **Table 2.1** and **Table 2.2** for underlying data.

3. By age

For both males and females, the HIV test rate per capita decreased in 2020 from 2019 for all age groups after years of consistent increases. The number and rate of HIV tests per capita continued to be highest in the 25-29 age category for both sexes. For both males and females, the distribution across age categories of HIV tests, test rate per 1,000 people, and positive results was similar in 2020 compared to 2019. HIV test positivity rates generally increased with age in 2020, as they did in 2019, with peak rates among those aged 50-54 for both sexes.

Figure 3.1 HIV test rate per 1,000 people by age, Ontario, 2016 to 2020



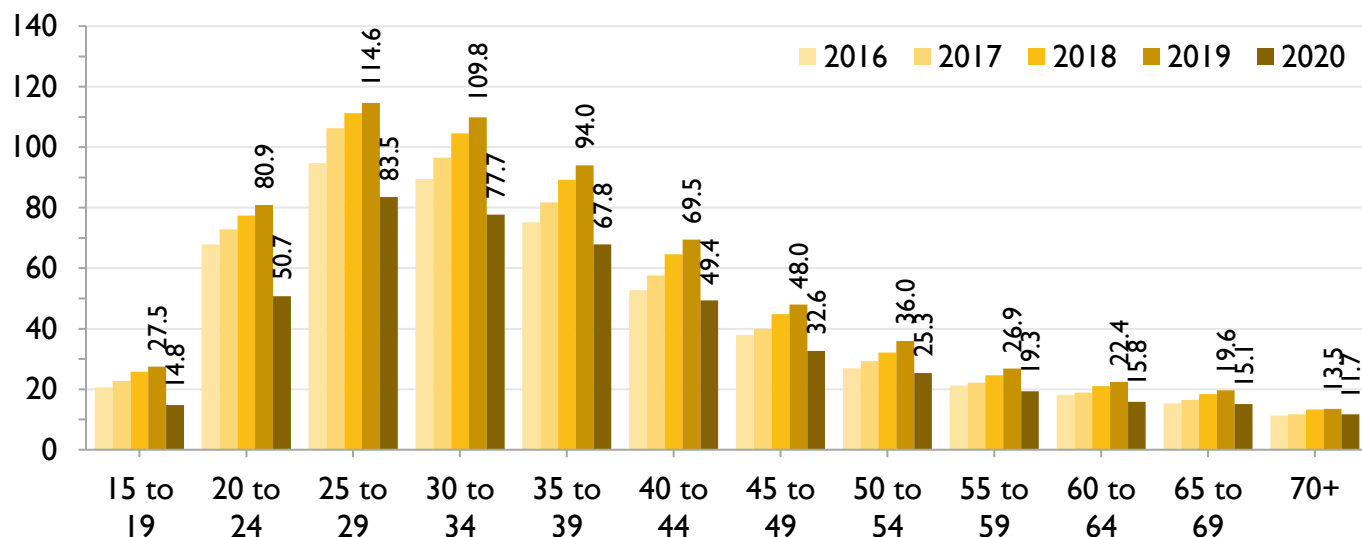
Snapshot

Between 2019 and 2020, the HIV test rate per 1,000 people decreased for all age groups, with the largest decreases in younger people. The largest relative decrease was in the 15-19 age category (41%), followed by the 20 to 24 age category (34%). The largest absolute decrease was in the 20-24 age category (32.3), followed by the 25-29 age category (29.9).

Prior to 2020, the HIV test rate per 1,000 people had been increasing for all age groups between 2016 and 2019.

Notes: Data provided by Public Health Ontario Laboratory. Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. Tests with unreported age were not included (less than 0.5%). See [Appendices](#) for more information. See **Table 3.1** for underlying data.

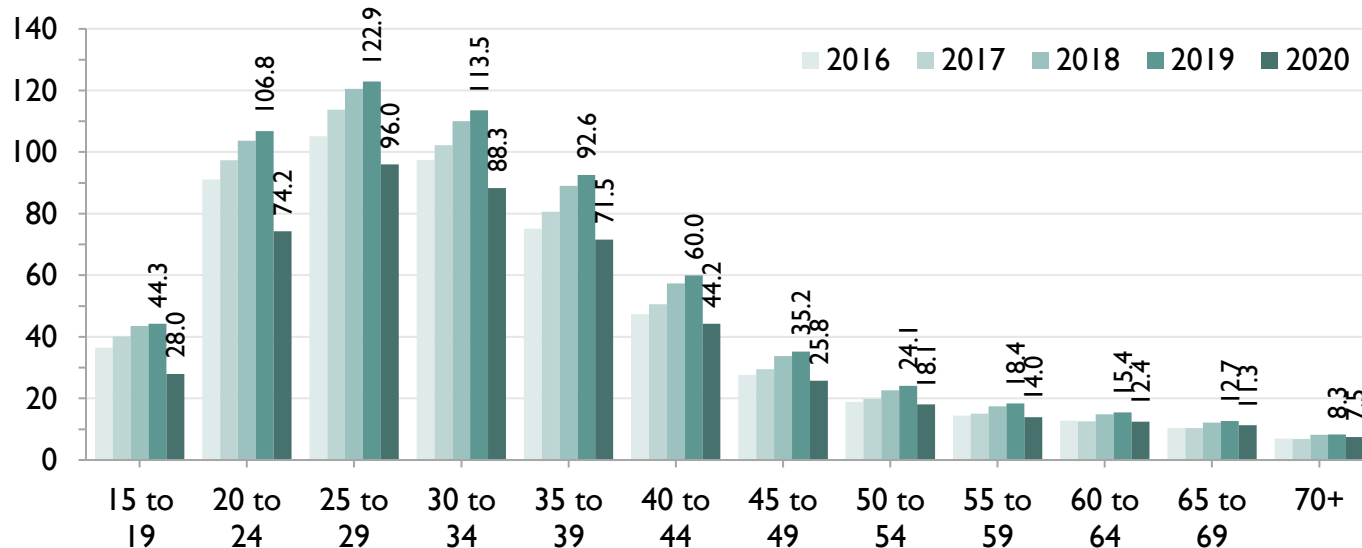
Figure 3.2 HIV test rate per 1,000 people by age, males, Ontario, 2016 to 2020



Snapshot

Between 2019 and 2020, the HIV test rate per 1,000 people in males decreased for all age groups, with the largest decreases in younger males. The largest relative decrease was in the 15-19 age category (46%), followed by the 20-24 age category (37%). The largest absolute decrease was in the 30-34 age category (32.1), followed by the 25-29 age category (31.1). Prior to 2020, the HIV test rate per 1,000 people had been increasing for all age groups between 2016 and 2019.

Figure 3.3 HIV test rate per 1,000 people by age, females, Ontario, 2016 to 2020

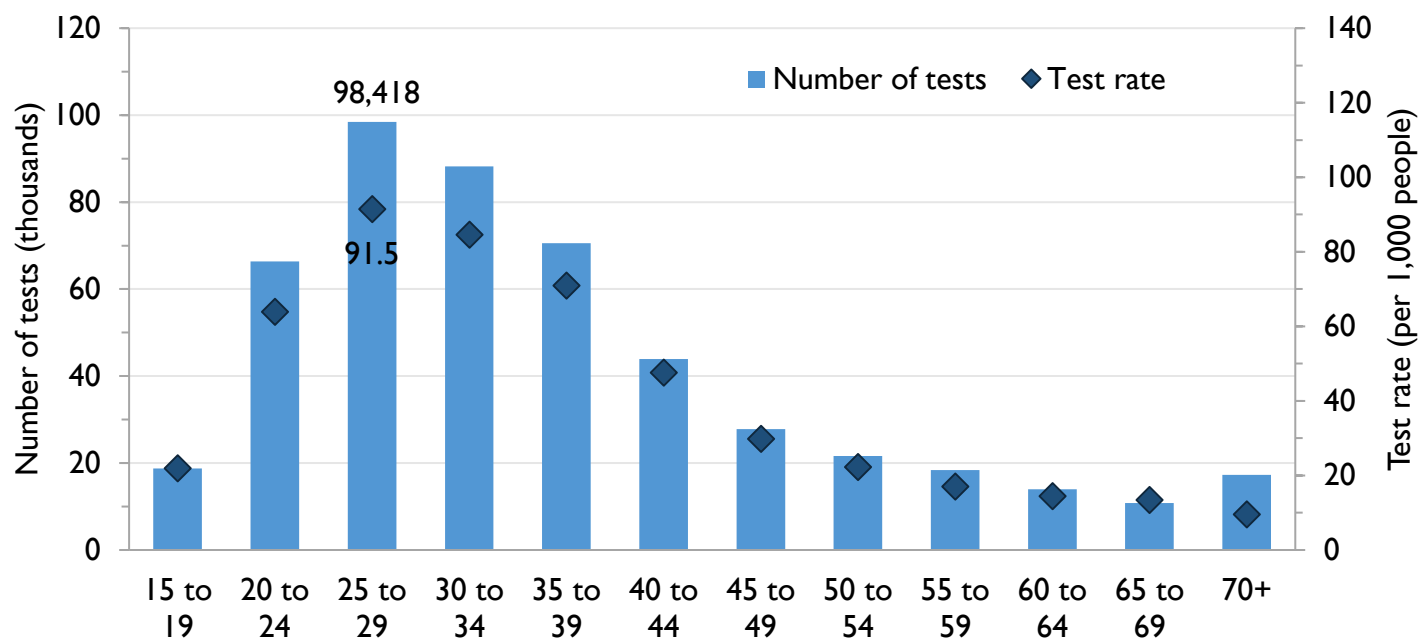


Snapshot

Between 2019 and 2020, the HIV test rate per 1,000 people in females decreased for all age groups, with the largest decreases in younger females. The largest relative decrease was in the 15-19 age category (37%), followed by the 20-24 age category (30%). The largest absolute decrease was in the 20-24 age category (32.5), followed by the 25-29 age category (26.9). Prior to 2020, the HIV test rate per 1,000 people had been increasing for all age groups between 2016 and 2019.

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. Tests with unreported age were not included (less than 0.5%). See [Appendices](#) for more information. See [Table 3.2](#) and [Table 3.3](#) for underlying data.

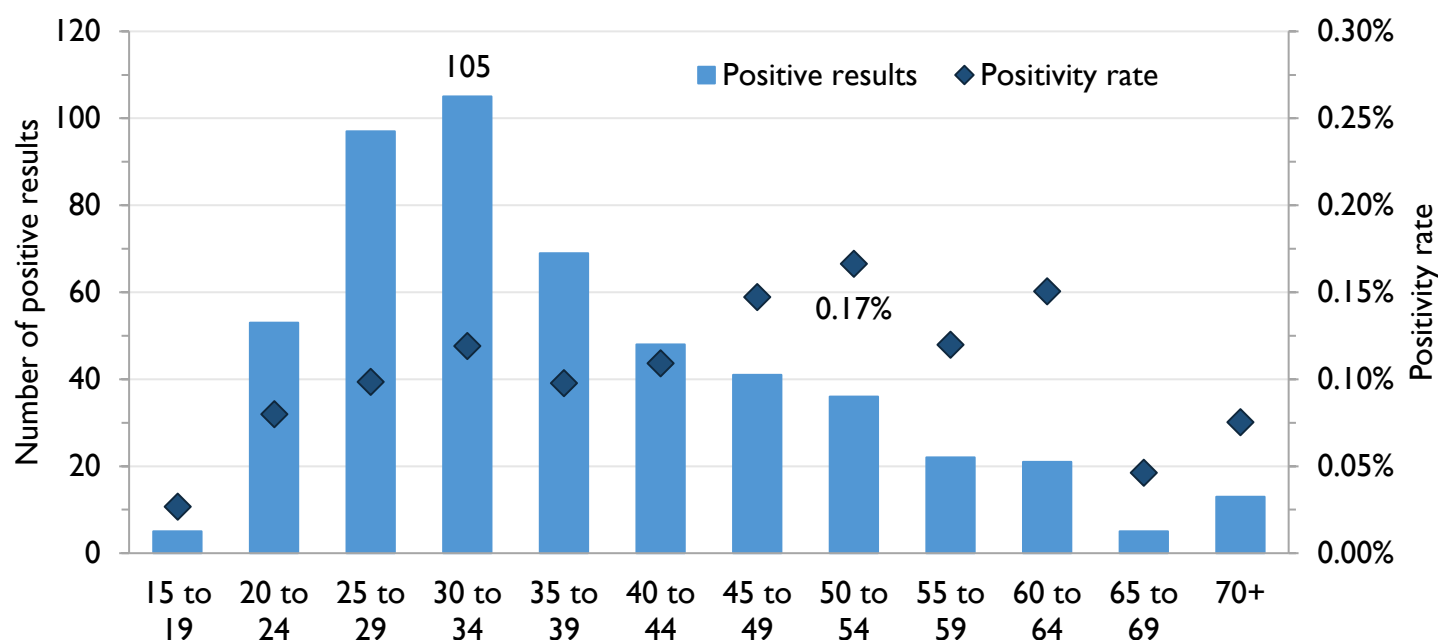
Figure 3.4 Number of HIV tests and HIV test rate per 1,000 people by age, Ontario, 2020



Snapshot

In 2020, the number of HIV tests and the HIV test rate were highest in the 25-29 age category (98,418 and 91.5 per 1,000 people, respectively). This pattern is consistent with that seen in 2019.

Figure 3.5 Number of positive HIV test results and HIV test positivity rate by age, Ontario, 2020

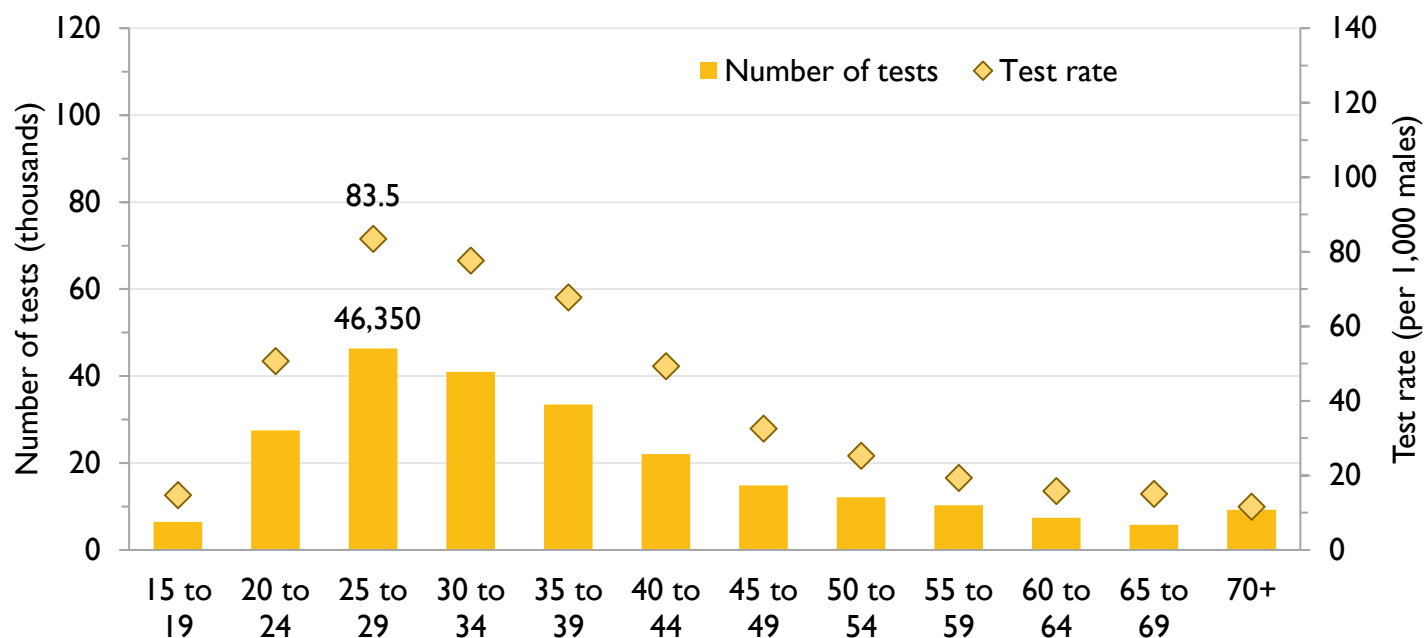


Snapshot

In 2020, the number of positive HIV test results was highest in the 30-34 age category (105). The HIV test positivity rate generally increased with age, and was highest among those aged 50-54 (0.17%). This pattern is similar to that seen in 2019, where the number of positive HIV test results was highest in the 25-29 age category (137), and the HIV test positivity rate was highest among those aged 55-59 (0.18%).

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unreported age were not included (less than 0.5%). See [Appendices](#) for more information. See **Table 3.4** and **Table 3.5** for underlying data.

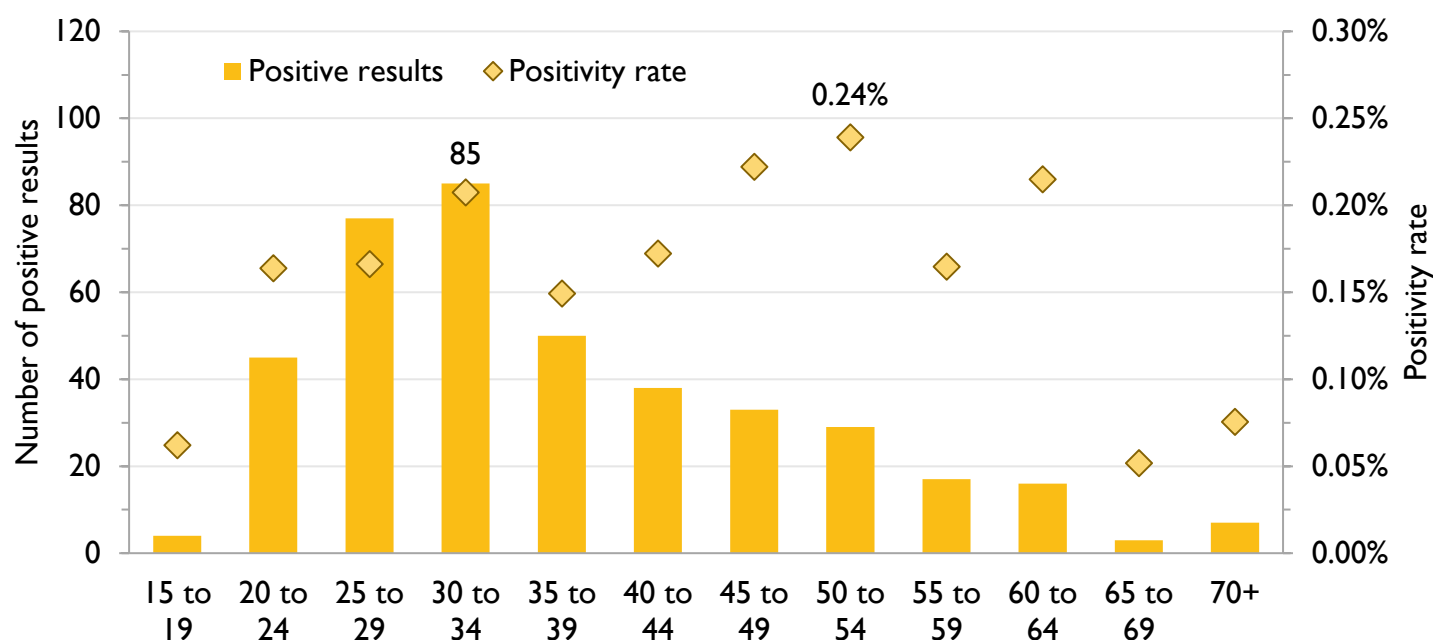
Figure 3.6 Number of HIV tests and HIV test rate per 1,000 people by age, males, Ontario, 2020



Snapshot

In 2020, the number of HIV tests and the HIV test rate were highest in the 25-29 age category (46,350 and 83.5 per 1,000 people, respectively). This pattern is consistent with that seen in 2019.

Figure 3.7 Number of positive HIV test results and HIV test positivity rate by age, males, Ontario, 2020

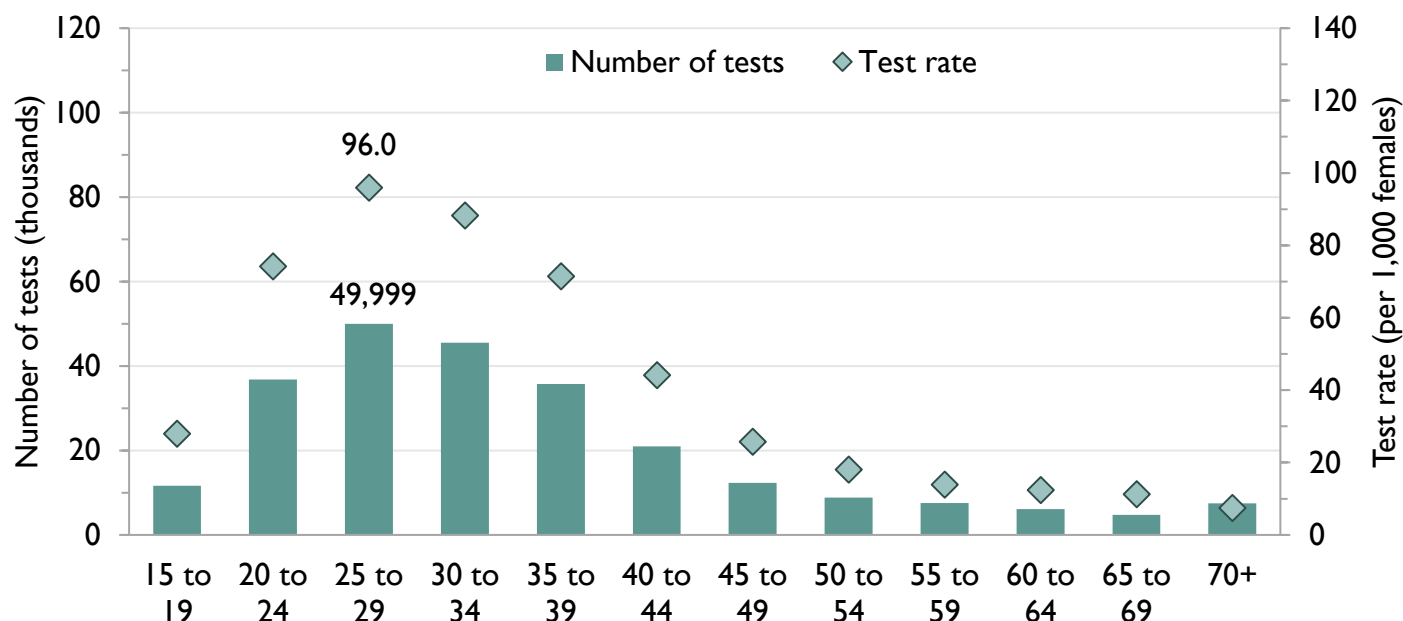


Snapshot

In 2020, the number of positive HIV test results was highest in the 30-34 age category (85). The HIV test positivity rate generally increased with age, and was highest among those aged 50-54 (0.24%). The distribution of positive results across age categories is similar to that seen in 2019; see **Figure 3.10** for an illustration of HIV test positivity rates among males over time.

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unreported age were not included (less than 0.5%). See [Appendices](#) for more information. See **Table 3.4** and **Table 3.5** for underlying data.

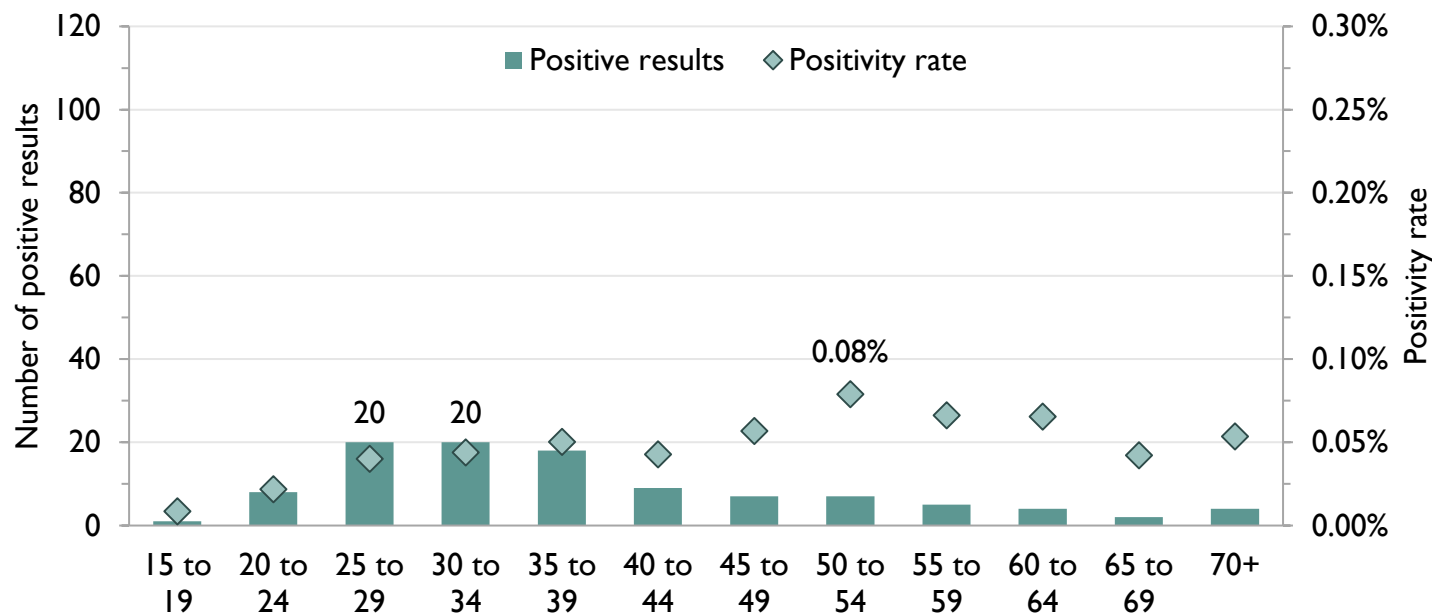
Figure 3.8 Number of HIV tests and HIV test rate per 1,000 people by age, females, Ontario, 2020



Snapshot

In 2020, the number of HIV tests and the HIV test rate were highest in the 25-29 age category (49,999 and 96.0 per 1,000 people, respectively). This pattern is consistent with that seen in 2019.

Figure 3.9 Number of positive HIV test results and HIV test positivity rate by age, females, Ontario, 2020

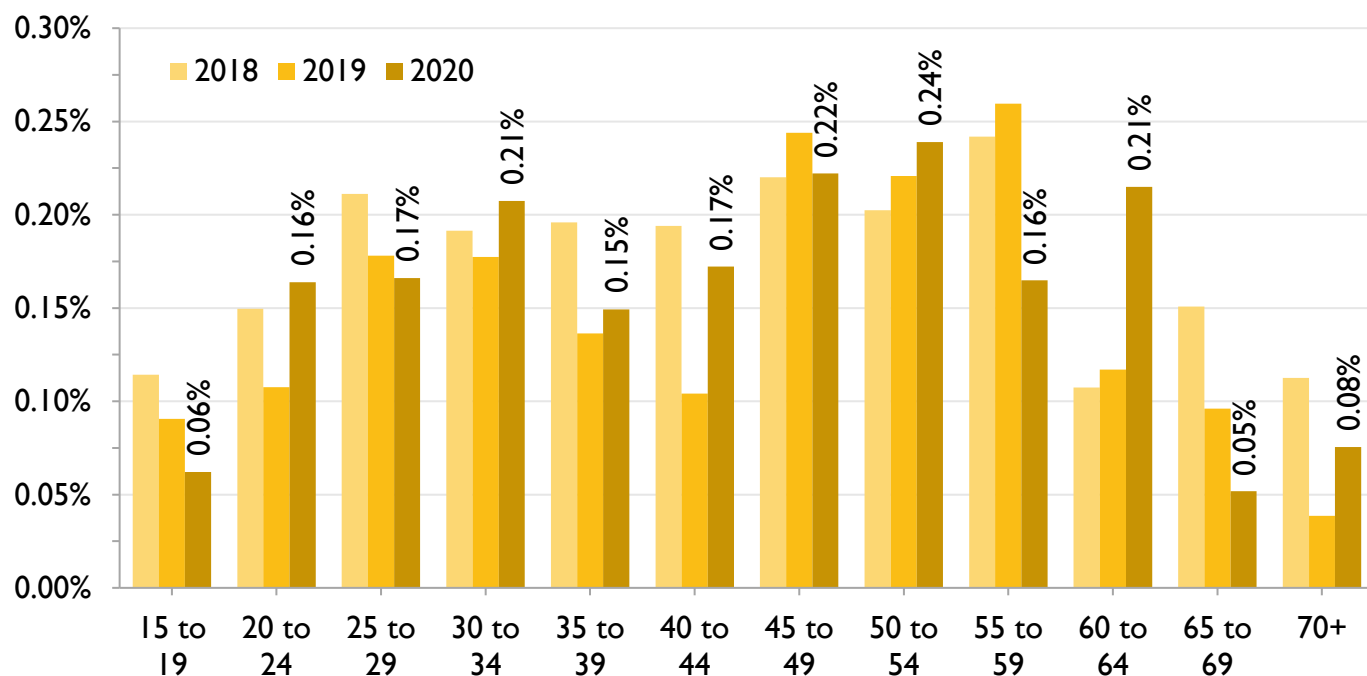


Snapshot

In 2020, the number of positive HIV test results was highest in the 25-29 and 30-34 age categories (both 20). The HIV test positivity rate generally increased with age, and was highest among those aged 50-54 (0.08%). The distribution of positive results across age categories is similar to that seen in 2019; see **Figure 3.11** for an illustration of HIV test positivity rates among females over time.

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unreported age were not included (less than 0.5%). See [Appendices](#) for more information. See **Table 3.4** and **Table 3.5** for underlying data.

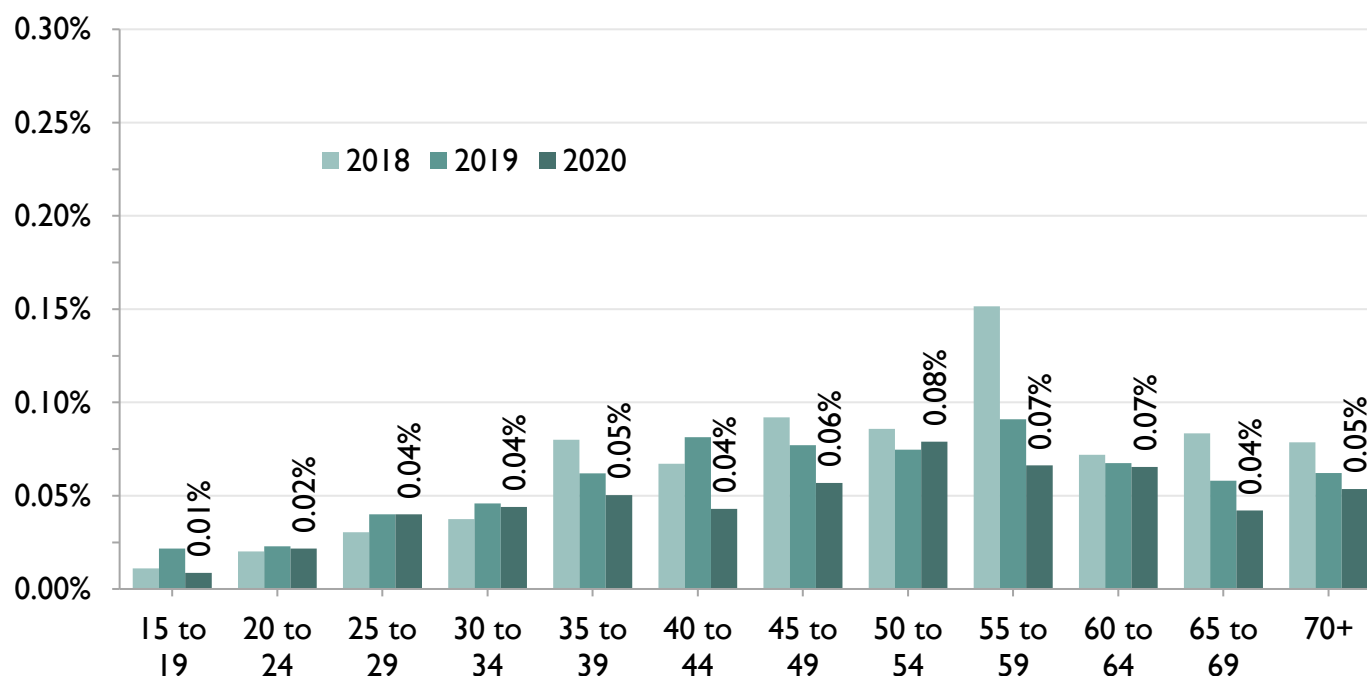
Figure 3.10 HIV test positivity rate by age, males, Ontario, 2018 to 2020



Snapshot

In 2020, compared to 2019, the HIV test positivity rate notably decreased among males aged 55-59 and 65-69, and notably increased among males aged 20-24, 40-44, and 60-64.

Figure 3.11 HIV test positivity rate by age, females, Ontario, 2018 to 2020



Snapshot

In 2020, compared to 2019, the HIV test positivity rate notably decreased among females aged 40-44 and 55-59. Otherwise, changes in HIV test positivity rates were not remarkable, or based on small cell counts.

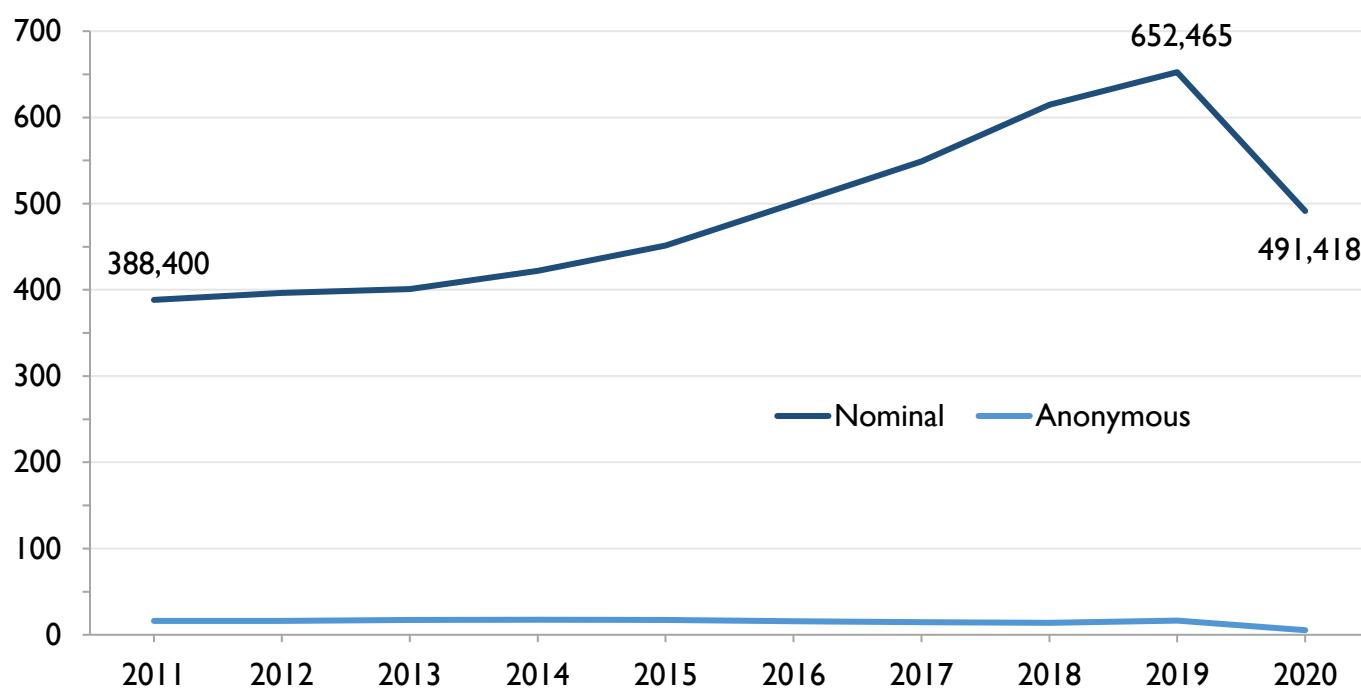
Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unreported age were not included (less than 0.5%). See [Appendices](#) for more information. See **Table 3.6** and **Table 3.7** for underlying data.

4. By test type

Related to the COVID-19 pandemic, the number of nominal HIV tests in 2020 decreased from 2019 by 28.5%, following gradual consistent increases since 2011 and especially since 2013.

The number of anonymous HIV tests decreased by 67.8% in 2020 compared to 2019, owing to the temporary suspension of services at public health sexual health clinics that offer anonymous testing during COVID-19. Anonymous HIV tests made up only 1.1% of all HIV tests in 2020, a decrease from 2.4% in both 2018 and 2019. The decrease in anonymous HIV tests among males follows relatively consistent numbers in years prior, whereas among females is a continuation of a pre-existing decreasing trend since 2012. Though the decreases in 2020 relative to 2019 were very similar between males and females, males experienced a much larger decrease in terms of absolute number. Lastly, the HIV test positivity rate nearly doubled among males in 2020 compared to 2019, indicating that despite the dramatic reduction in anonymous testing, males at high risk still accessed it. No positive tests came from the greatly reduced number of anonymous HIV tests in females in 2020.

Figure 4.1 Number of HIV tests (thousands) by test type, Ontario, 2011 to 2020

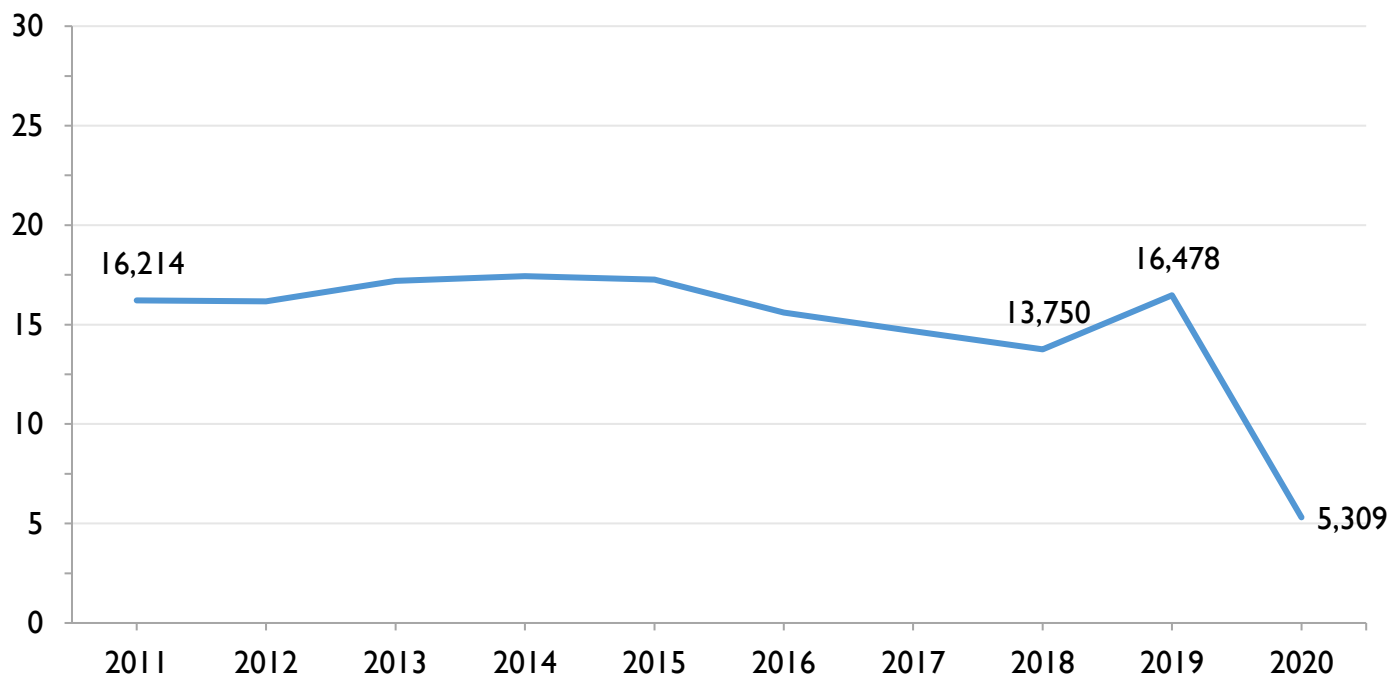


Snapshot

The number of nominal HIV tests decreased by 28.5% from 652,465 in 2019 to 491,418 in 2020, after consistently increasing from 388,400 in 2011. See **Figure 4.2** below for trends in anonymous HIV tests.

Notes: Data provided by Public Health Ontario Laboratory. See [Appendices](#) for more information. See **Table 4.1** for underlying data.

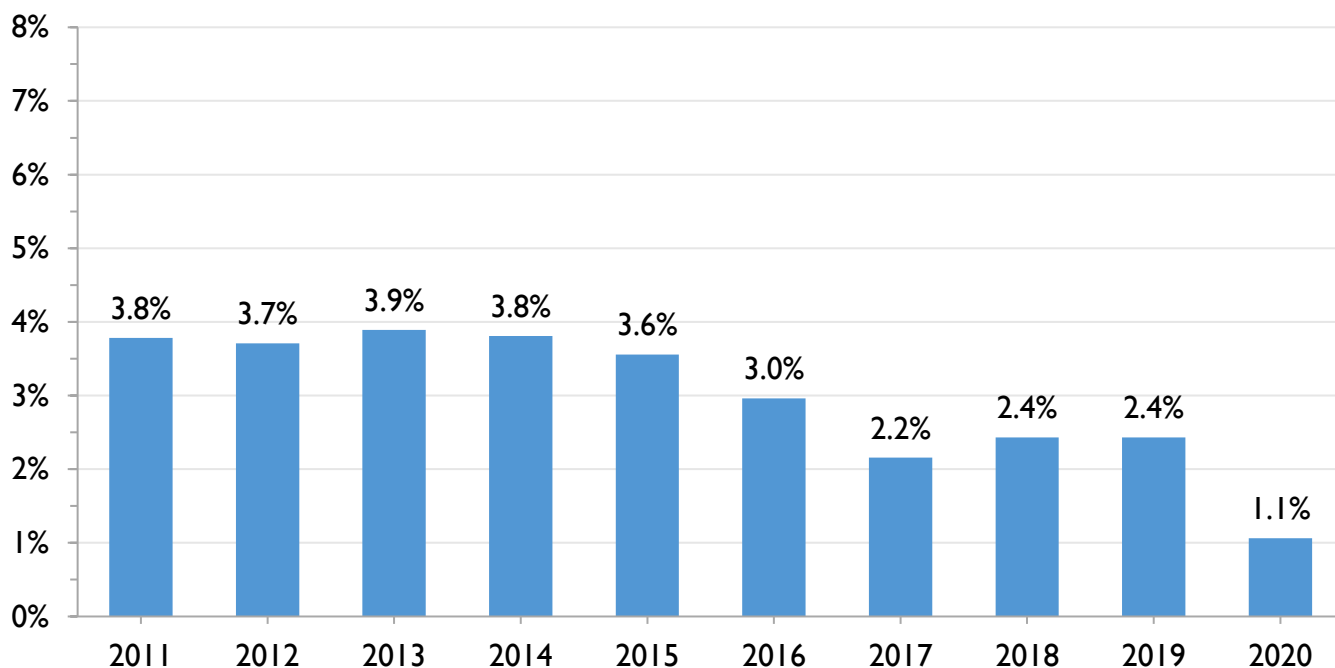
Figure 4.2 Number of anonymous HIV tests (thousands), Ontario, 2011 to 2020



Snapshot

The number of anonymous HIV tests decreased by 67.8% from 16,478 in 2019 to 5,309 in 2020, after fluctuating around 16,000 since 2011.

Figure 4.3 Percent of HIV tests that were anonymous HIV tests, Ontario, 2011 to 2020

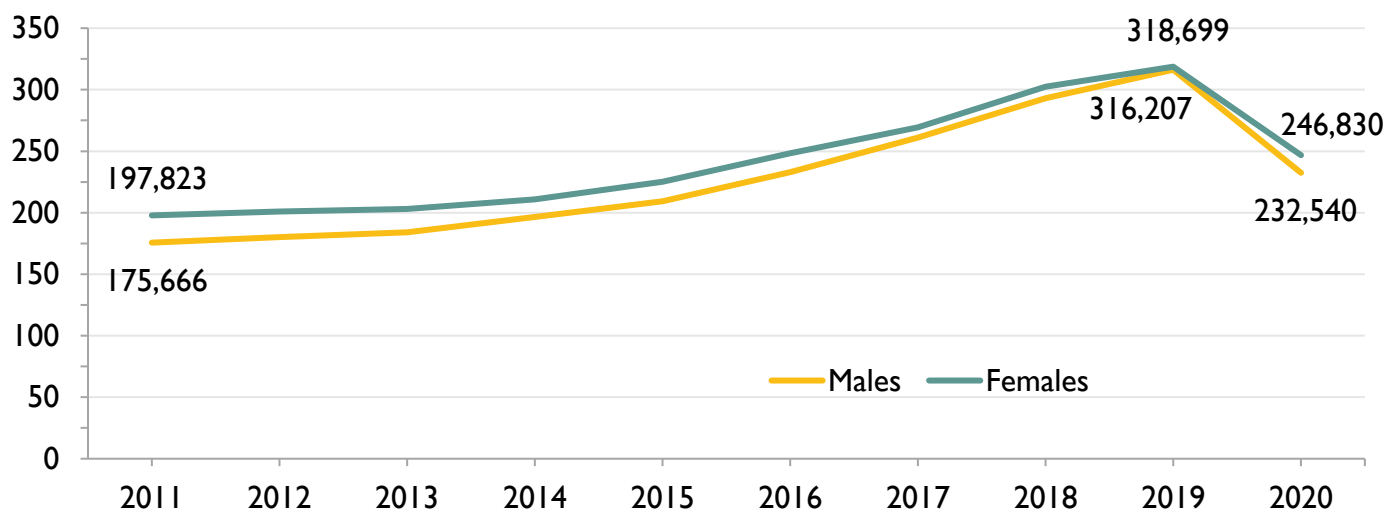


Snapshot

The proportion of HIV tests that were anonymous was relatively stable between 2011 and 2015 (average 3.8%), decreased to 2.2-2.4% over 2017-2019 and then decreased again to 1.1% in 2020.

Notes: Data provided by Public Health Ontario Laboratory. See [Appendices](#) for more information. See **Table 4.1** and **Table 4.3** for underlying data.

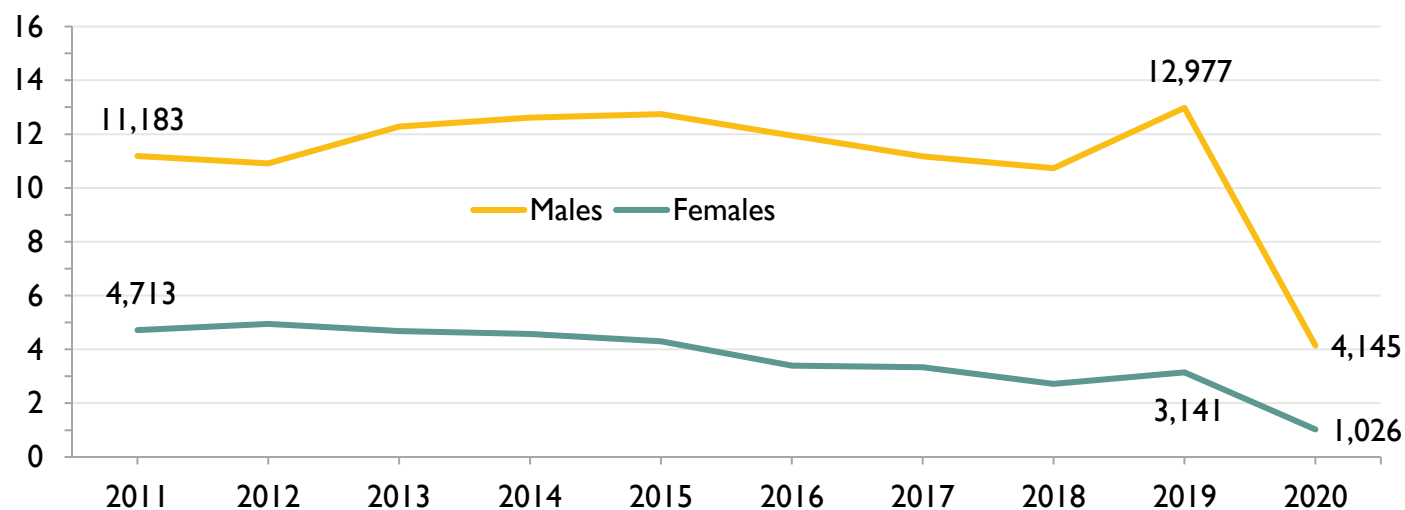
Figure 4.4 Number of nominal HIV tests (thousands) by sex, Ontario, 2011 to 2020



Snapshot

In 2020, the number of nominal HIV tests conducted decreased from 2019 numbers for both males and females. Among males, the number of nominal HIV tests decreased by 26.5% from 318,699 in 2019 to 246,830 in 2020, after consistently increasing from 175,666 in 2011. Among females, the number of nominal HIV tests decreased by 22.6% from 316,207 in 2019 to 232,540 in 2020, after consistently increasing from 197,823 in 2011. The number of nominal tests among females was consistently higher than among males, though the difference gradually decreased to 2,492 in 2019 before increasing again to 14,290 in 2020. See **Figure 4.5** below for trends in anonymous HIV tests.

Figure 4.5 Number of anonymous HIV tests (thousands) by sex, Ontario, 2011 to 2020

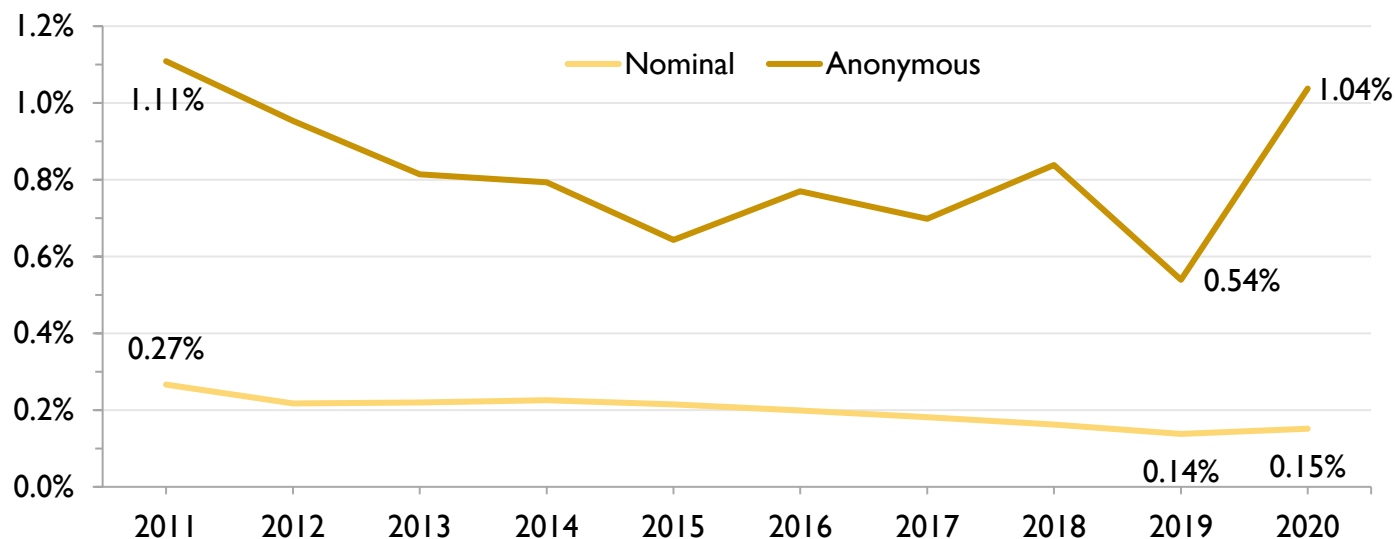


Snapshot

In 2020, the number of anonymous HIV tests conducted decreased from 2019 numbers for both males and females. Among males, the number of anonymous HIV tests decreased by 68.1% from 12,977 in 2019 to 4,145 in 2020, after fluctuating around ~12,000 between 2011 and 2019 and increasing between 2018 and 2019. Among females, the number of nominal HIV tests decreased by 67.3% from 3,141 in 2019 to 1,026 in 2020, after generally decreasing from a peak of 4,948 in 2012. The ratio of anonymous HIV tests among males vs. females increased from 2.4 in 2011 to 4.0 in more recent years (2018-2020).

Notes: Data provided by Public Health Ontario Laboratory. Tests with unreported sex not included (approximately 3% each year). See [Appendices](#) for more information. See **Table 4.2** for underlying data.

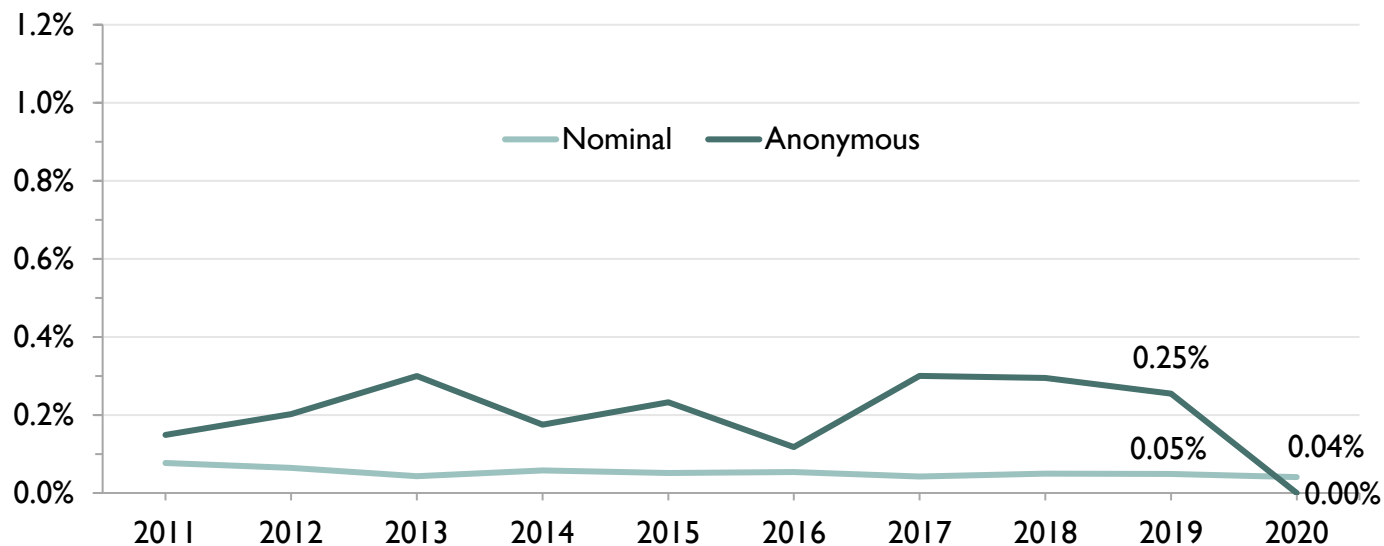
Figure 4.6 HIV test positivity rate by test type, males, Ontario, 2011 to 2020



Snapshot

In 2020 among males, the HIV test positivity rate increased from 2019 values for both anonymous and nominal HIV tests. The HIV test positivity rate of anonymous HIV tests increased by 92.3% from 0.54% in 2019 to 1.04% in 2020, after fluctuating around 0.73% between 2013 and 2019. The HIV test positivity rate of nominal HIV tests increased more modestly by 10.1% from 0.14% in 2019 to 0.15% in 2020, after consistently decreasing since 2014. While anonymous HIV tests had the highest positivity rate, the vast majority (70-87%) of positive results came from nominal HIV tests.

Figure 4.7 HIV test positivity rate by test type, females, Ontario, 2011 to 2020



Snapshot

In 2020 among females, the HIV test positivity rate of anonymous HIV tests decreased from 0.25% in 2019 to 0% in 2020, as no positive tests came from the greatly reduced number of anonymous tests in females in 2020. The HIV test positivity rate of nominal HIV tests in 2020 was 0.04% - very consistent with the relatively steady trend since 2011 (average 0.05%). All positive results in females came from nominal HIV tests in 2020.

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. See [Appendices](#) for more information. See [Table 4.4](#) and [Table 4.5](#) for underlying data.

5. By exposure category

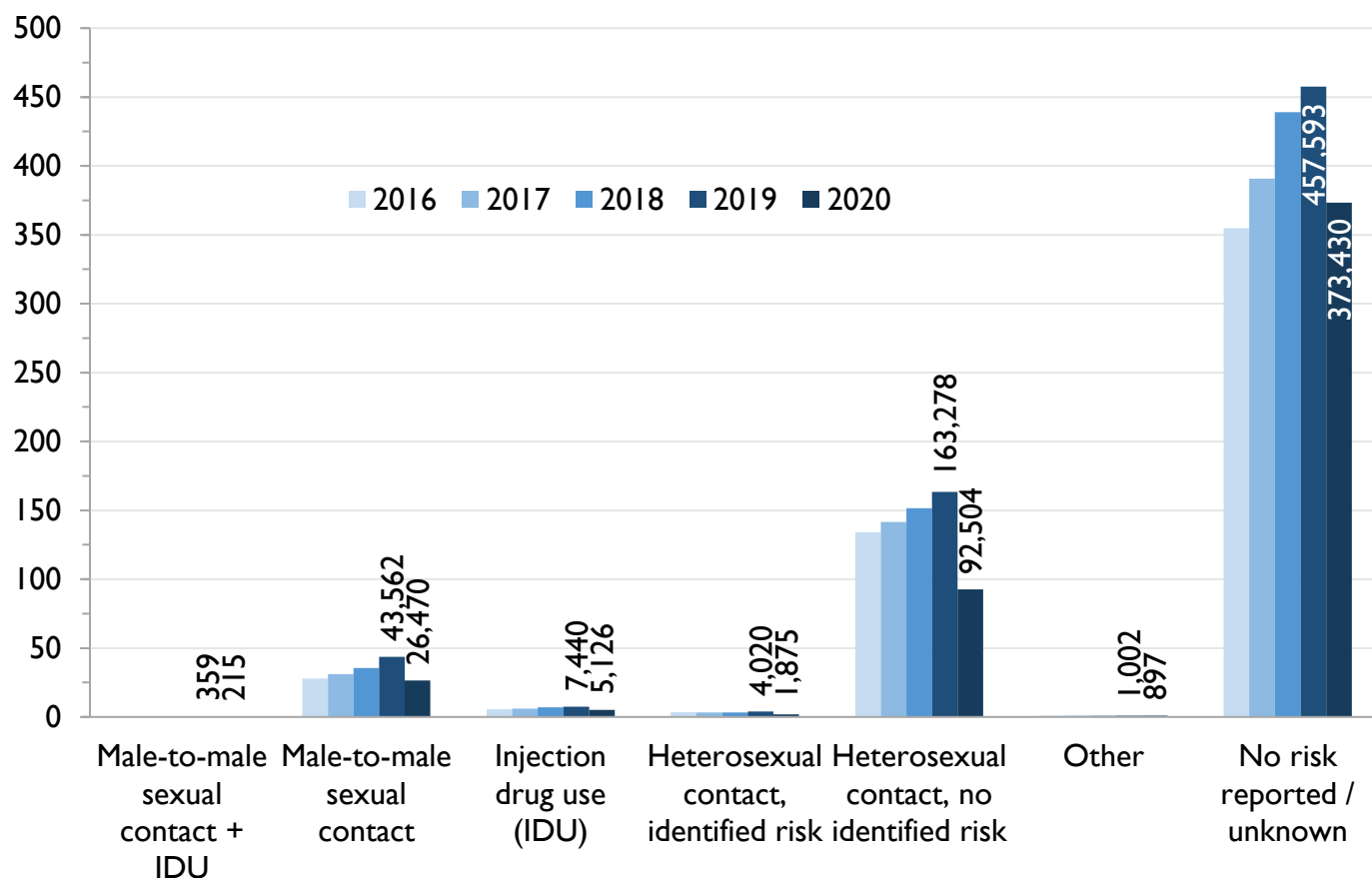
In 2020, 74.6% of HIV tests had no risk reported or unknown HIV risk (70.4% among males and 77.5% among females). Many people do not offer a risk, or healthcare providers do not report a risk at the time of testing, and later exposures are reported when they receive a positive result.

Between 2016 and 2020, the breakdown of HIV tests across HIV exposure categories was largely consistent. The largest proportion of HIV tests was consistently reported as heterosexual contact with no identified risk over these years, followed by male-to-male sexual contact among males, and injection drug use (IDU) among females.

Prior to 2020, the HIV test positivity rate had been highest for male-to-male sexual contact + IDU among males, however there were no positive results reporting this category on the HIV test requisition form in 2020. This may relate to decreased disclosure of HIV risk factors in 2020 as individuals may have sought/received testing outside of their regular health care providers. Instead, male-to-male sexual contact, which had the second-highest rates in past years, had the highest HIV test positivity rate among males in 2020. The HIV test positivity rate among females was highest for IDU in 2020, followed by heterosexual contact with identified risk.

Note: “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. See [HIV exposure categories](#) for more information.

Figure 5.1 Number of HIV tests by exposure category (thousands), Ontario, 2016 to 2020



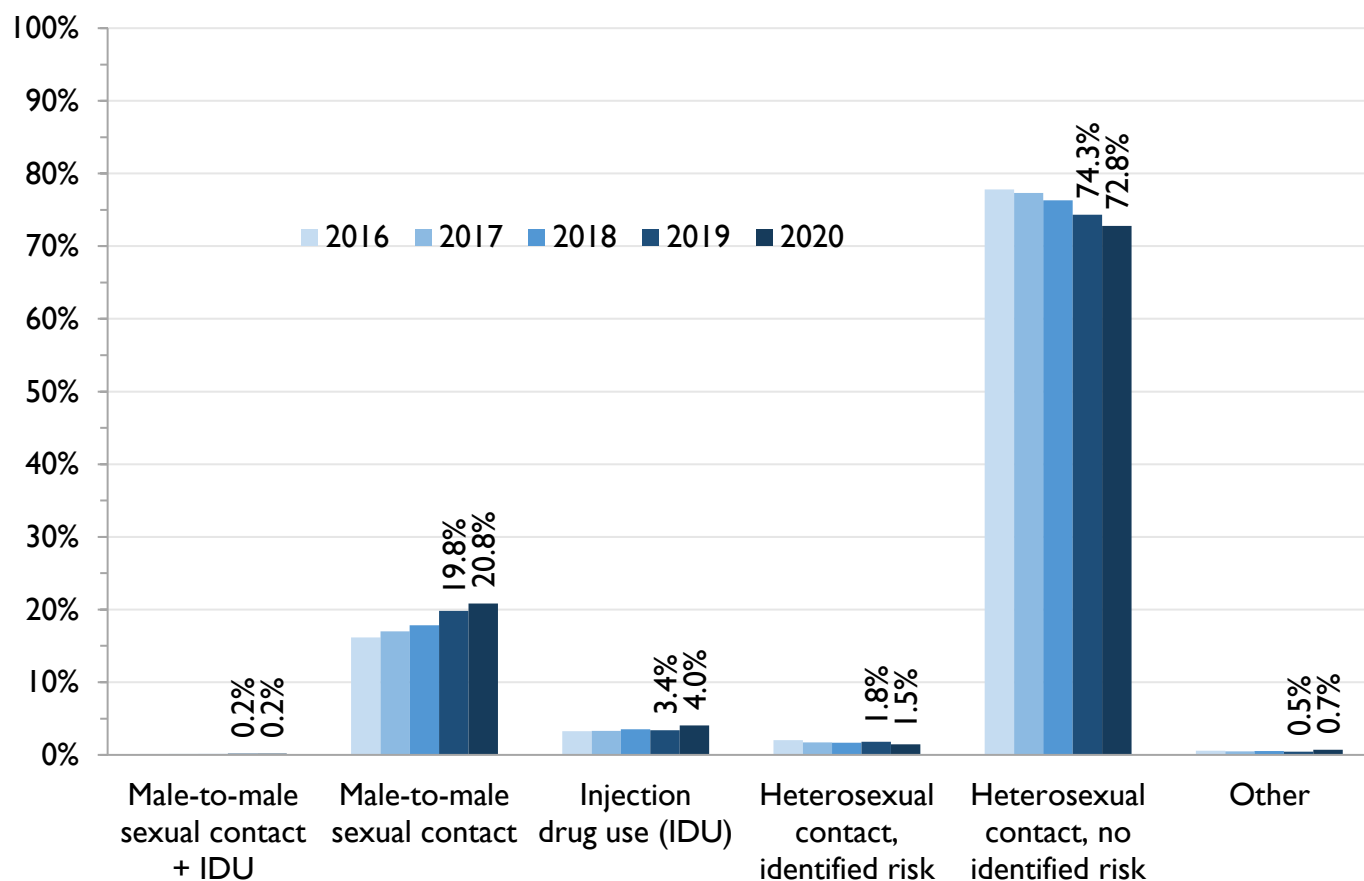
Snapshot

In 2020, 127,087 of the 500,517 HIV tests (25.4%) reported an HIV exposure category and 373,430 (74.6%) did not (i.e. no risk reported, unknown).

Among the 127,087 HIV tests with a reported HIV exposure category in 2020, the most frequently reported HIV exposure category was heterosexual contact with no identified risk (92,504), followed by male-to-male sexual contact (26,470) and IDU (5,126). This pattern is consistent with the previous four years. The number of HIV tests decreased in all HIV exposure categories between 2019 and 2020, with the greatest relative decreases seen in heterosexual contact with identified risk (53.4%), heterosexual contact with no identified risk (43.3%), and male-to-male sexual contact + IDU (40.1%).

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. HIV tests with previous evidence of HIV not included. See [HIV exposure categories](#) in the Appendices for further explanation. See **Table 5.1** for underlying data.

Figure 5.2 Percent of HIV tests by exposure category (where reported), Ontario, 2016 to 2020

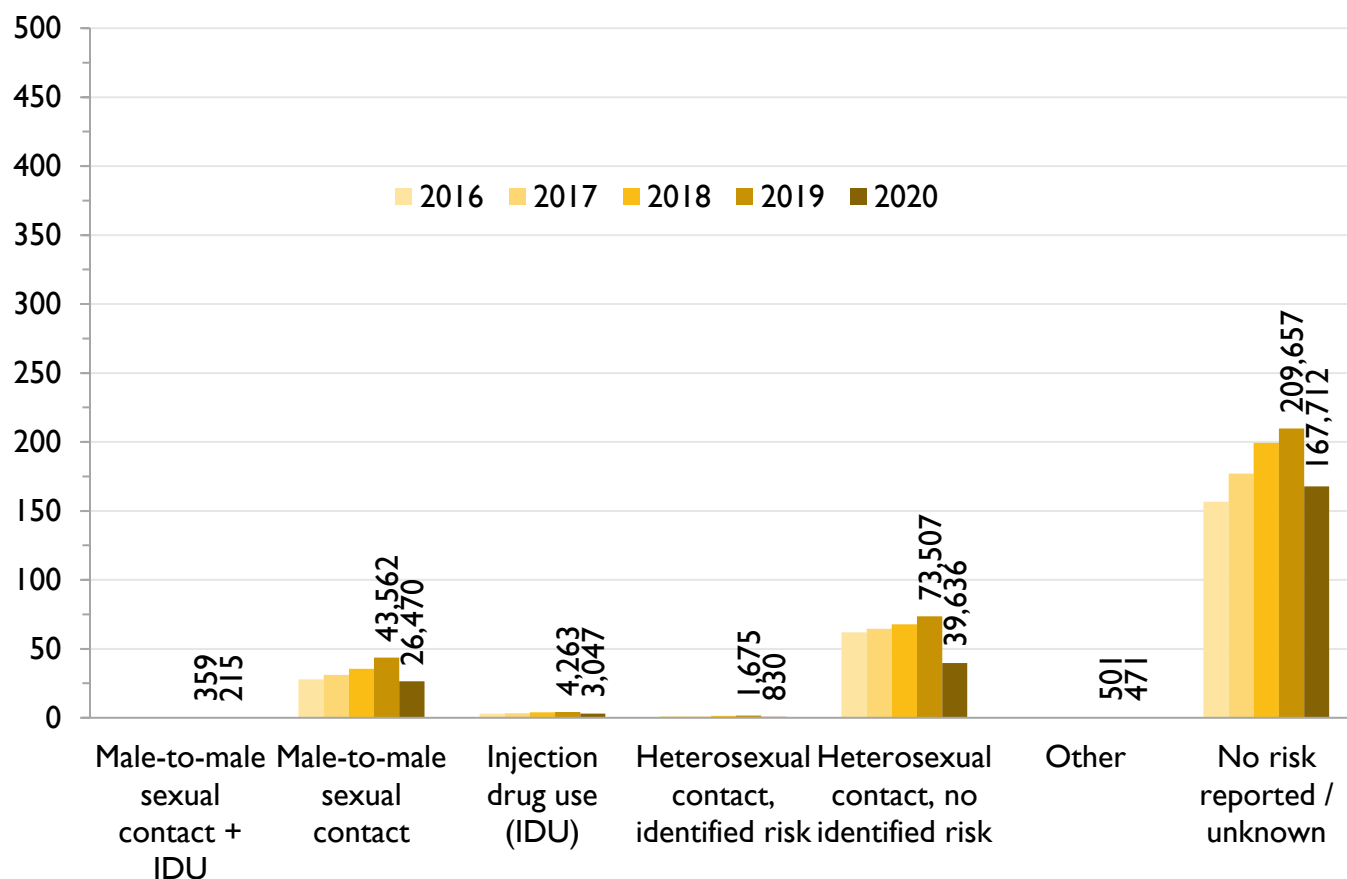


Snapshot

In 2020, among the 127,087 HIV tests with a reported HIV exposure category, the heterosexual contact with no identified risk exposure category accounted for the largest proportion (72.8%), followed by male-to-male sexual contact (20.8%), and IDU (4.0%). The proportion of tests reported as heterosexual contact with no identified risk gradually decreased from 77.8% in 2016 to 72.8% in 2020, while the proportion that reported male-to-male sexual contact gradually increased from 16.2% in 2019 to 20.8% in 2020.

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. HIV tests with previous evidence of HIV not included. HIV exposure category not reported or unknown for average of 69.3% of HIV tests between 2016 and 2020. See [HIV exposure categories](#) in the Appendices for further explanation. See **Table 5.1** and **Table 5.2** for underlying data.

Figure 5.3 Number of HIV tests by exposure category (thousands), males, Ontario, 2016 to 2020



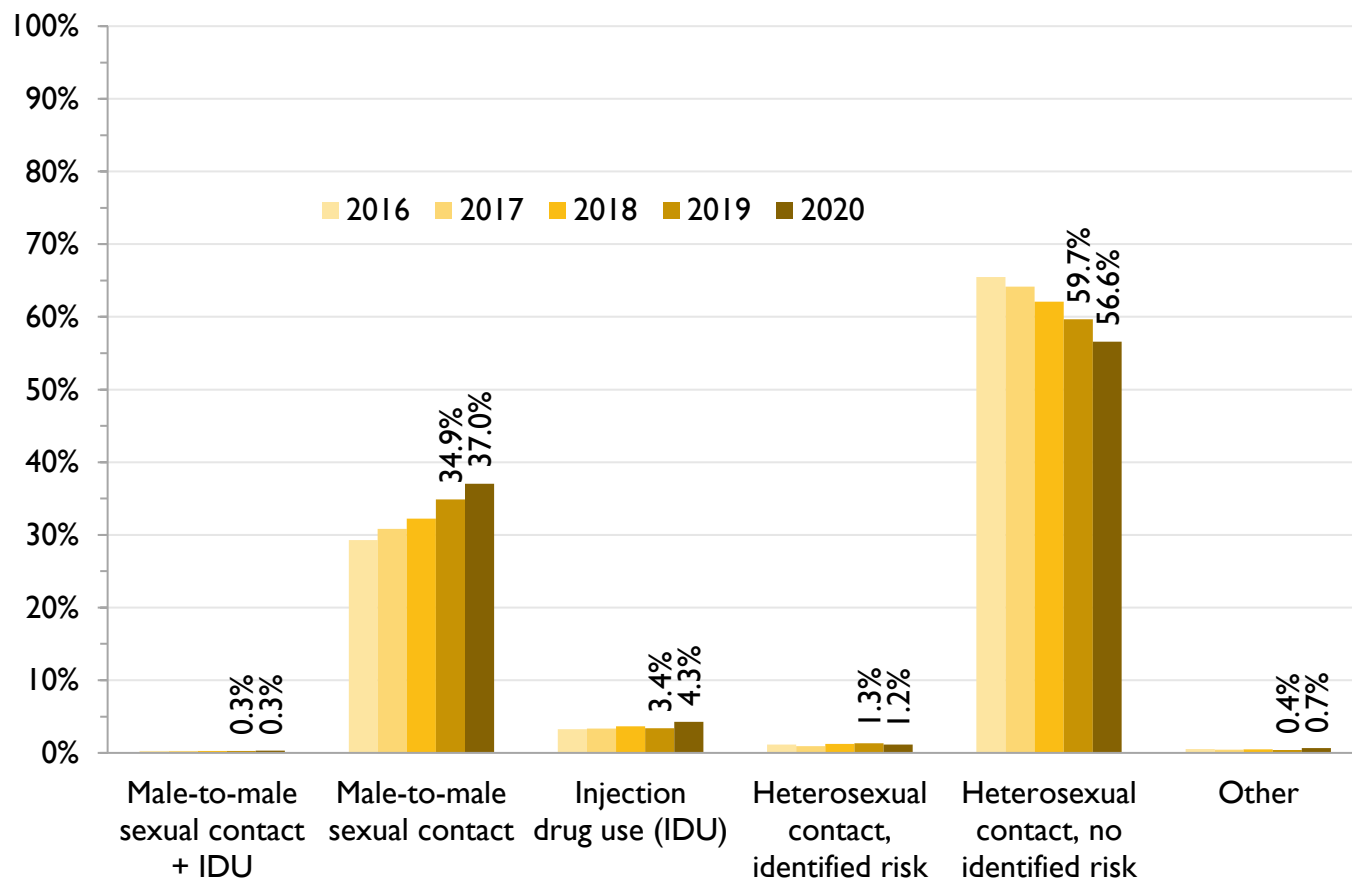
Snapshot

In 2020, 70,669 of the 238,381 HIV tests in males (29.6%) reported an HIV exposure category and 373,430 (70.4%) did not (i.e. no risk reported, unknown).

Among the 70,669 HIV tests in males with a reported HIV exposure category in 2020, the most frequently reported HIV exposure category was heterosexual contact with no identified risk (39,636), followed by male-to-male sexual contact (26,470) and IDU (3,047). This pattern is consistent with the previous four years. The number of HIV tests decreased in all HIV exposure categories between 2019 and 2020, with the greatest relative decreases seen in heterosexual contact with identified risk (50.4%), heterosexual contact with no identified risk (46.1%), and male-to-male sexual contact + IDU (40.1%).

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. HIV tests with previous evidence of HIV not included. See [HIV exposure categories](#) in the Appendices for further explanation. See **Table 5.3** for underlying data.

Figure 5.4 Percent of HIV tests by exposure category (where reported), males, Ontario, 2016 to 2020

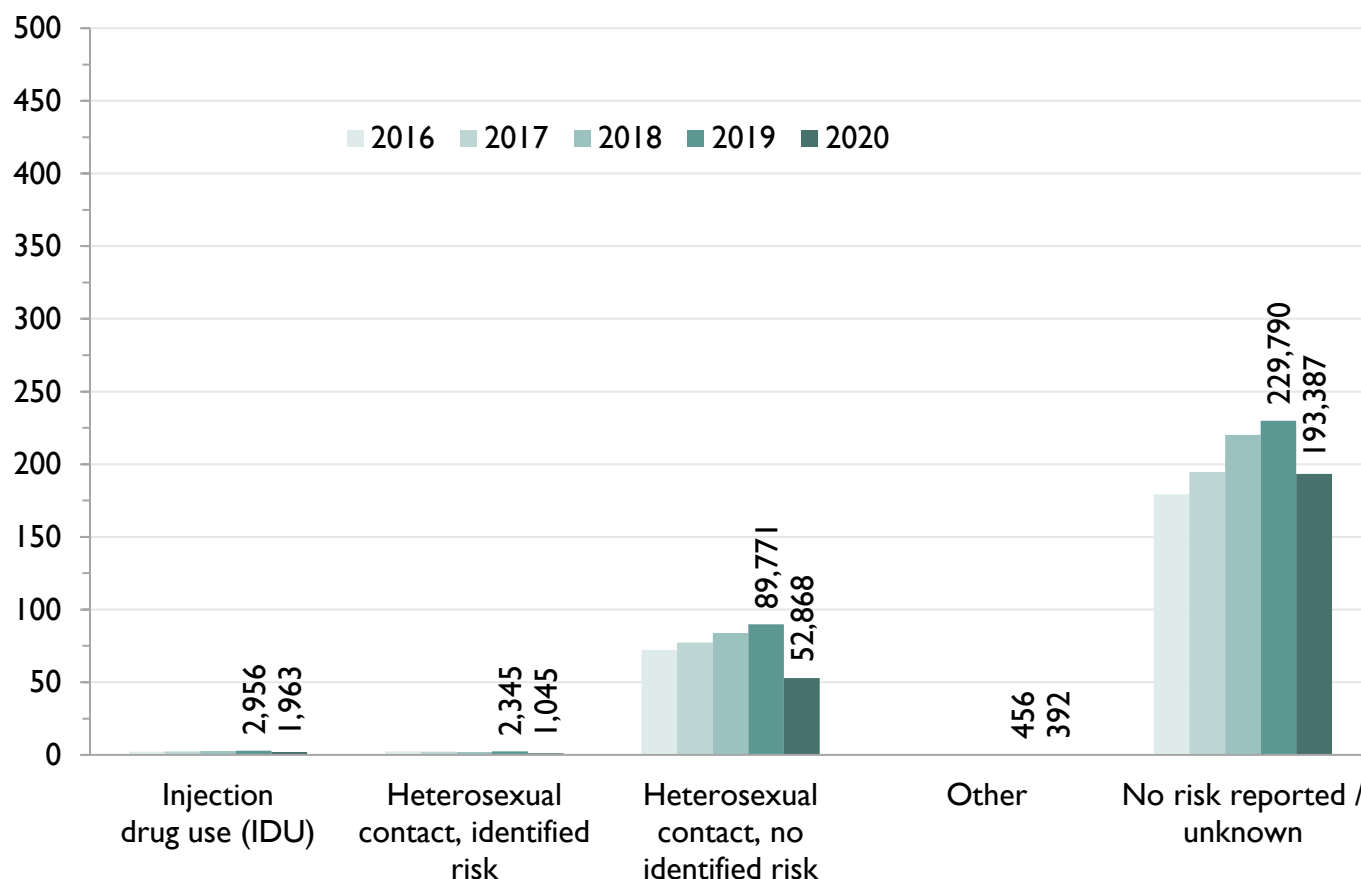


Snapshot

In 2020, among the 70,669 HIV tests in males with a reported HIV exposure category (29.6% of tests), the heterosexual contact with no identified risk exposure category accounted for the largest proportion (56.6%), followed by male-to-male sexual contact (37.0%), and IDU (4.3%). The proportion of tests reported as heterosexual contact with no identified risk gradually decreased from 65.5% in 2016 to 56.6% in 2020, while the proportion that reported male-to-male sexual contact gradually increased from 29.3% in 2019 to 37.0% in 2020.

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. HIV tests with previous evidence of HIV not included. HIV exposure category not reported or unknown for average of 64.8% of HIV tests among males between 2016 and 2020. See [HIV exposure categories](#) in the Appendices for further explanation. See **Table 5.3** and **Table 5.4** for underlying data.

Figure 5.5 Number of HIV tests by exposure category (thousands), females, Ontario, 2016 to 2020



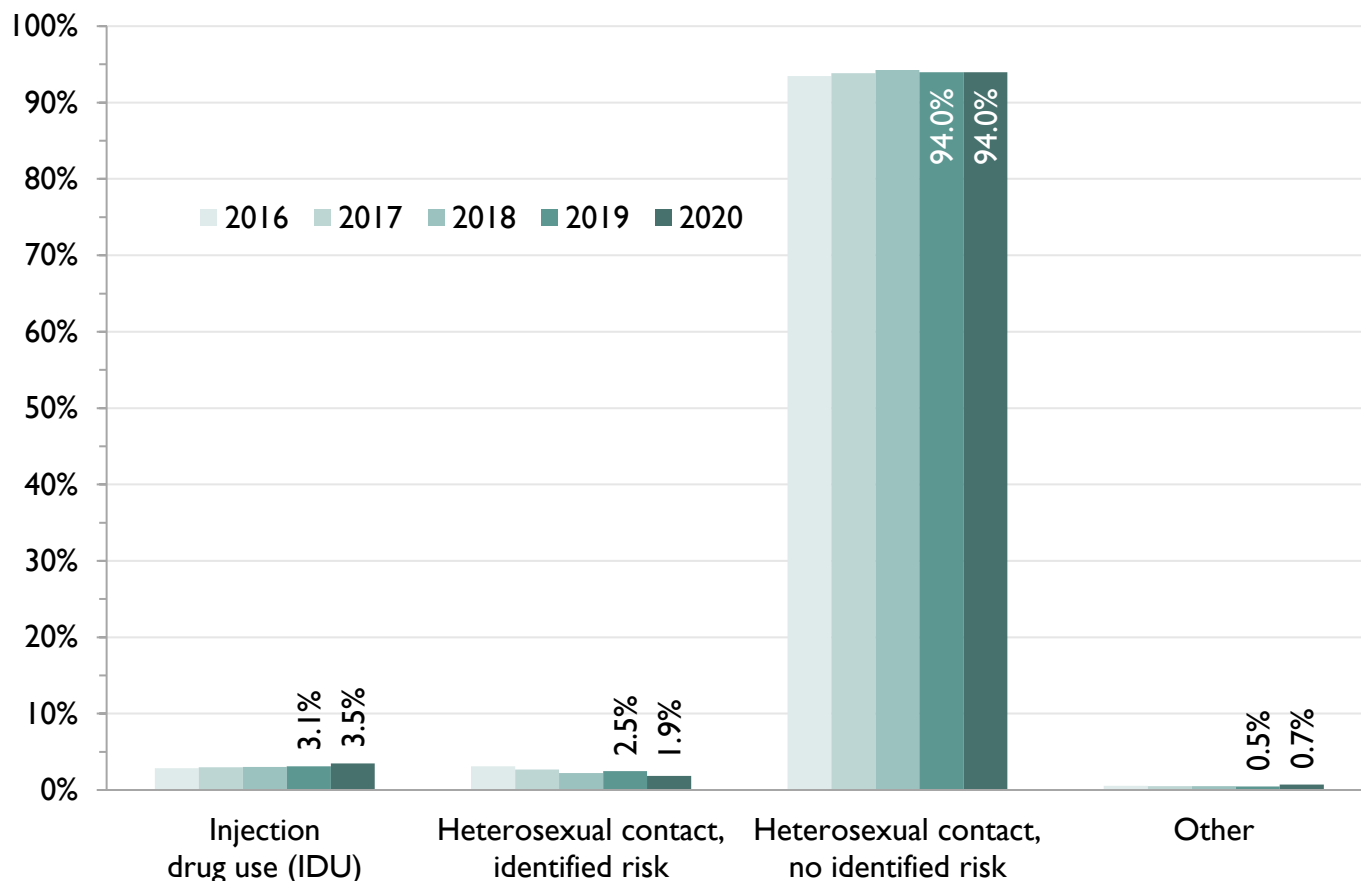
Snapshot

In 2020, 56,268 of the 249,655 HIV tests in females (22.5%) reported an HIV exposure category and 193,387 (77.5%) did not (i.e. no risk reported, unknown).

Among the 56,268 HIV tests in females with a reported HIV exposure category in 2020, the most frequently reported HIV exposure category was heterosexual contact with no identified risk (52,868), followed by IDU (1,963) and heterosexual contact with identified risk (1,045). This pattern is consistent with the previous four years. The number of HIV tests decreased in all HIV exposure categories between 2019 and 2020, with the greatest relative decreases seen in heterosexual contact with identified risk (55.4%), heterosexual contact with no identified risk (41.1%), and IDU (33.6%).

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. HIV tests with previous evidence of HIV not included. See [HIV exposure categories](#) in the Appendices for further explanation. See **Table 5.5** for underlying data.

Figure 5.6 Percent of HIV tests by exposure category (where reported), females, Ontario, 2016 to 2020

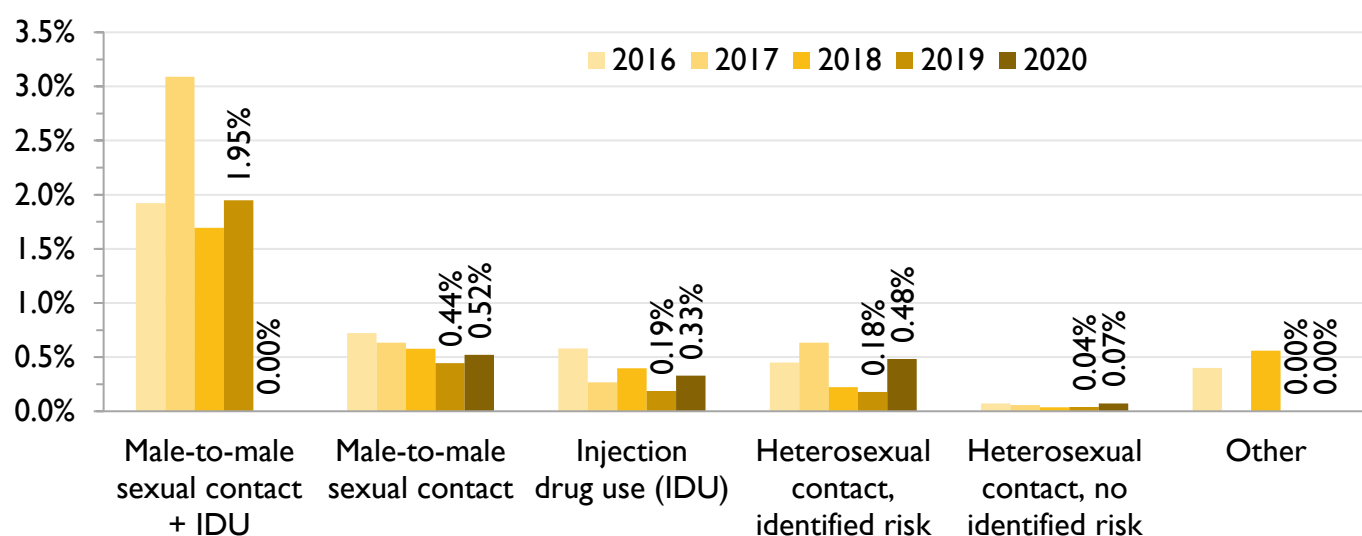


Snapshot

In 2020, among the 56,268 HIV tests in females with a reported HIV exposure category (22.5% of tests), the heterosexual contact with no identified risk exposure category accounted for the largest proportion (94.0%), followed by IDU (3.5%), and heterosexual contact with identified risk (1.9%). This pattern is consistent with the previous four years.

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. HIV tests with previous evidence of HIV not included. HIV exposure category not reported or unknown for average of 71.9% of HIV tests among females between 2016 and 2020. See [HIV exposure categories](#) in the Appendices for further explanation. See **Table 5.5** and **Table 5.6** for underlying data.

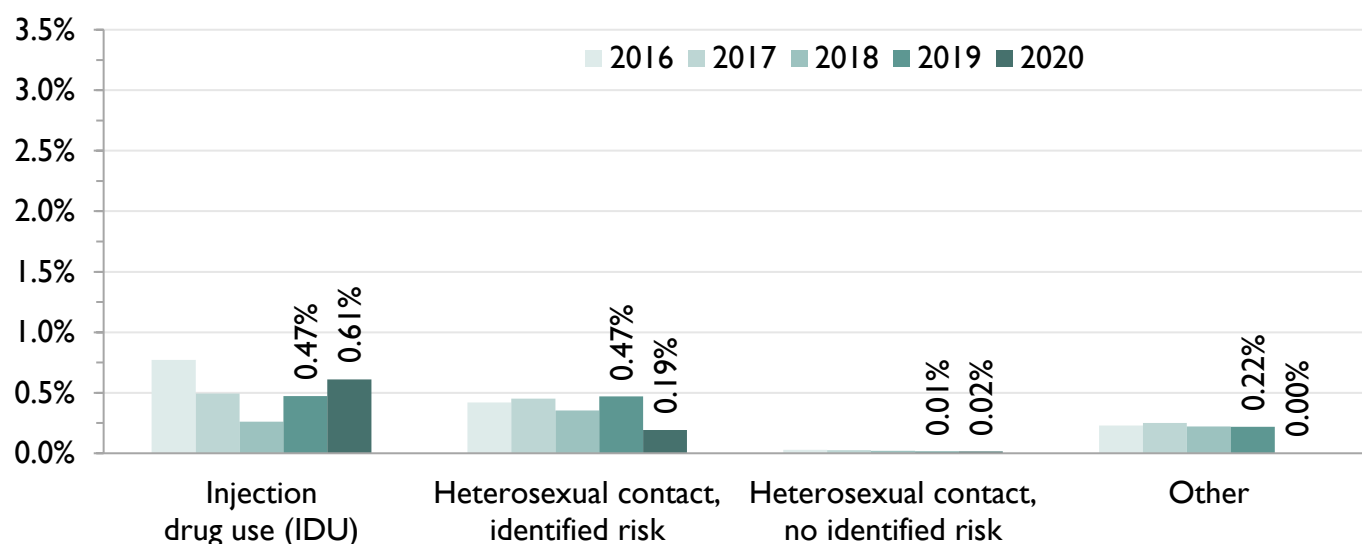
Figure 5.7 HIV test positivity rate by sex and exposure category (where reported), males, Ontario, 2016 to 2020



Snapshot

Between 2016 and 2019, the HIV test positivity rate among males was highest for male-to-male sexual contact + IDU, though there were no positive results reporting this category in 2020. HIV test positivity rates of other HIV exposure categories in 2020 were consistent with recent years. Male-to-male sexual contact had the highest HIV test positivity rate among males in 2020 (0.52%).

Figure 5.8 HIV test positivity rate by sex and exposure category (where reported), females, Ontario, 2016 to 2020



Snapshot

The HIV test positivity rate among females was highest for IDU in 2020 (0.61%), followed by heterosexual contact with identified risk (0.19%), which decreased from prior years. HIV test positivity rates of other HIV exposure categories in 2020 were consistent with recent years.

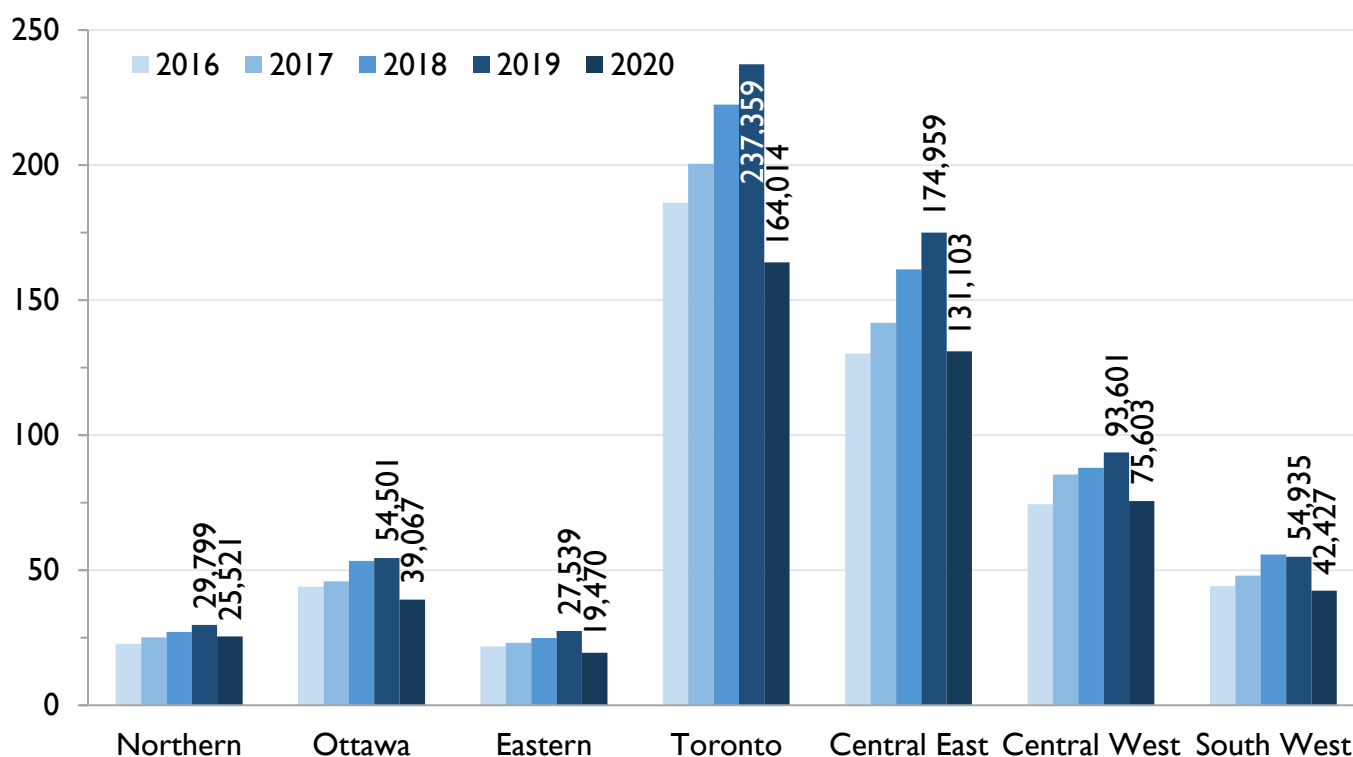
Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. HIV tests with previous evidence of HIV not included. See [HIV exposure categories](#) in the Appendices for further explanation. See **Table 5.7** and **Table 5.8** for underlying data. Missing bar denotes 0% HIV test positivity rate due to zero positive HIV tests in that year and specific exposure category.

6. By health region

In 2020, the HIV test rate per 1,000 people was highest in Toronto (54.9) followed by Ottawa (37.5). In the other five health regions, the HIV test rate ranged from 22.0 (Eastern) to 31.5 (Northern) per 1,000 people. The number and rate of HIV tests per capita decreased in all health regions for both males and females in 2020 compared to 2019. These decreases were not consistent across regions however, as Toronto, Eastern, and Ottawa regions saw the largest relative decreases.

HIV test positivity rates by health region in 2020 were largely consistent with those of prior years for both males and females, with the exception of a continued downward trend in South West region. Overall, the HIV test positivity rate was highest in Toronto in 2020 (0.17%) followed by Northern and Ottawa regions (0.09%), Eastern and Central West regions (0.07%), and Central East (0.05%) region. Among males, the HIV test positivity rate was highest in Toronto (0.28%), but among females, the HIV test positivity rate was highest in the Northern region (0.10%).

Figure 6.1 Number of HIV tests (thousands) by health region, Ontario, 2016 to 2020



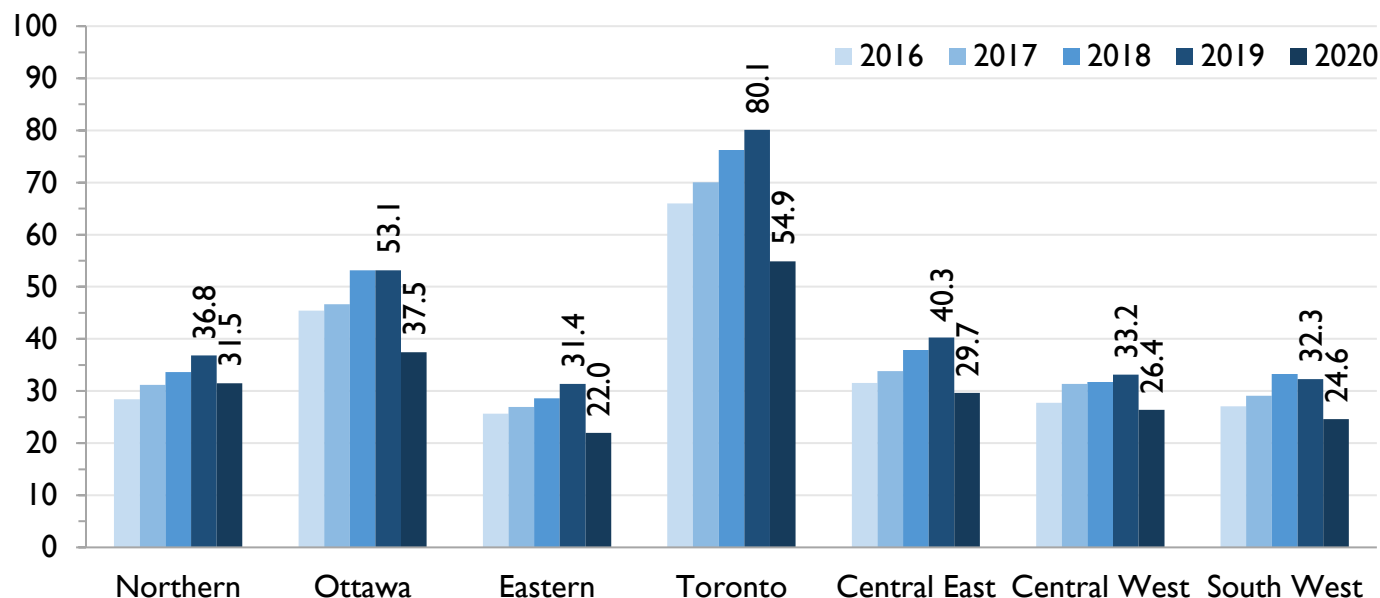
Snapshot

Between 2019 and 2020, the number of HIV tests performed decreased across all health regions. The largest relative decrease was in Toronto (30.9%), followed by Eastern (29.3%), Ottawa (28.3%), Central East (25.1%), South West (22.8%), Central West (19.2%), and Northern (14.4%) regions.

Between 2016 and 2020, the number of HIV tests was highest in Toronto followed by Central East region, and lowest in the Northern and Eastern health regions. The lower numbers of HIV tests correspond with smaller population sizes – see Figure 6.2 for rates per 1,000 people.

Notes: Data provided by Public Health Ontario Laboratory. Tests with unknown health region not included (less than 0.0%). Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. HIV tests with previous evidence of HIV not included. See [Appendices](#) for more information. See **Table 6.1** for underlying data.

Figure 6.2 HIV test rate per 1,000 people by health region, Ontario, 2016 to 2020

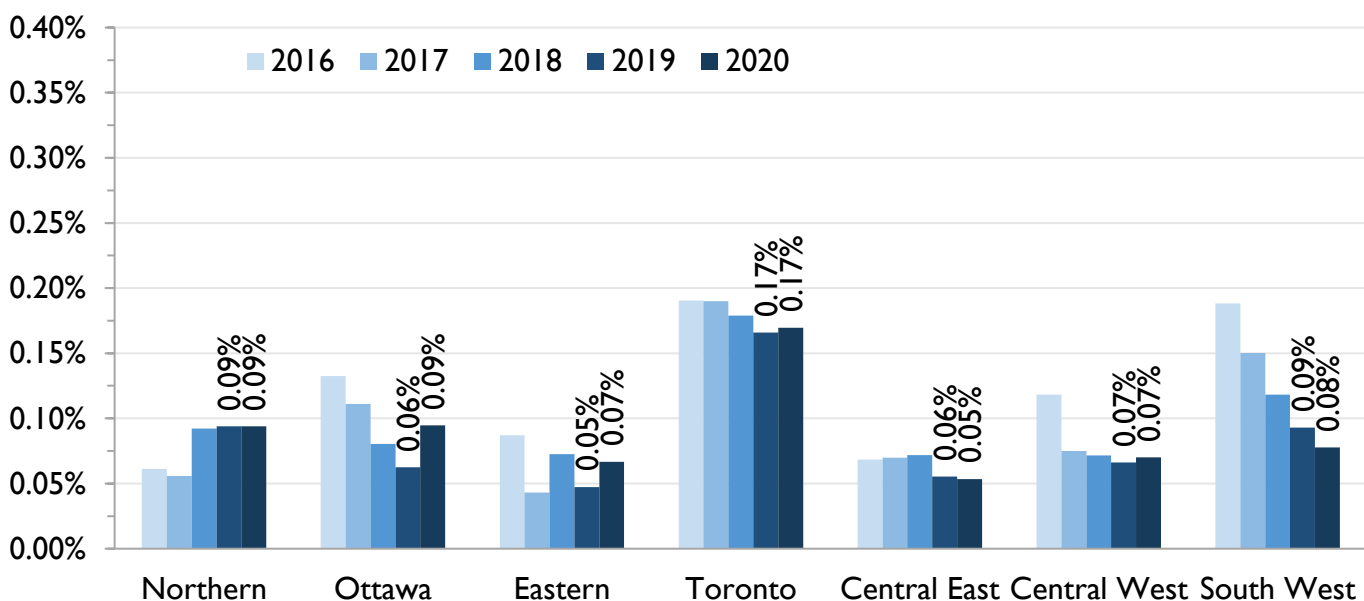


Snapshot

Between 2019 and 2020, the HIV test rates per 1,000 people decreased in all regions. The largest relative decreases were in Toronto (31.5%), Eastern (30.0%), and Ottawa (29.5%) regions.

Between 2016 and 2020, the HIV test rate per 1,000 people was highest in Toronto followed by Ottawa, and then relatively similar in the remaining health regions.

Figure 6.3 HIV test positivity rate by health region, Ontario, 2016 to 2020

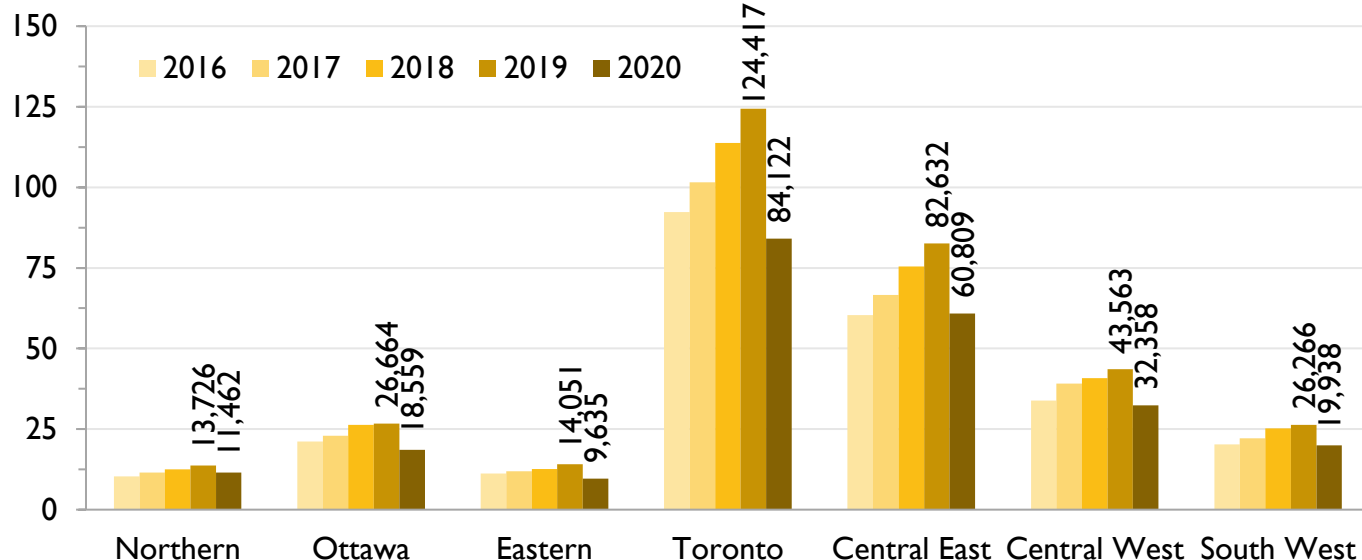


Snapshot

In 2020, the HIV test positivity rates were consistent with trends in prior years in all health regions, except South West which continued a downward trend. The HIV test positivity rate was highest in Toronto (0.17%) followed by Northern and Ottawa regions (0.09%), Eastern and Central West regions (0.07%), and Central East (0.05%) region.

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unknown health region not included (less than 0.0%). See [Appendices](#) for more information. See **Table 6.1** for underlying data.

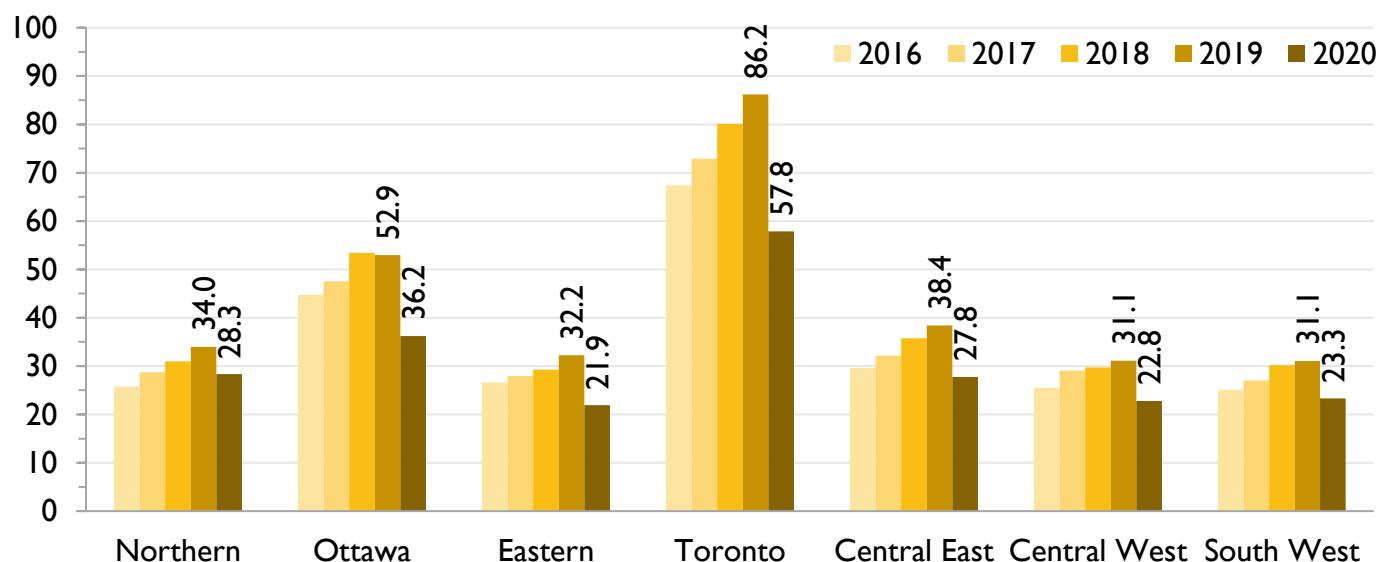
Figure 6.4 Number of HIV tests (thousands) by health region, males, Ontario, 2016 to 2020



Snapshot

Between 2019 and 2020, the number of HIV tests performed in males decreased across all health regions. The largest relative decrease was in Toronto (32.4%), followed by Eastern (31.4%), Ottawa (30.4%), Central East (26.4%), Central West (25.7%), South West (24.1%), and Northern (16.5%) regions. Between 2016 and 2020, the number of HIV tests was highest in Toronto followed by Central East, and lowest in the Northern and Eastern health regions.

Figure 6.5 HIV test rate per 1,000 people by health region, males, Ontario, 2016 to 2020

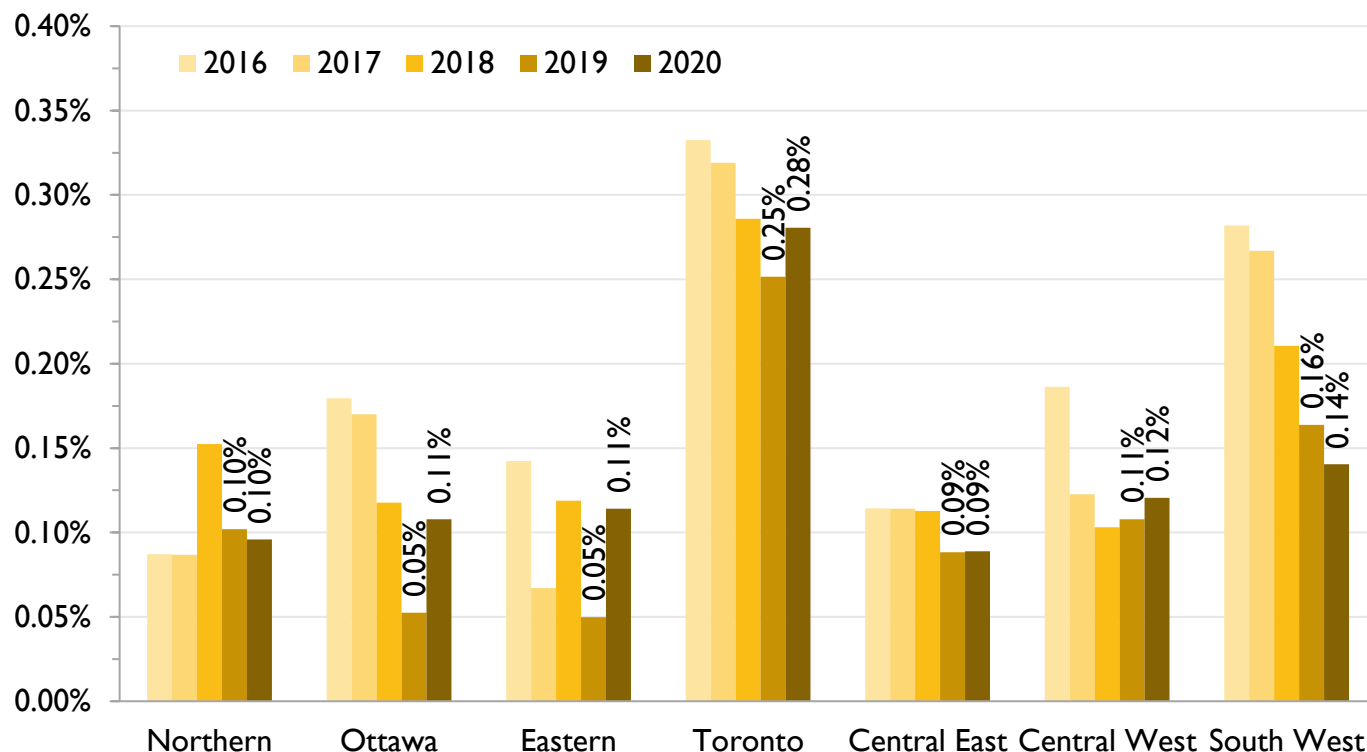


Snapshot

Between 2019 and 2020, the HIV test rates in males per 1,000 people decreased in all regions. The largest relative decreases were in Toronto (32.9%), Eastern (32.1%), and Ottawa (31.6%) regions. Between 2016 and 2020, the HIV test rate in males 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. Tests with unreported sex not included (approximately 3% per year). Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. HIV tests with previous evidence of HIV not included. See [Appendices](#) for more information. See **Table 6.2** for underlying data.

Figure 6.6 HIV test positivity rate by health region, males, Ontario, 2016 to 2020

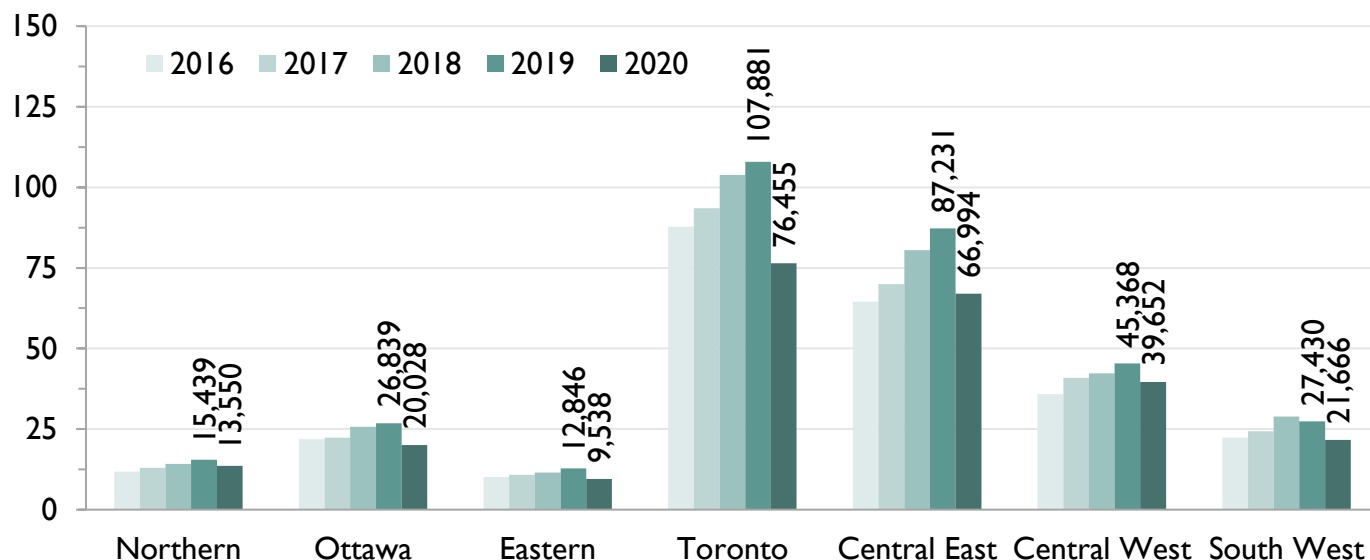


Snapshot

In 2020, the HIV test positivity rates among males were largely unchanged from that of prior years in all health regions, except South West which continued a downward trend. Fluctuations in Ottawa and Eastern regions reflect relatively smaller numbers of positive HIV tests. The HIV test positivity rate among males in 2020 was highest in Toronto (0.28%) followed by South West (0.14%), Central West (0.12%), Ottawa and Eastern regions (0.11%), Northern (0.10%), and Central East (0.09%) regions.

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unreported sex not included (approximately 3% per year). See [Appendices](#) for more information. See **Table 6.2** for underlying data.

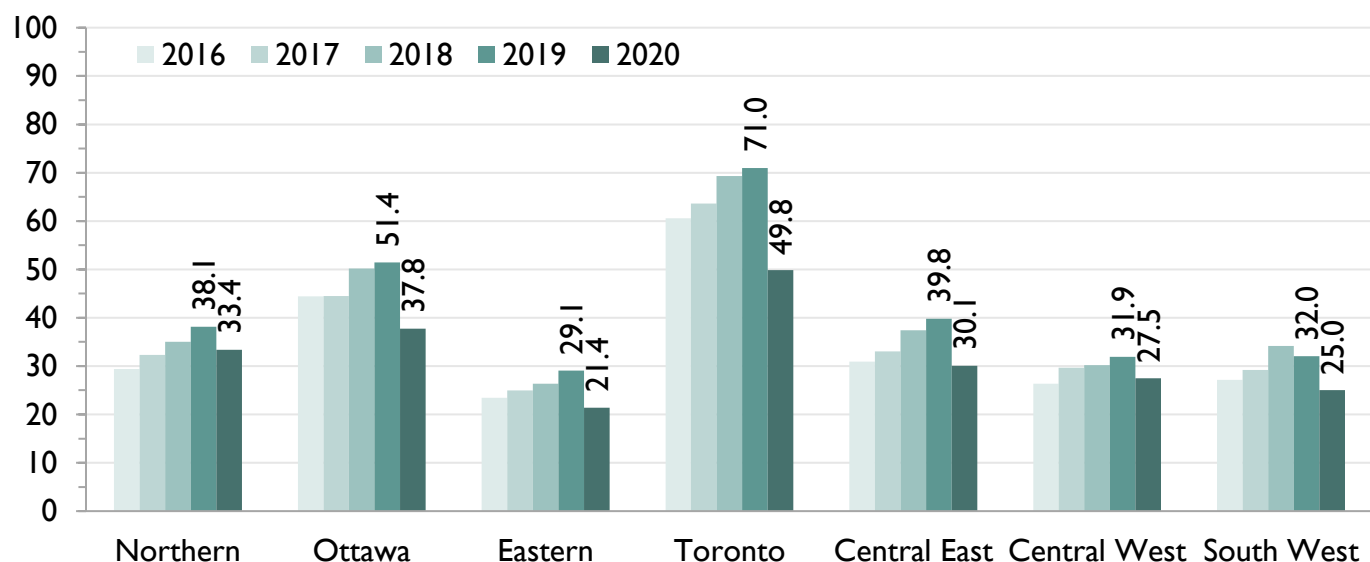
Figure 6.7 Number of HIV tests (thousands) by health region, females, Ontario, 2016 to 2020



Snapshot

Between 2019 and 2020, the number of HIV tests performed in females decreased across all health regions. The largest relative decrease was in Toronto (29.1%), followed by Eastern (25.8%), Ottawa (25.4%), Central East (23.2%), South West (21.0%), Central West (12.6%), and Northern (12.2%) regions. Between 2016 and 2020, the number of HIV tests was highest in Toronto followed by Central East, and lowest in the Northern and Eastern health regions.

Figure 6.8 HIV test rate per 1,000 people by health region, females, Ontario, 2016 to 2020

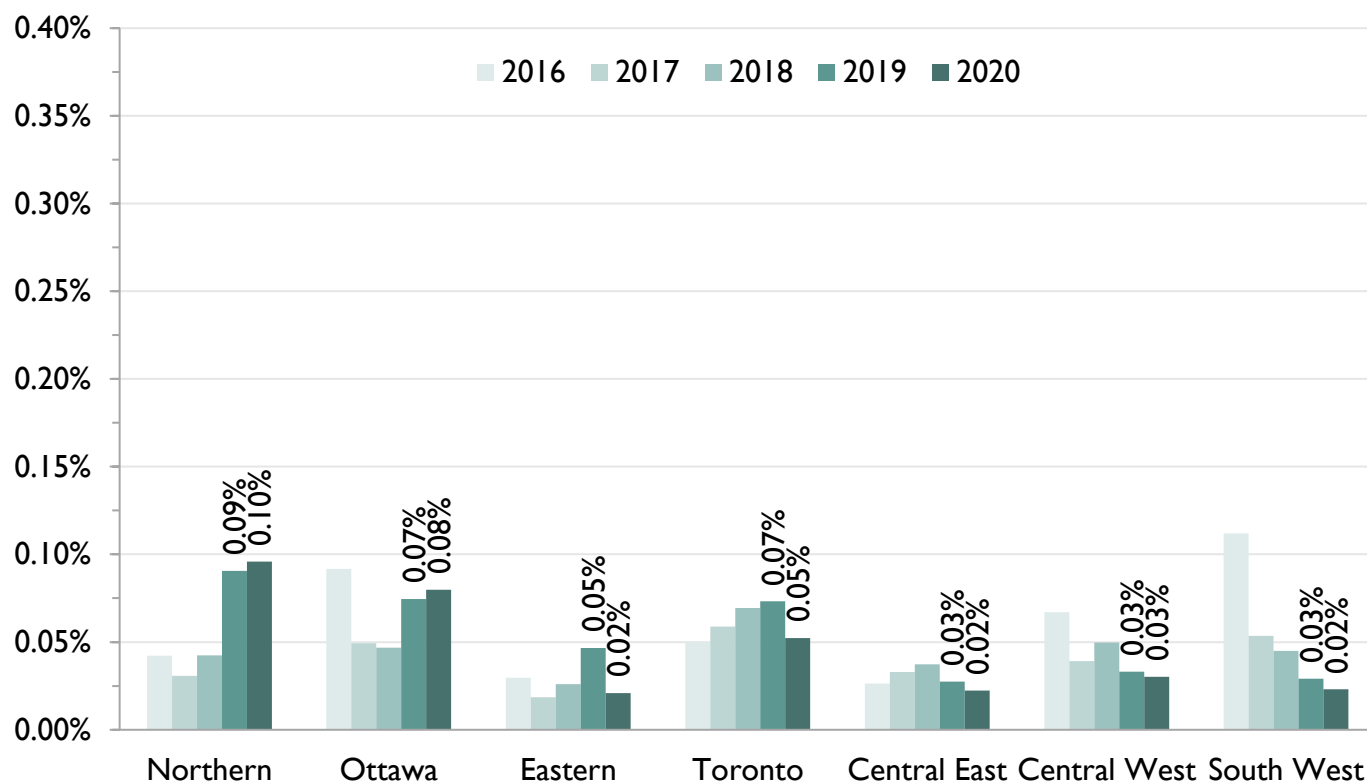


Snapshot

Between 2019 and 2020, the HIV test rates in females per 1,000 people decreased in all regions. The largest relative decreases were in Toronto (29.8%), Ottawa (26.6%) and Eastern (26.5%) regions. Between 2016 and 2020, the HIV test rate in females 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. Tests with unreported sex not included (approximately 3% per year). HIV tests with previous evidence of HIV not included. Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. See [Appendices](#) for more information. See **Table 6.3** for underlying data.

Figure 6.9 HIV test positivity rate by health region, females, Ontario, 2016 to 2020



Snapshot

In 2020, the HIV test positivity rates among females were largely unchanged from that of prior years in all health regions, except South West which continued a downward trend. Fluctuations in Ottawa and Eastern regions reflect relatively smaller numbers of positive HIV tests. The HIV test positivity rate remained elevated for the second consecutive year in Northern region in 2020 compared to 2016 through 2018. The HIV test positivity rate among females in 2020 was highest in Northern (0.10%) followed by Ottawa (0.08%), Toronto (0.05%), Central West (0.03%), and Eastern, Central East, and South West regions (0.02%).

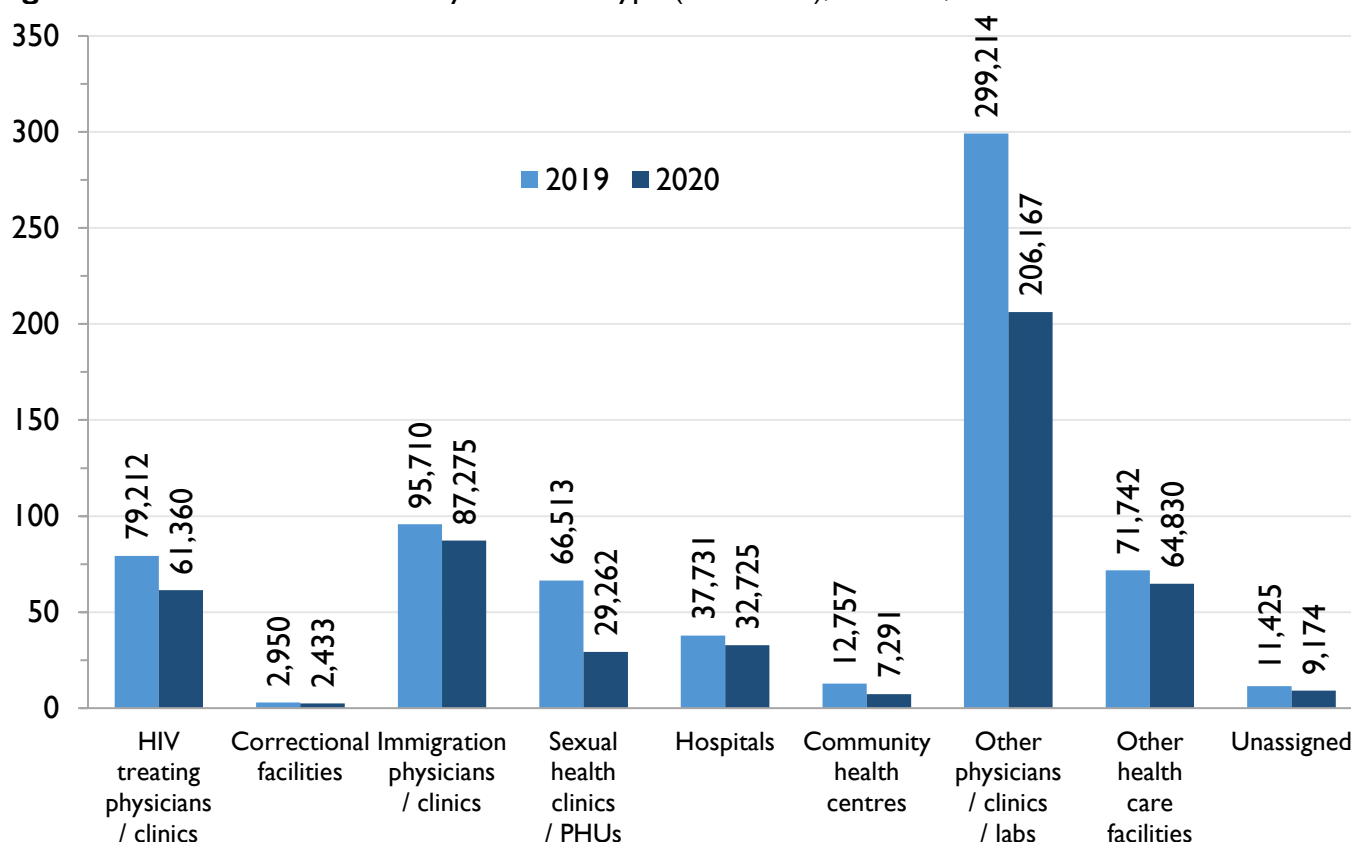
Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unreported sex not included (approximately 3% per year). See [Appendices](#) for more information. See **Table 6.3** for underlying data.

7. By HIV test submitter type

In 2020, HIV tests submitted by ‘other physicians/clinics/labs, not otherwise categorized’ made up the largest proportion of HIV tests, followed by immigration physicians/clinics, other health care facilities and HIV treating physicians/clinics. Compared to 2019, the number of HIV tests decreased for all submitter types in 2020, with the greatest relative decreases seen in sexual health clinics/public health units (PHUs), (56.0%), community health centres (42.8%), and other physicians/clinics/labs (31.1%), likely related to closures due to COVID.

In 2020, the largest numbers of positive results were submitted by HIV treating physicians overall and for both males and females. The numbers of positive tests submitted by immigration physicians/clinics, sexual health clinics/PHUs, and other physicians/clinics/labs each decreased in 2020 compared to 2019 overall and for both males and females.

Figure 7.1 Number of HIV tests by submitter type (thousands), Ontario, 2019 to 2020

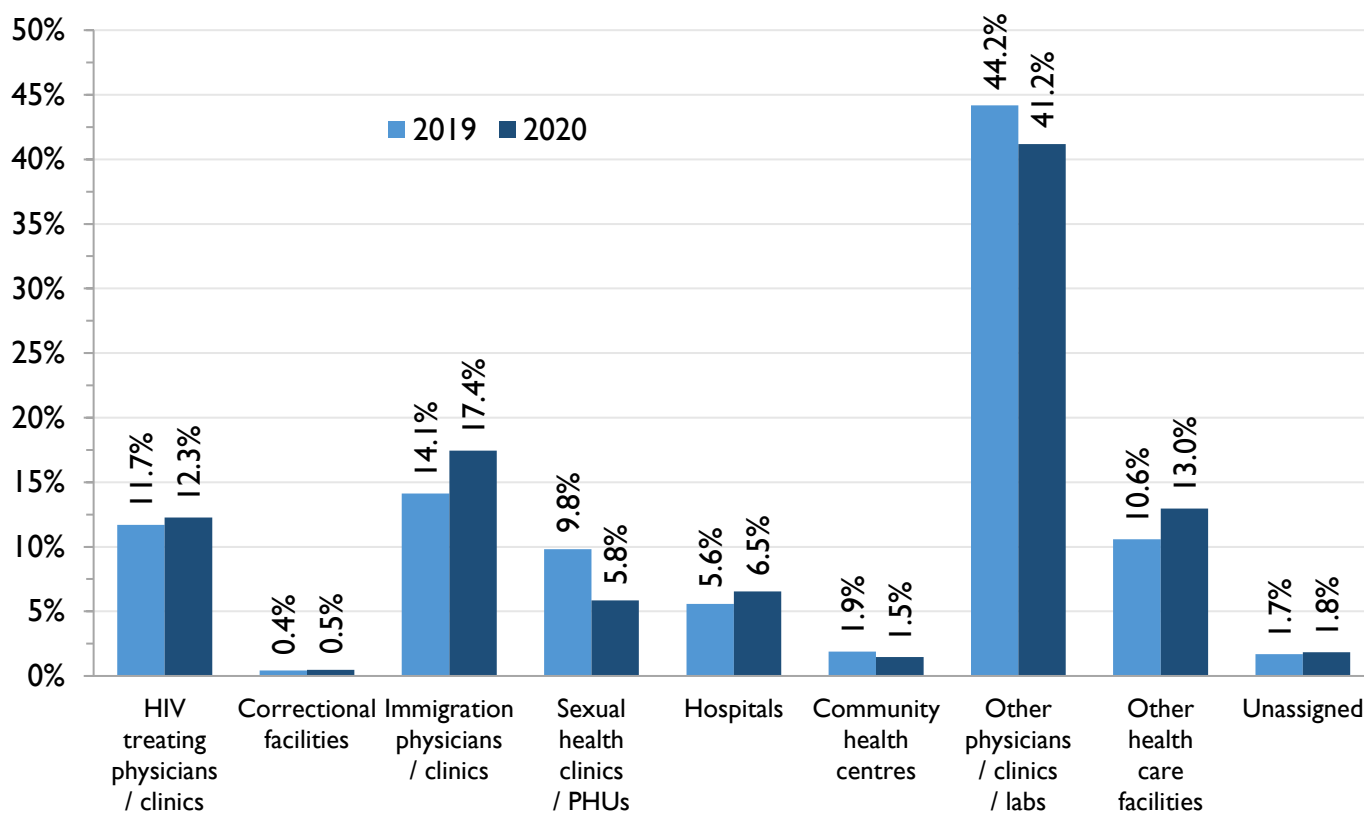


Snapshot

In 2020, HIV tests submitted by ‘other physicians/clinics/labs, not otherwise categorized’ made up the largest number of HIV tests (206,167), followed by immigration physicians/clinics (87,275), other health care facilities (64,830) and HIV treating physicians/clinics (61,360). Compared to 2019, the number of HIV tests decreased for all submitter types, with the greatest relative decreases seen in sexual health clinics/PHUs (56.0%), community health centres (42.8%), and other physicians/clinics/labs (31.1%).

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. “Other physicians/clinics/labs” includes physicians who are not classified as HIV treating physicians or immigration physicians, clinics that are not classified as any of the preceding submitter types, and laboratories that are not in a hospital site. “Other health care facilities” includes fertility clinics, school-based wellness centres, mental/addiction health clinics, and long-term care/retirement facilities. PHU = Public health unit. See [Appendices](#) for more information. See **Table 7.1** for underlying data.

Figure 7.2 Percent of HIV tests by submitter type, Ontario, 2019 to 2020

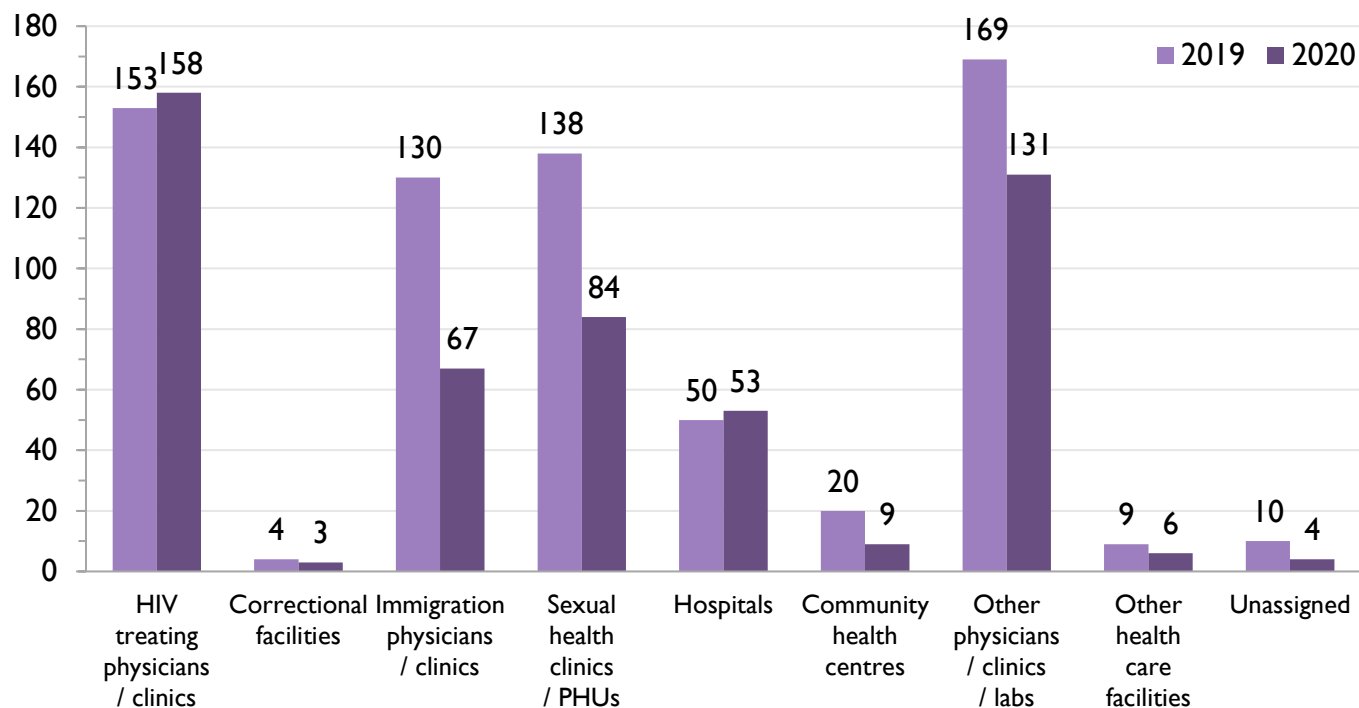


Snapshot

In 2020, HIV tests submitted by ‘other physicians/clinics/labs, not otherwise categorized’ made up the largest proportion of HIV tests (41.2%), followed by immigration physicians/clinics (17.4%), other health care facilities (13.0%) and HIV treating physicians/clinics (12.3%). Compared to 2019, immigration physicians/clinics made up a larger proportion of HIV tests (17.4% in 2020 from 14.1% in 2019) and sexual health clinics/PHUs made up a smaller proportion (5.8% in 2020 from 9.8% in 2019). Otherwise the distribution of HIV tests across submitter types in 2020 was very similar to that of 2019.

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. “Other physicians/clinics/labs” includes physicians who are not classified as HIV treating physicians or immigration physicians, clinics that are not classified as any of the preceding submitter types, and laboratories that are not in a hospital site. “Other health care facilities” includes fertility clinics, school-based wellness centres, mental/addiction health clinics, and long-term care/retirement facilities. PHU = Public health unit. See [Appendices](#) for more information. See **Table 7.1** for underlying data.

Figure 7.3 Number of positive results by submitter type, Ontario, 2019 to 2020

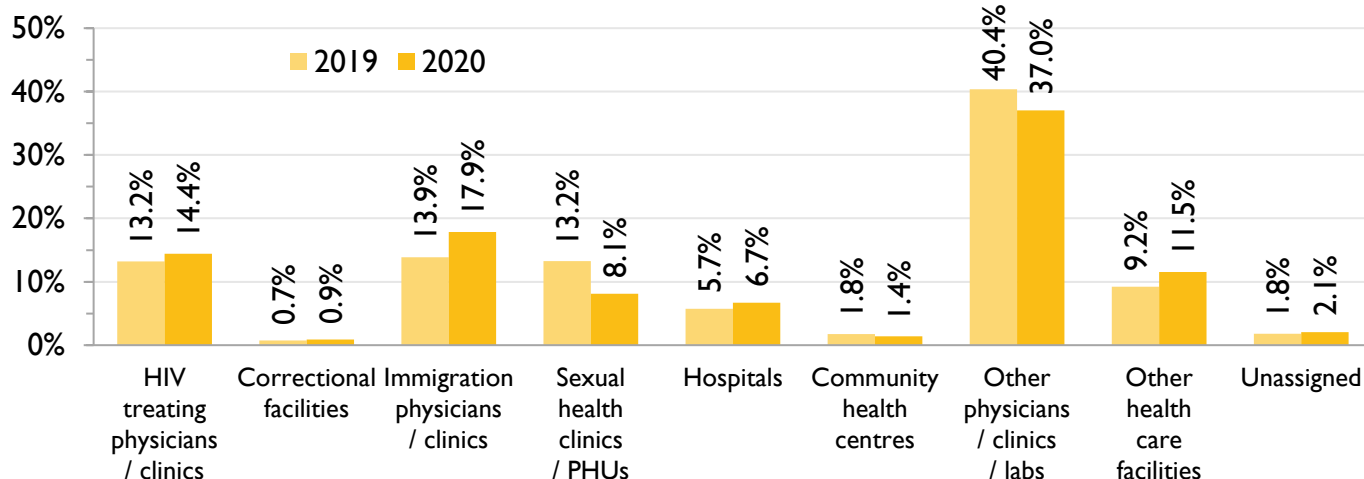


Snapshot

In 2020, the largest number of positive results were submitted by HIV treating physicians/clinics (158, 30.7%), followed by other physicians/clinics/labs (131, 25.4%), sexual health clinics/PHUs (84, 16.3%) and immigration physicians/clinics (67, 13.0%). Compared to 2019, the number of positive tests submitted by HIV treating physicians/clinics increased by 3.3%, and the numbers of positive tests submitted by community health centres decreased (55.0% decrease), as did tests submitted by immigration physicians/clinics (48.5%), sexual health clinics/PHUs (39.1%), and other physicians/clinics/labs (22.5%).

Notes: Data provided by Public Health Ontario Laboratory. HIV test submitter types depicted in order of hierarchy of assignment. HIV tests with previous evidence of HIV not included. “Other physicians/clinics/labs” includes physicians who are not classified as HIV treating physicians or immigration physicians, clinics that are not classified as any of the preceding submitter types, and laboratories that are not in a hospital site. “Other health care facilities” includes fertility clinics, school-based wellness centres, mental/addiction health clinics, and long-term care/retirement facilities. HIV tests with previous evidence of HIV not included. PHU = Public health unit. See [Appendices](#) for more information. See **Table 7.2** for underlying data.

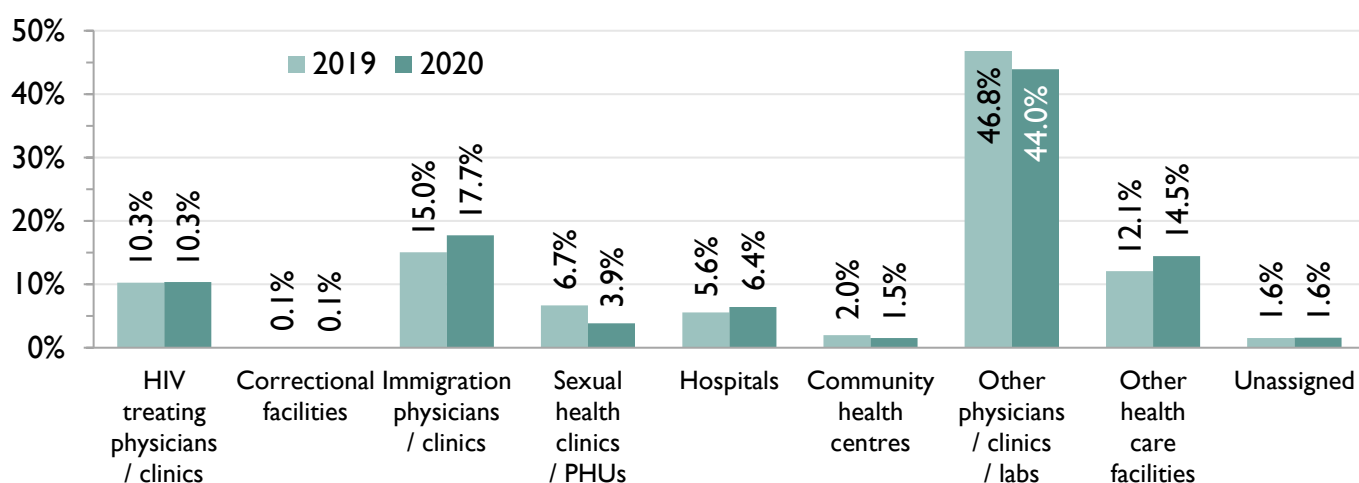
Figure 7.4 Percent of HIV tests by submitter type, males, Ontario, 2019 to 2020



Snapshot

In 2020, HIV tests submitted by other physicians/clinics/labs made up the largest proportion of HIV tests among males (37.0%), followed by immigration physicians/clinics (17.9%), and HIV treating physicians/clinics (14.4%). Compared to 2019, immigration physicians/clinics made up a larger proportion of HIV tests among males (17.9% in 2020 from 13.9% in 2019) and sexual health clinics/PHUs made up a smaller proportion (8.1% in 2020 from 13.2% in 2019). Otherwise the distribution of HIV tests across submitter types in 2020 among males was very similar to that of 2019.

Figure 7.5 Percent of HIV tests by submitter type, females, Ontario, 2019 to 2020

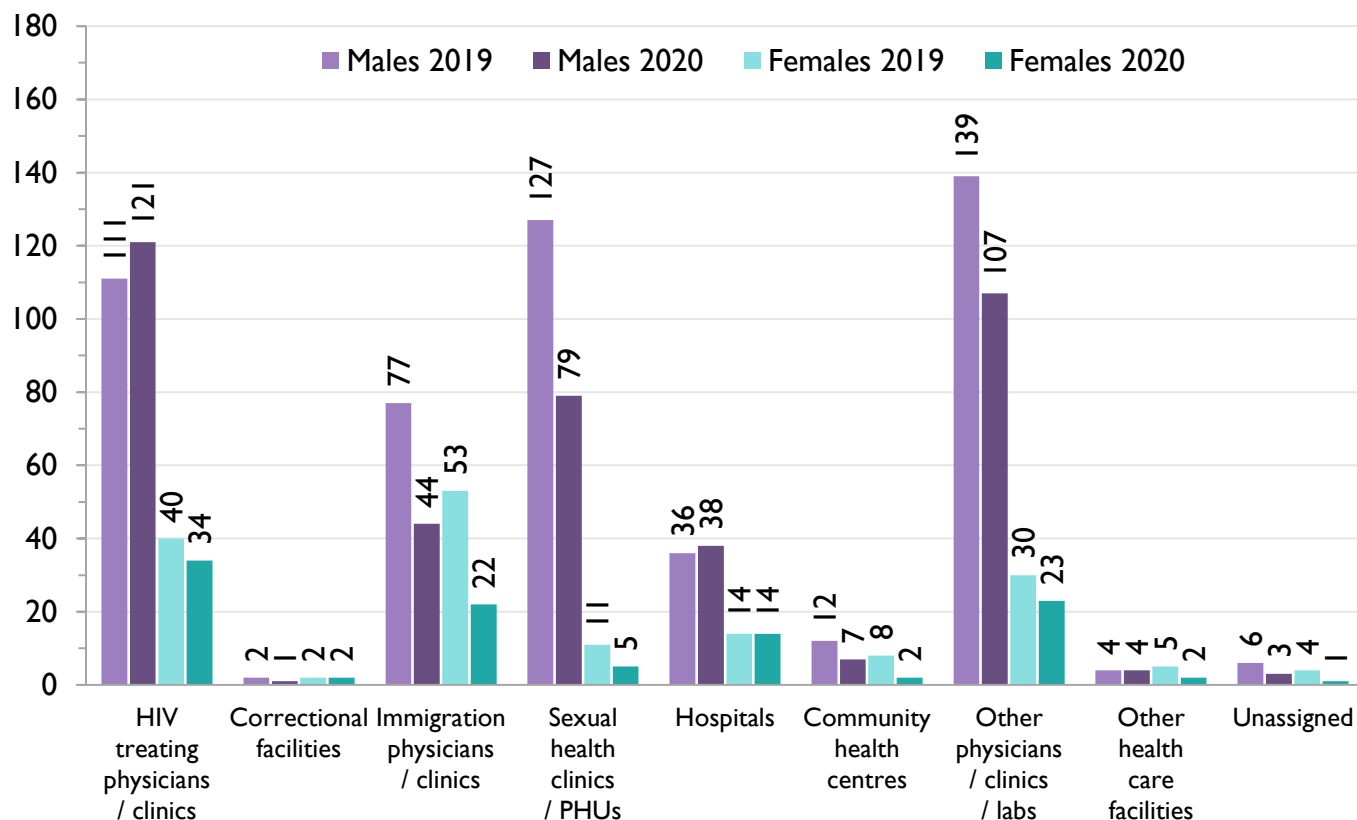


Snapshot

In 2020, HIV tests submitted by other physicians/clinics/labs made up the largest proportion of HIV tests among females (44.0%), followed by immigration physicians/clinics (17.7%), and other health care facilities (14.5%). Compared to 2019, immigration physicians/clinics made up a slightly larger proportion of HIV tests among females (17.7% in 2020 from 15.0% in 2019) and sexual health clinics/PHUs made up a smaller proportion (3.9% in 2020 from 6.7% in 2019). Otherwise the distribution of HIV tests across submitter types in 2020 among females was very similar to that of 2019.

Notes: Data provided by Public Health Ontario Laboratory. HIV test submitter types depicted in order of hierarchy of assignment. HIV tests with previous evidence of HIV not included. “Other physicians/clinics/labs” includes physicians who are not classified as HIV treating physicians or immigration physicians, clinics that are not classified as any of the preceding submitter types, and laboratories that are not in a hospital site. “Other health care facilities” includes fertility clinics, school-based wellness centres, mental/addiction health clinics, and long-term care/retirement facilities. PHU = Public health unit. See [Appendices](#) for more information. See **Table 7.1** for underlying data.

Figure 7.6 Number of positive results by submitter type and sex, Ontario, 2019 to 2020



Snapshot

In 2020, the largest number of positive results among males were submitted by HIV treating physicians/clinics (121, 30.0%), followed by other physicians/clinics/labs (107, 26.5%), sexual health clinics/PHUs (79, 19.6%) and immigration physicians/clinics (44, 10.9%). Compared to 2019, among males, the number of positive tests submitted by HIV treating physicians/clinics increased by 9.0%, and the numbers of positive tests submitted by immigration physicians/clinics decreased (42.9% decrease), as did tests submitted by sexual health clinics/PHUs (37.8%), and other physicians/clinics/labs (23.0%).

In 2020, the largest number of positive results among females were submitted by HIV treating physicians/clinics (34, 32.4%), followed by other physicians/clinics/labs (23, 21.9%), and immigration physicians/clinics (22, 21.0%). Compared to 2019, among females, the number of positive tests submitted by HIV treating physicians/clinics and other physicians/clinics/labs each decreased slightly (15.0%, and 23.3% decreases, respectively), and the numbers of positive tests submitted by immigration physicians/clinics decreased more substantially (58.5%).

Notes: Data provided by Public Health Ontario Laboratory. HIV test submitter types depicted in order of hierarchy of assignment. HIV tests with previous evidence of HIV not included. “Other physicians/clinics/labs” includes physicians who are not classified as HIV treating physicians or immigration physicians, clinics that are not classified as any of the preceding submitter types, and laboratories that are not in a hospital site. “Other health care facilities” includes fertility clinics, school-based wellness centres, mental/addiction health clinics, and long-term care/retirement facilities. HIV tests with previous evidence of HIV not included. PHU = Public health unit. See [Appendices](#) for more information. See **Table 7.2** for underlying data.

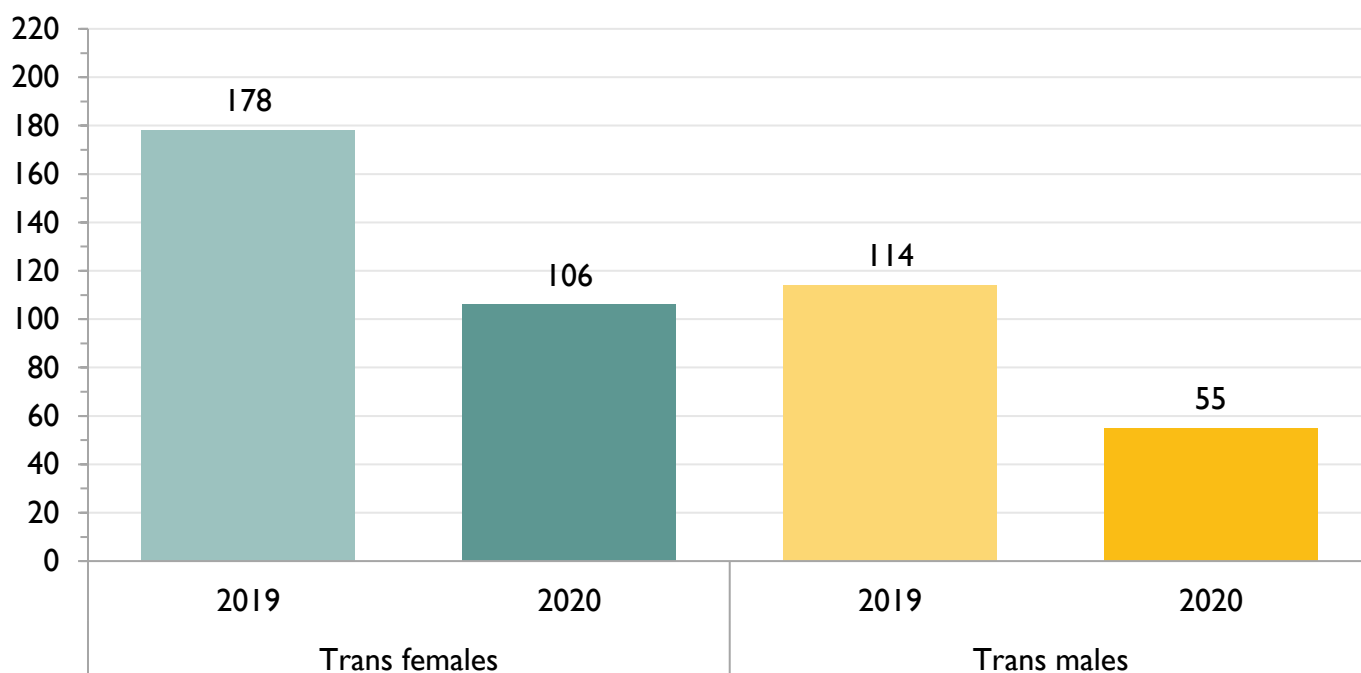
8. Transgender identity and race/ethnicity (new HIV test requisition)

In February 2018, PHO laboratory implemented a revised HIV test requisition that now collects information on transgender identity, race/ethnicity, and country of birth. Approximately 40% and 33% of all HIV tests in 2020 and 2019, respectively, were ordered using this new requisition form. Due to the incomplete uptake of the new requisition form, the findings related to transgender identity and race/ethnicity should be interpreted with caution: these tests represent a subset of all HIV tests submitted to PHO in these years, and may not be representative of all HIV tests in Ontario.

In 2020, of the 195,931 HIV tests submitted using the new test requisition that reported gender, 106 (0.05%) were reported as transgender females and 55 (0.03%) were reported as transgender males. These 2020 numbers represent a 40.4% and 51.8% relative decrease, respectively, from 2019 numbers.

In 2020, among the 198,979 HIV tests submitted using the new HIV test requisition, the greatest number were among White people (44,813 tests, 22.5%), followed by Black (8,679, 4.4%), East/Southeast Asian (7,852, 3.9%), and South Asian (6,823, 3.4%) individuals. Just over 60% (120,123, 60.4%) of these tests did not have race/ethnicity information reported. The number of HIV tests decreased for all race/ethnicity categories in 2020 compared to 2019, especially among Latino/a/e/x people (39.9% relative decrease), people of other/mixed race/ethnicity (35.0%), Black (33.4%), white (32.6%), Middle Eastern (31.7%), and East/Southeast Asian (29.7%) people.

Figure 8.1 Number of HIV tests by transgender identity, among tests submitted via new HIV test requisition (N = 195,931 with reported gender in 2020, 39.1% of all HIV tests; N = 223,198 with reported gender in 2019, 33.0% of all HIV tests), Ontario, 2019 to 2020

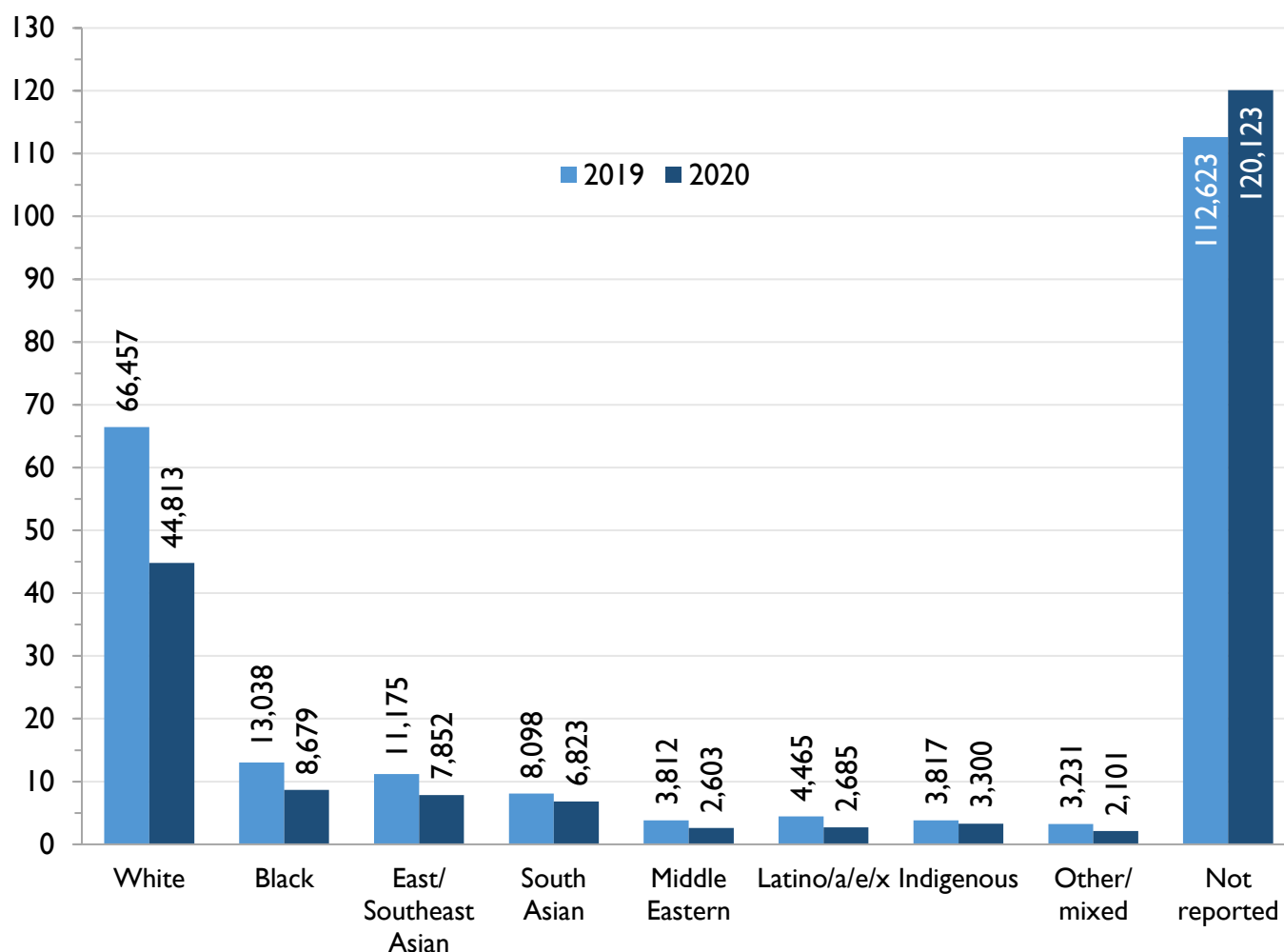


Snapshot

In 2020, of the 195,931 HIV tests submitted via the new test requisition with reported gender, 106 (0.05%) represented transgender females, a 40.4% decrease from the 178 (0.08%) in 2019, and 55 (0.03%) represented transgender males, a 51.8% decrease from the 114 (0.05%) in 2019.

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with unreported gender excluded (1.6% and 1.5% of tests submitted via the new HIV test requisition in 2019 and 2020, respectively). HIV tests with previous evidence of HIV included. See [Appendices](#) for more information. See **Table 8.1** for underlying data.

Figure 8.2 Number of HIV tests (thousands) by race/ethnicity, among tests submitted via new HIV test requisition (N = 198,979 in 2020, 39.8% of all HIV tests; N = 226,716 in 2019; 33.4% of all HIV tests), Ontario, 2019 to 2020



Snapshot

In terms of race/ethnicity, among the 198,979 HIV tests submitted via the new HIV test requisition in 2020, the greatest number of tests were among White people (44,813 tests, 22.5%), followed by Black (8,679, 4.4%), East/Southeast Asian (7,852, 3.9%), and South Asian (6,823, 3.4%) individuals. The majority (120,123, 60.4%) of these tests did not have race/ethnicity information reported.

Between 2019 and 2020, the number of HIV tests decreased for all race/ethnicity categories. The largest relative decrease was in Latino/a/e/x people (39.9%), followed by people of other/mixed race/ethnicity (35.0%), Black (33.4%), white (32.6%), Middle Eastern (31.7%), and East/Southeast Asian (29.7%) people. The number with no race/ethnicity information reported increased by 6.7%.

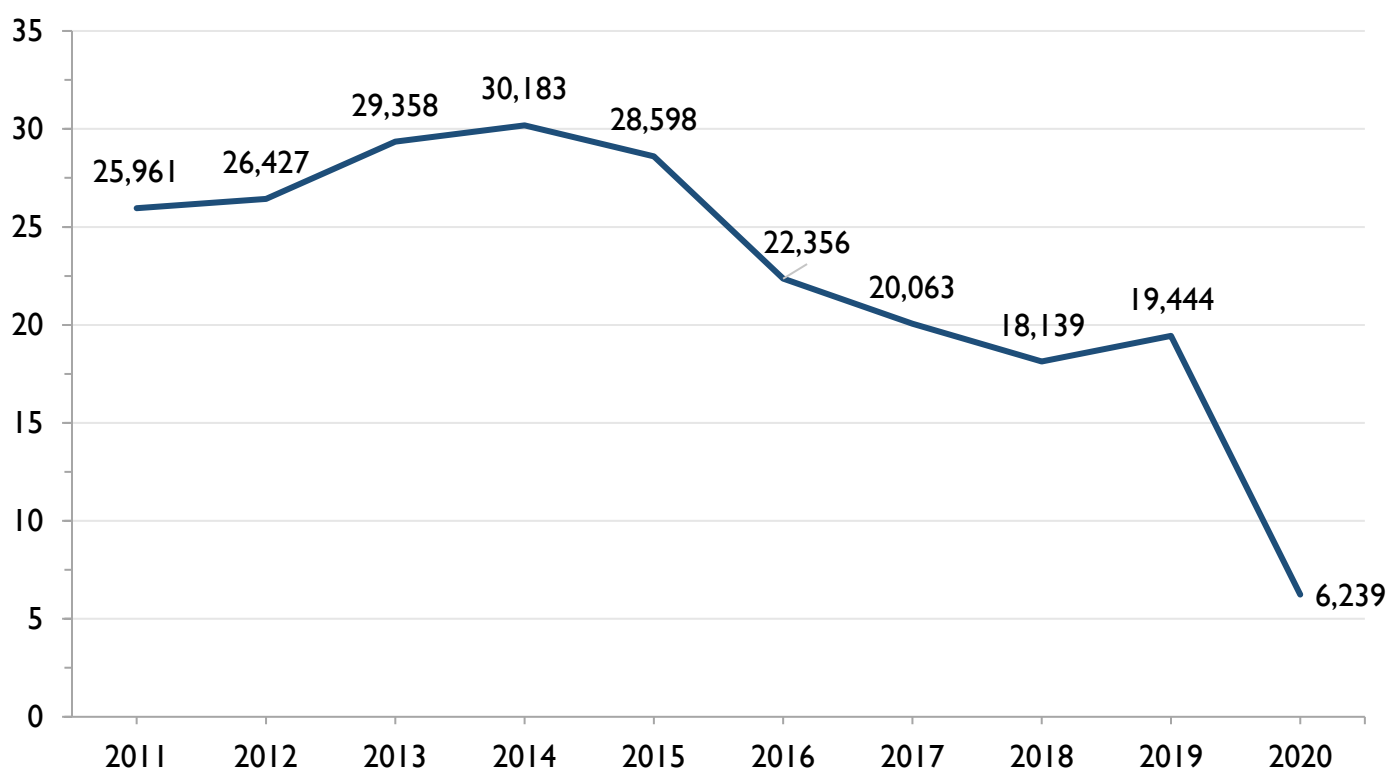
Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV included. See [Appendices](#) for more information. See **Table 8.2** for underlying data.

9. Point-of-Care (POC) HIV tests

Access to POC HIV testing was significantly curtailed in 2020 due to the COVID-19 pandemic. The number of POC HIV tests saw a 67.9% decrease in 2020 from 2019, and they made up only 1.2% of total HIV tests in 2020, from 2.9% in 2019. The POC HIV test positivity rate increased among males in 2020, reversing the decrease seen in 2019, whereas it continued a steady decrease in females since 2018.

The distribution of POC HIV tests across HIV exposure categories in 2020 was very similar to prior years, with the exception of the proportion reported as IDU continuing a consistent increase, from 2.2% in 2016 to 4.6% in 2020. This likely relates to the expansion of HIV POC testing to the Ministry of Health, AIDS & Hepatitis C programs funded Hepatitis C teams, enabling people using injection drugs to access POC HIV testing during the COVID-19 pandemic. As with prior years, male-to-male sexual contact was the most common risk factor among those accessing POC HIV tests in 2020 (52.6%).

Figure 9.1 Number of POC HIV tests (thousands), Ontario, 2011 to 2020

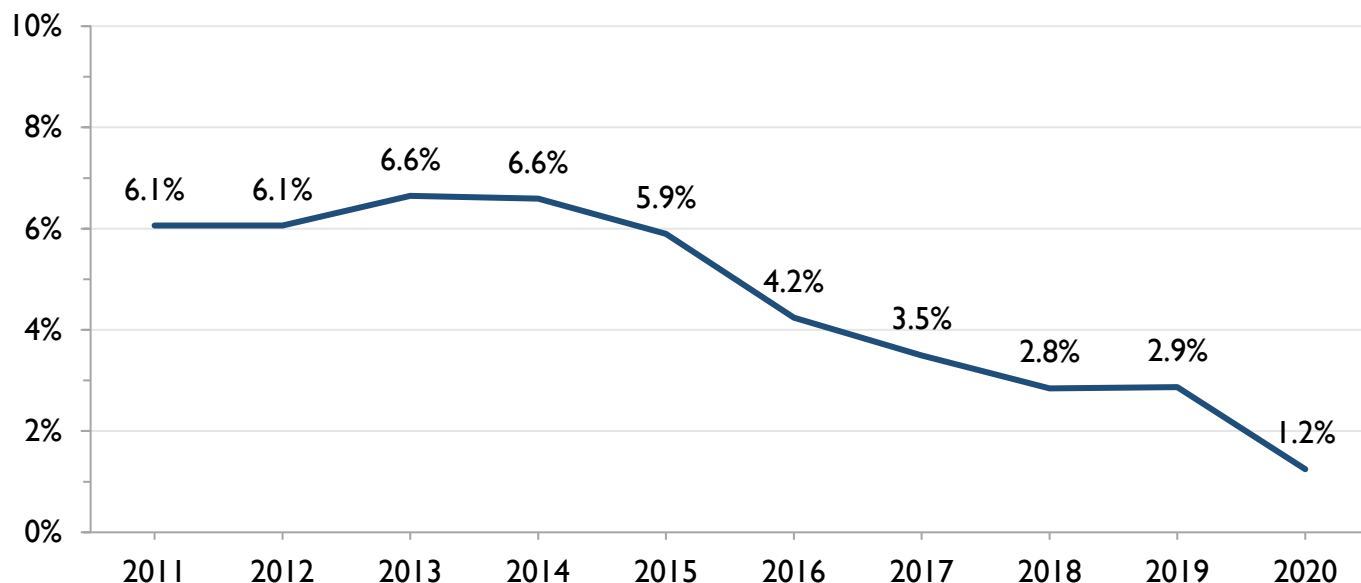


Snapshot

6,239 POC HIV tests were conducted in 2020, a 67.9% decrease from 19,444 in 2019. Prior to 2020, the annual number of POC HIV tests had increased to a high of 30,183 in 2014 before decreasing to a low of 18,139 in 2018.

Notes: Data provided by Public Health Ontario Laboratory. POC HIV tests with previous evidence of HIV excluded. POC = point-of-care. See [Appendices](#) for more information. See **Table 9.1** for underlying data.

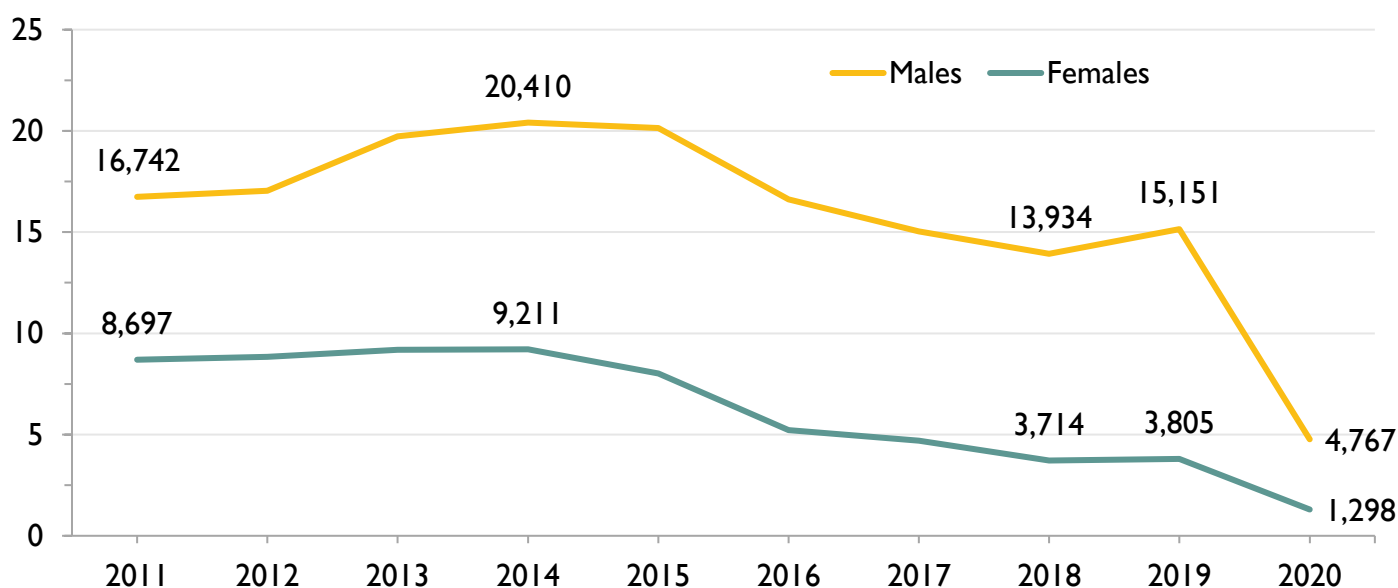
Figure 9.2 Percent of HIV tests that were POC tests, Ontario, 2011 to 2020



Snapshot

POC HIV tests made up 1.2% of all HIV tests in 2020, a decrease from 2.9% in 2019. Prior to 2020, the proportion of HIV tests that were POC tests decreased from a high of 6.7% in 2013 to 2.8% in 2018 and 2.9% in 2019.

Figure 9.3 Number of POC HIV tests (thousands), by sex, Ontario, 2011 to 2020

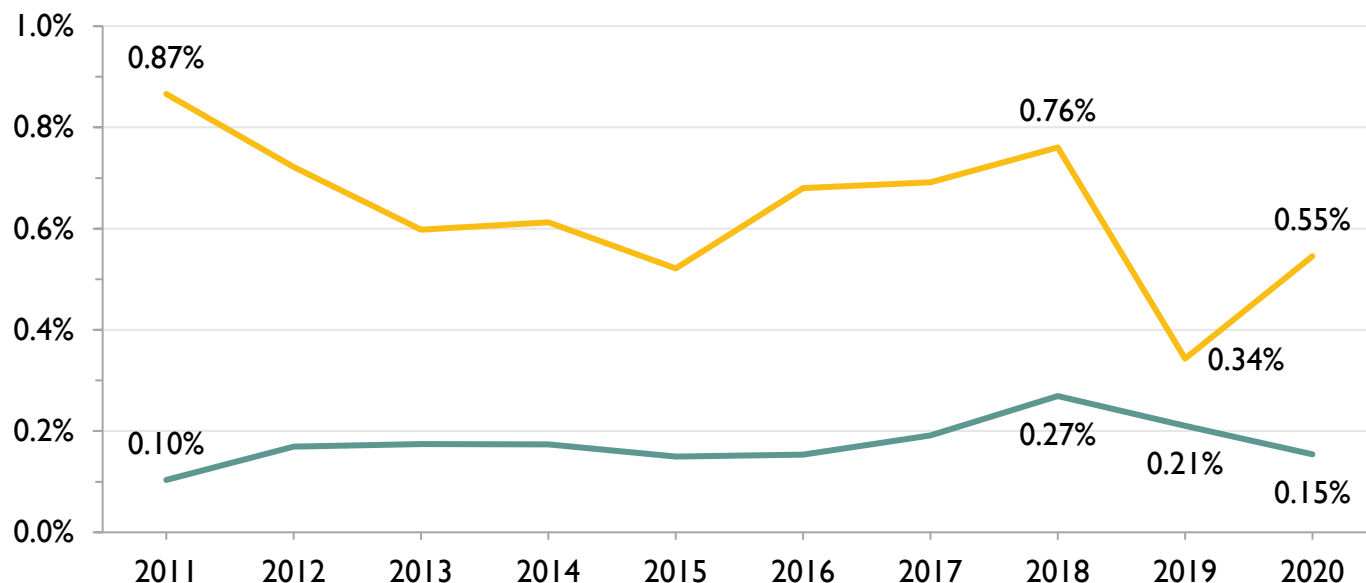


Snapshot

In 2020, the number of POC HIV tests conducted decreased from 2019 numbers for both males and females. Among males, the number of POC HIV tests decreased by 68.5% from 15,151 in 2019 to a new low of 4,767 in 2020; prior to 2020, this number ranged from 13,934 in 2018 to 20,410 in 2014. Among females the number of POC HIV tests decreased by 65.9% from 3,805 in 2019 to 1,298 in 2020; prior to 2020, this number ranged from 3,714 in 2018 to 9,211 in 2014.

Notes: Data provided by Public Health Ontario Laboratory. POC HIV tests with previous evidence of HIV excluded. POC HIV tests with unreported sex (approximately 2% per year) not included in Figure 9.3. POC = point-of-care. See [Appendices](#) for more information. See **Table 9.1** and **Table 9.2** for underlying data.

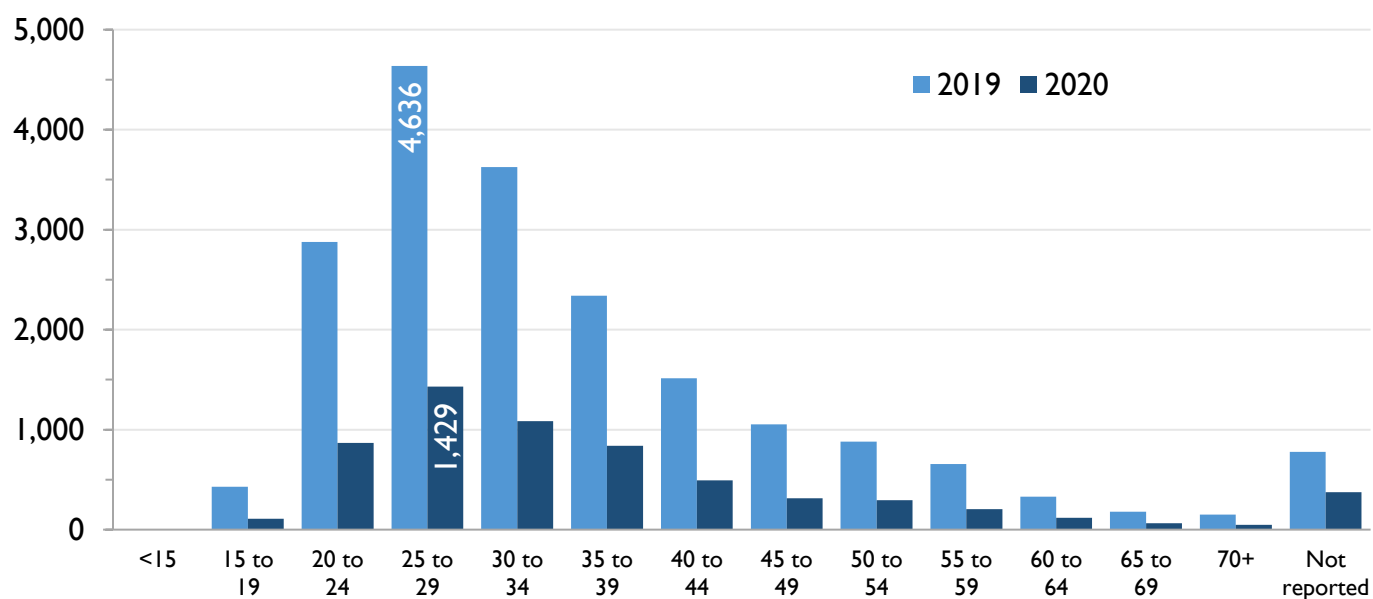
Figure 9.4 POC HIV test positivity rate, Ontario, 2011 to 2020



Snapshot

Among males, the POC HIV test positivity rate increased to 0.55% in 2020, after decreasing to 0.34% in 2019 from 0.76% in 2018. Among females, the POC HIV test positivity rate continued a steady decrease to 0.15% in 2020, from a high of 0.27% in 2018.

Figure 9.5 Number of POC HIV tests, by age, Ontario, 2019 to 2020

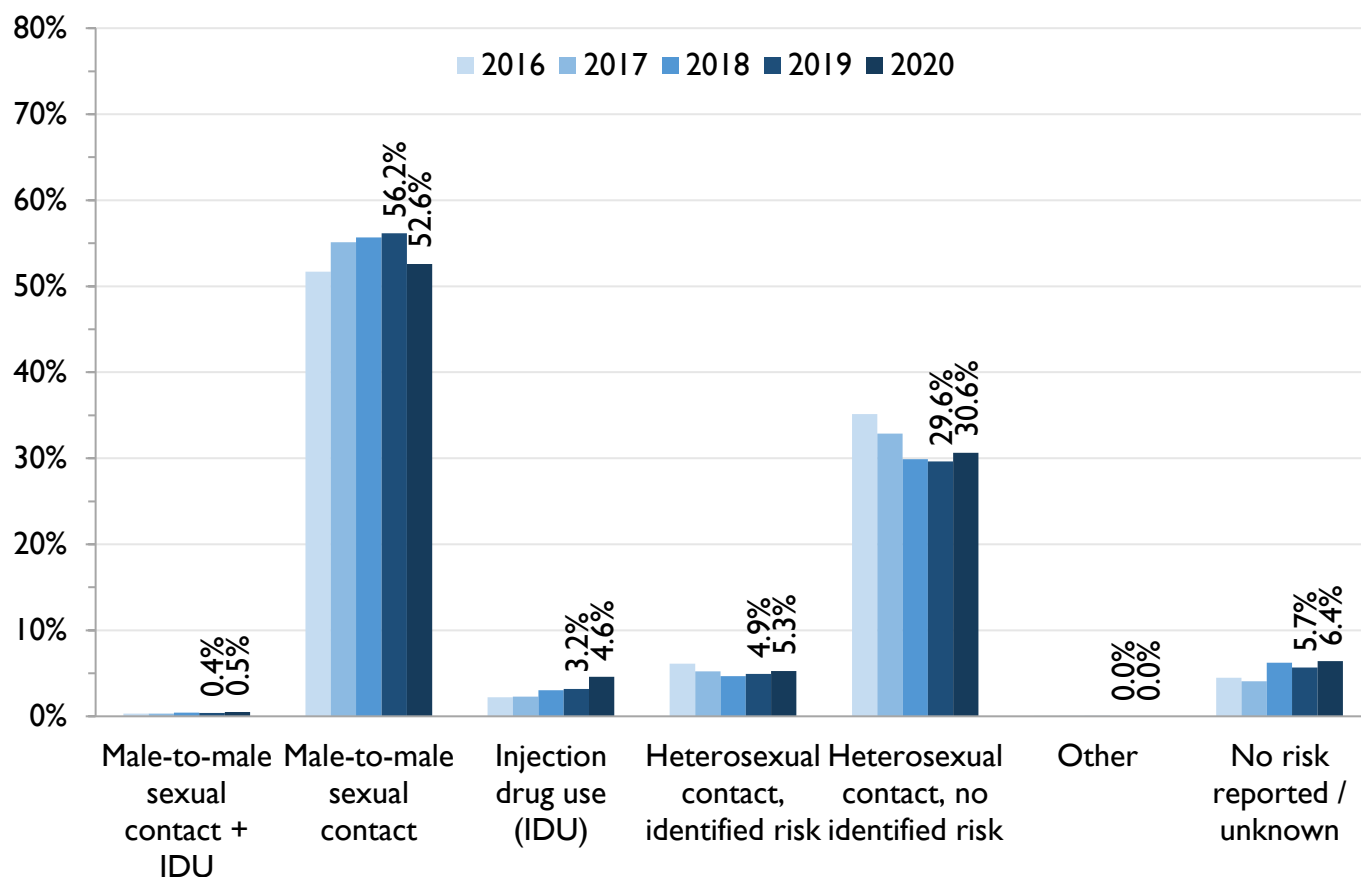


Snapshot

In 2020, the number of POC HIV tests was highest among those aged 25-29 (1,429), and then decreased with each successively older age category. Between 2019 and 2020, the number of POC HIV tests decreased for every age group, especially among those aged 15-19 (74.5% relative decrease), and those aged 30-34 (70.1%) and 45-49 (70.1%).

Notes: Data provided by Public Health Ontario Laboratory. POC HIV tests with previous evidence of HIV excluded from Figure 9.4 but included in Figure 9.5. POC HIV tests with unreported sex (approximately 2% per year) not included in Figure 9.4. POC HIV tests with unreported age (4.0% in 2019, 6.0% in 2020) not included in Figure 9.5. POC = point-of-care. See [Appendices](#) for more information. See **Table 9.2** and **Table 9.3** for underlying data.

Figure 9.6 Percent of POC HIV tests by exposure category, Ontario, 2016 to 2020



Snapshot

In 2020, the distribution of POC HIV tests across HIV exposure categories was very similar to prior years, with the exception of the proportion reported as IDU continuing a consistent increase, from 2.2% in 2016 to 4.6% in 2020. Between 2016 and 2020, the largest proportion of POC HIV tests were reported as male-to-male sexual contact (52.6% in 2020), followed by heterosexual contact with no identified risk (30.6% in 2020).

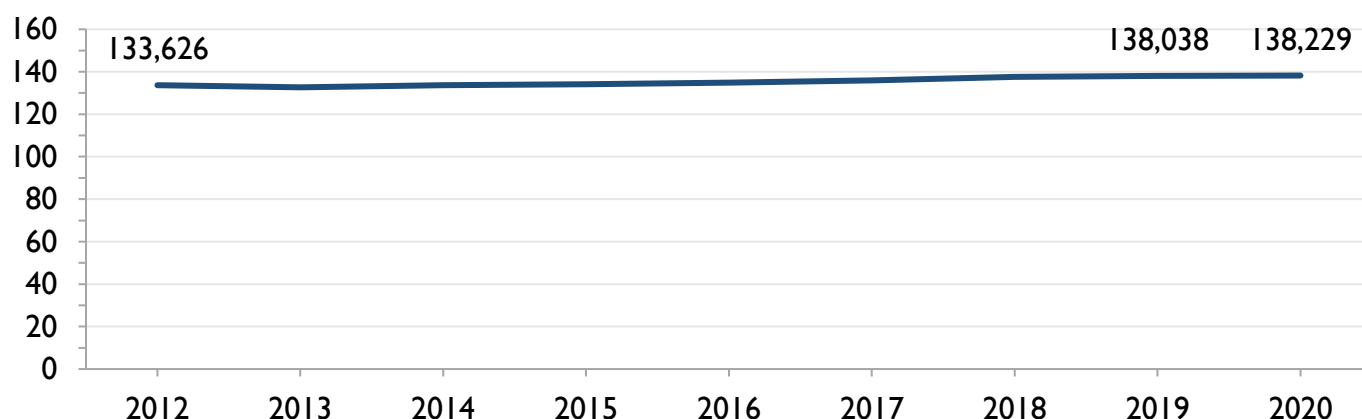
An average of only 5.4% of POC HIV tests had no HIV exposure category reported compared to ~62-78% among all HIV tests in Section 5. Therefore, these proportions should not be directly compared to HIV exposure category proportions in Section 5.

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. POC HIV tests with previous evidence of HIV included. See [HIV exposure categories](#) in the Appendices for further explanation. See **Table 9.4** and **Table 9.5** for underlying data.

10. Prenatal HIV testing

The number of pregnant people who received a prenatal HIV test increased between 2012 and 2019, with essentially no change between 2019 and 2020. Between 2012 and 2020, the ratio of pregnant people who received a prenatal HIV test to births (live and stillbirths) increased from 0.94 to 1.00.

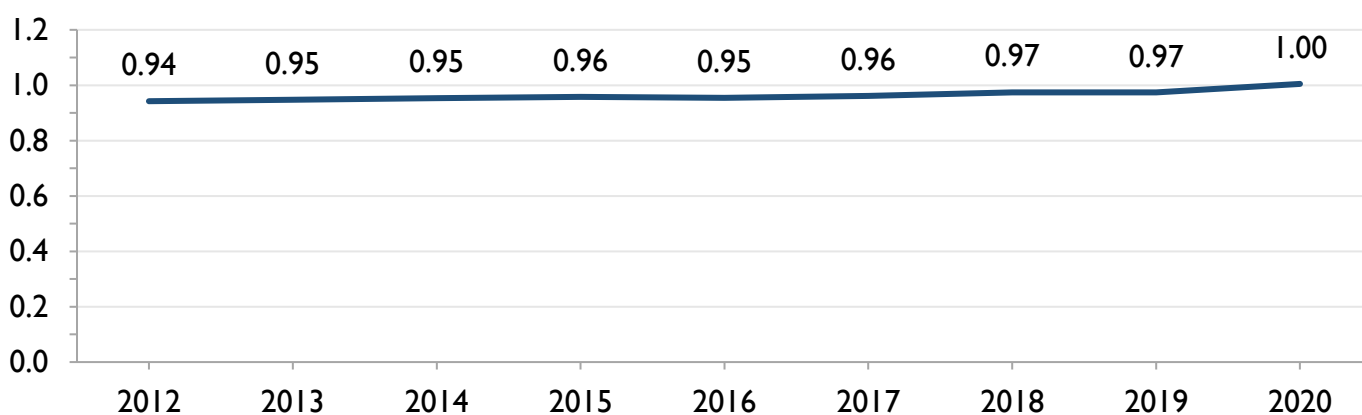
Figure 10.1 Number of unique pregnant people who received a prenatal HIV test (thousands), Ontario, 2012 to 2020



Snapshot

Between 2012 and 2020, the number of pregnant people who received a prenatal HIV test increased from 133,626 tests to 138,229 tests, with minimal change (0.1%) between 2019 and 2020.

Figure 10.2 Ratio of pregnant people who received a prenatal HIV test to births (live and stillbirths), Ontario, 2012 to 2020



Snapshot

Between 2012 and 2020, the ratio of pregnant people who received a prenatal HIV test to births (live and stillbirths) increased from 0.94 to 1.0. It is important to note that the number of births (live and stillbirths) is a known undercount of all pregnant people, as miscarriages occurring before 20 weeks of pregnancy are not included. This metric is also limited in that prenatal HIV tests are assigned to the year the test is performed, while births are assigned to the year the birth occurs; because HIV testing is typically conducted in the first trimester of pregnancy, many pregnant people will be tested for HIV in the calendar year prior to the year they give birth.

Notes: Annual number of pregnant people who received a prenatal HIV test provided by Public Health Ontario Laboratory and the number of births (live and stillbirths) provided by the Better Outcomes Registry & Network (BORN). HIV tests with previous evidence of HIV included. See [Appendices](#) for more information. See **Table 10.1** for underlying data.

Appendices

1. Definitions

Anonymous HIV testing

A type of non-nominal HIV diagnostic testing where no identifying information on the individual being tested is collected on a special anonymous HIV test requisition form. The lack of identifying information means that it is not possible to link anonymous HIV-positive diagnostic tests to viral load tests (which are nominal) within the HIV Datamart.

HIV 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. See [HIV exposure categories](#) within the Appendices for more information.

Health regions

Groupings 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 [Health regions](#) for more information on these groupings and boundaries.

HIV Datamart

All data in this report is stored in the HIV Datamart, an integrated data platform composed of Public Health Ontario Laboratory's diagnostic and viral load testing databases. Within the Datamart, diagnostic and viral load test records are linked together for the same person (however, linkage is not possible for anonymous HIV-positive diagnostic tests).

HIV-positive diagnostic test

Defined as a blood sample that has initially tested reactive on a screening test (either at the laboratory or on a point-of-care / rapid test), and has been confirmed as HIV-positive by a separate test (Geenius [LFIA], p24 antigen confirmatory test, or polymerase chain reaction for children <18 months). HIV-positive diagnostic tests in the HIV Datamart includes all people who were diagnosed with HIV. That is, people who test HIV-positive for the first time in Ontario (never tested HIV-positive out-of-province), as well as people who were diagnosed HIV-positive elsewhere and moved to Ontario and tested again ('out-of-province' diagnoses).

HIV test with previous evidence of HIV

An HIV test with previous evidence of HIV includes any individual with a previous positive diagnostic test as indicated on the test history section of the laboratory enhancement program (LEP) form or the test requisition form, regardless of the location of the previous positive test (inside or outside of Ontario). It also uses linked viral load testing history in Ontario as evidence of being in care for HIV and so excludes 1) anyone with a history of viral load testing in Ontario of more than 30 days before a first diagnostic positive test and 2) anyone with viral load testing in Ontario within 30 days (including same day) with a viral load <200 copies/ml. For HIV tests with previous evidence of HIV, the HIV test is assigned to the year the test was performed (denominator of HIV test positivity rate calculation), while the positive HIV diagnosis is assigned to the year where the previous evidence of HIV is first documented (numerator of HIV test positivity rate). See [Exclusion of HIV tests with previous evidence of HIV](#) in the technical notes for more information.

Identified risk

“Identified risk”, as used within the HIV exposure categories, means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male.

Laboratory Enhancement Program (LEP)

When a person receives a new HIV diagnosis in Ontario, a Laboratory Enhancement Program (LEP) form is sent to the health care provider who ordered the test in order to collect further information on the person who tested HIV-positive. This includes information collected on the original test requisition (e.g. risk factors), as well as additional information. Since 2009, the LEP form has collected information on race/ethnicity and country of birth. The test requisition form was revised in 2018 to collect this information as well. As LEP data does not exist for HIV-negative tests, it informs only HIV-positive diagnostic tests in this report. This form was returned for 63.8% of positive HIV tests without previous history of HIV in 2019.

Nominal HIV testing

A type of HIV diagnostic testing where the test requisition form contains the name of the individual being tested. Nominal HIV tests can be linked to viral load tests in the HIV Datamart using patient identifiers.

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.

Positive HIV diagnosis

An individual receiving a first-time 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. HIV tests with previous evidence of HIV (see above) are excluded in this report. See [Exclusion of HIV tests with previous evidence of HIV](#) for more information.

Prenatal HIV test

An HIV test that was done either as part of a prenatal screening requisition form or a regular HIV test requisition form with 'Prenatal' checked as the reason for testing.

Previous evidence of HIV (PEH)

HIV diagnoses with previous evidence of HIV include both 1) people who may be new to the province who already knew their HIV-positive status and have a confirmatory HIV test in Ontario ('out-of-province' HIV diagnoses) and 2) people who may have been infected in Ontario and have been living and receiving care (viral load testing) in the province but have no prior linked confirmatory diagnostic test in Ontario.

Public health unit (PHU)

A health agency that provides health promotion and disease prevention programs. There are 34 public health units in Ontario and each has its own unique geographical boundary. See technical notes for more information.

Submitter type

Each HIV test submitter type is a category defined by specific criteria and each HIV test is assigned an HIV test submitter type based on information about the submitter of the HIV test to the Public Health Ontario (PHO) Laboratory. When more than one submitter type is identified for a single HIV test, a hierarchy is used to assign an HIV test to a single submitter type. Therefore, the HIV test submitter types are mutually exclusive. This hierarchy, and the defining criteria for each submitter type, are described under "[HIV test submitter types](#)" within the Appendices.

Test positivity rate

The percent of HIV diagnostic tests with a confirmed HIV-positive result. HIV test positivity rates can provide insight into which sub-populations have a higher level of HIV risk. However, HIV test positivity rates should be interpreted with the awareness that although they are calculated with the counts of first-time diagnoses, some of the diagnoses likely still represent individuals with prior knowledge of their HIV-positive status who are unable to be identified in the HIV Datamart. See [Technical notes](#) for more information.

Test requisition form

A form filled out by a health care provider along with each [HIV diagnostic test](#). The HIV diagnostic test requisition form collects information on the age, sex and HIV risk factors of the person getting tested. As of February 2018, the HIV test requisition form also collects information on race/ethnicity, country of birth, transgender identity and PrEP status. Note, race/ethnicity and country of birth information has been collected on the Laboratory Enhancement Program (LEP) form since 2009.

Test type

There are two 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) or a unique anonymous number.

Test 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 test 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.

2. Abbreviations

IDU = Injection drug use

LEP = Laboratory Enhancement Program

OHESI = Ontario HIV Epidemiology and Surveillance Initiative

PEH = Previous evidence of HIV

PHO = Public Health Ontario

PHU = Public Health Unit

POC = Point-of-care testing

3. Technical notes

The data in this report come from laboratory databases at Public Health Ontario (PHO) Laboratory. 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 PHO. 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 (test 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 PHO's laboratory system and are not included in this report.

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 PHO. 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, reactive POC tests are included in the total testing numbers but not as a positive diagnosis when calculating positivity rates.

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 Laboratory Enhancement Program (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. Information on race/ethnicity was not available on HIV test requisition forms up to and including part of 2018 and uptake of the new form remained low into 2019, therefore we are unable to report on HIV testing among different races/ethnicities in this report. 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, with the exception of identifying duplicate positive tests of the same individual, only data from the test requisition are used in this report as LEP data are not available for HIV-negative tests.

Prenatal HIV testing

Prenatal HIV tests are part of an ongoing HIV testing program offered to all pregnant individuals as part of their prenatal care. Prenatal HIV testing results are included separately in this report (Section 10). They are not included in the number of HIV tests or population test 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 2012 to 2020, the annual number of HIV-positive prenatal tests ranged from 2 to 10 (where no previous evidence of HIV infection exists). To calculate the ratio of pregnant people who received a prenatal HIV test to births (live and stillbirths), the number of unique individuals who received an HIV test as part of the prenatal panel (either as part of a prenatal

screening requisition form or a regular HIV test requisition form with 'Prenatal' checked as the reason for testing) were divided by the total number of births (live and stillbirths) for each year. Data on the annual number of births in Ontario is provided by the [Better Outcomes Registry & Network \(BORN\)](#). It is important to note that the number of births (live and stillbirths) is a known undercount of all pregnant people, as miscarriages occurring before 20 weeks of pregnancy are not included. This ratio metric is also limited in that prenatal HIV tests are assigned to the year the test is performed, while births are assigned to the year the birth occurs; because HIV testing is typically conducted in the first trimester of pregnancy, many pregnant people will be tested for HIV in the calendar year prior to the year they give birth.

4. Population-based rates: Statistics Canada data

Rates of HIV tests per 1,000 people were calculated with denominators informed by Statistics Canada population data, retrieved on November 5 2021 from the websites: "[Population estimates on July 1st, by age and sex](#)" and "[Estimates of population \(2016 Census and administrative data\), by age group and sex for July 1st, Canada, provinces, territories, health regions \(2018 boundaries\) and peer groups](#)".

5. Exclusion of HIV tests with previous evidence of HIV

Counts of HIV tests in this report exclude positive HIV tests from individuals with previous evidence of HIV. This is true for the calculation of HIV test positivity rates in this report as well. An additional 1,238 tests were performed in 2020 for individuals who had [Previous evidence of HIV \(PEH\)](#) (903 males, 320 females, 15 unknown sex). The aim of this is to better reflect HIV tests from those who are testing to learn their HIV status for the first time and, therefore, which people might be at greater risk of HIV transmission in Ontario today. Previous evidence of HIV includes a previous positive diagnostic test indicated on the HIV test requisition or LEP forms, regardless of the location of the previous positive test (inside or outside of Ontario). Previous evidence of HIV also includes evidence of being in care for HIV by means of linked viral load testing history in Ontario: this includes 1) anyone with a history of viral load testing in Ontario of more than 30 days before a first diagnostic positive test and 2) anyone with viral load testing in Ontario within 30 days (including same day) with a viral load <200 copies/mL. For HIV tests with previous evidence of HIV, the HIV test is assigned to the year the test was performed (denominator of HIV test positivity rate calculation), while the positive HIV diagnosis is assigned to the year where the previous evidence of HIV is first documented (numerator of HIV test positivity rate). Known duplicate HIV-positive tests are also excluded from counts of HIV tests – that is, a diagnosis with a documented history of a previous HIV diagnosis within Ontario. Duplicates can be recognized by lab records or the test history section of the LEP/HIV test requisition form indicating a previous positive in Ontario. Counts of HIV tests do include individuals who reside in another province but have an HIV test performed in Ontario.

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 anonymous testing re-test 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). Unless this previous HIV-positive test result is indicated on the LEP/HIV test requisition form, since these two tests cannot be linked together, both are reported as a first-time HIV diagnosis - leading to double-counting of these individuals. Also, incomplete information on the HIV test requisition and/or LEP questionnaire from individuals who have previously been diagnosed with HIV outside of Ontario may lead to them being included as new diagnoses at the time of their first positive test in Ontario. This means that the reported number of first-time HIV

diagnoses each year is likely higher than the true number of diagnoses and may influence the positivity rates reported.

6. HIV exposure categories

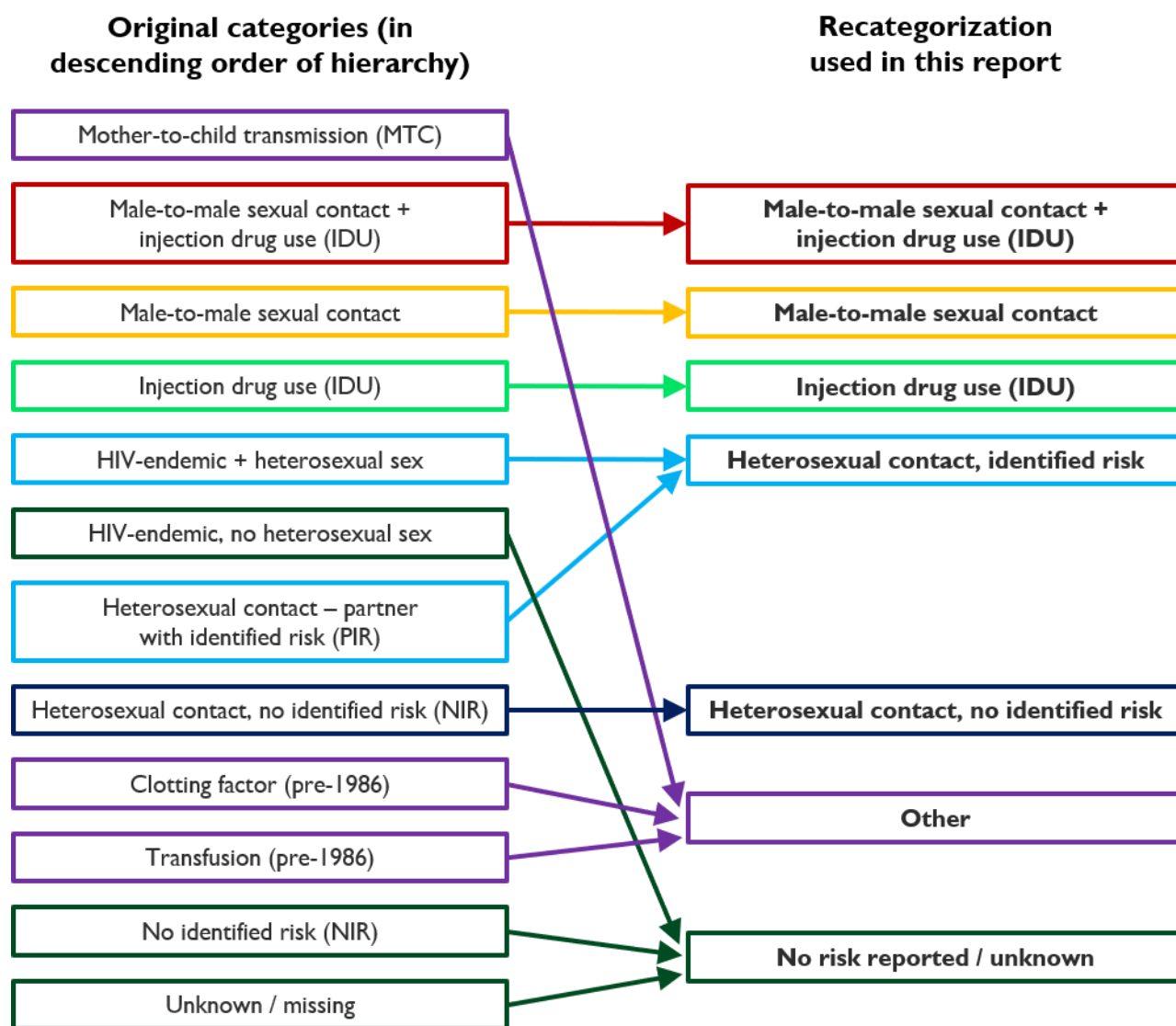
An attempt is made to assign each HIV test to an exposure category based on what reported HIV risk factor information is collected on the requisition form. The HIV exposure category is meant to represent an individual's most likely means of HIV acquisition. The HIV exposure categories are mutually exclusive. When more than one risk factor is reported for a single individual, a hierarchy is used to assign an HIV test to a single HIV 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. Male-to-male sexual contact + injection drug use (IDU): Being male and indicating sex with men and injection drug use
3. Male-to-male sexual contact: Being male and indicating sex with men
4. Injection drug use (IDU): Indicating injection drug use
5. HIV-endemic
 - a. HIV-endemic + heterosexual contact: (Country of birth is HIV-endemic or "Born in an HIV-endemic country" indicated as HIV risk factor) + indication of heterosexual contact (defined as being male or female and indicating sex with a person of the opposite sex/gender)
 - b. HIV-endemic, no heterosexual contact: (Country of birth is HIV-endemic or "Born in an HIV-endemic country" indicated as HIV risk factor) + no indication of heterosexual contact as in 5a
6. Heterosexual contact – 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, uses injection drugs, born in an HIV-endemic country, or is a bisexual male.
7. Heterosexual contact, no identified risk: 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 (NIR): Indicating "none" or "other" or "needlestick injury" as a risk factor
11. Unknown/missing: No risk factors indicated (form not completed)

In this report, some of the above categories are combined to form broader categories (see **Figure ii** below). This represents a new categorization compared to previous OHESI testing reports:

- Heterosexual contact, identified risk: combines tests assigned to "HIV-endemic + heterosexual contact" (category #5a above) and "Heterosexual contact – partner with identified risk (PIR)" (category #6)
- Other: combines tests assigned to "Mother-to-child transmission (MTC)" (category #1), "Clotting factor (pre-1986)" (category #8), and transfusion categories (category #9).
- No risk reported/unknown: combines tests assigned to "HIV-endemic, no heterosexual contact" (category #5b) and "No identified risk" (category #10), or where the form is not completed (category #11).

Figure ii. Original hierarchical HIV exposure categories (in descending order) and how they were recategorized for 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 7 out of 10 HIV tests (average of 69.3% per year between 2016 and 2020). These tests are included in figures of numbers of HIV tests and excluded from figures of proportions by HIV exposure category.

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.

In 2018, a “country of birth” field was added to the HIV test requisition form which better informed attribution to the HIV-endemic exposure category and likely contributed to the larger proportion of HIV tests attributed to this category in this year and later years (2019 and 2020). As exposure category attribution follows a hierarchy, increasing proportions in higher categories would decrease proportions attributed to subsequent categories. Any interpretation of changes between exposure category proportions of HIV tests in 2018/2019/2020 and the years prior should remain mindful of this caveat.

7. Health regions

Individuals who receive an HIV diagnostic test are assigned to a geographic region based on their residence or, if not reported, the address of the ordering provider. Approximately 16% of diagnoses are missing information on address of residence in 2019 and assigned based on provider address. Less than 0.02% of tests have unknown health region.

Ontario can be divided geographically by health region or public health units (PHU). These are defined below:

- Health regions – Groupings of PHUs that have historically been used in HIV epidemiology and surveillance reports. See the following page for health region breakdowns.
 - Public health unit – A health agency that provides health promotion and disease prevention programs. There are currently (2022) 34 PHUs in Ontario and each has its own unique geographical boundary. This is different from previous years where there were 36 PHUs. The change reflects the Oxford PHU being combined with the Elgin-St. Thomas PHU to form the new 'Southwestern' PHU. It also reflects Huron and Perth being combined. The larger health regions did not change from previous reports.

Groupings of public health units for each health region

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

Toronto health region

- Toronto

Central West health region

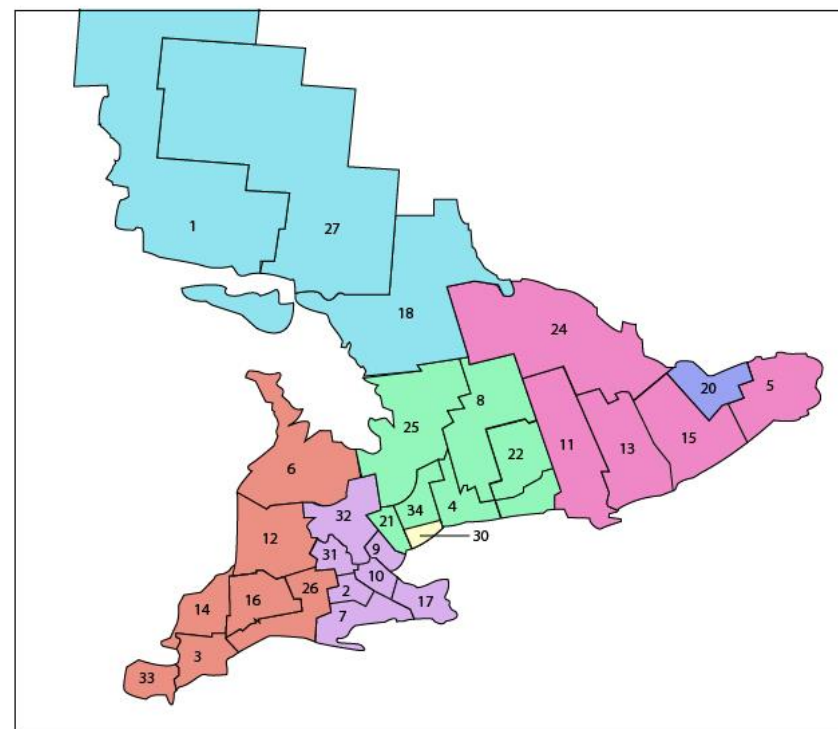
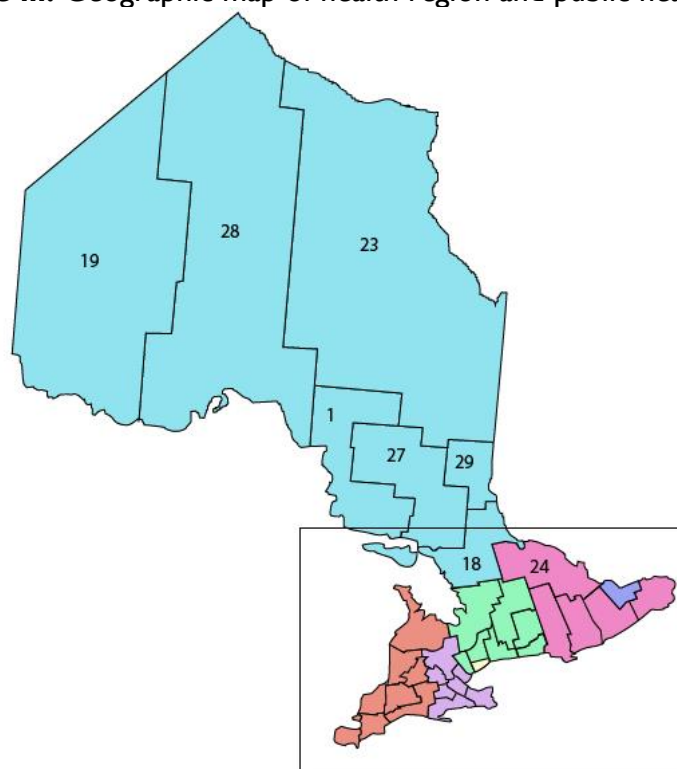
- Brant
- Haldimand-Norfolk
- Halton
- Hamilton
- Niagara
- Waterloo
- Wellington-Dufferin-Guelph

South West health region

- Grey Bruce
- Huron / Perth
- Chatham-Kent
- Lambton
- Middlesex-London
- Southwestern (Oxford, Elgin and St. Thomas)
- Windsor-Essex

Health regions

Figure iii. Geographic map of health region and public health unit boundaries (created using Statistics Canada boundary files).



Public health units (map legend)

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

8. HIV test submitter types

Each HIV test submitter type is a category defined by specific criteria and each HIV test is assigned an HIV test submitter type based on information about the submitter of the HIV test to the Public Health Ontario (PHO) Laboratory. When more than one submitter type is identified for a single HIV test, a hierarchy is used to assign an HIV test to a single submitter type. Therefore, the HIV test submitter types are mutually exclusive. This hierarchy, and the defining criteria for each submitter type, are as follows:

1. HIV treating physicians/clinics:
 - a submitter that has ordered ≥ 100 viral load tests since April 26, 2010
2. Correctional facilities:
 - a submitter that serves in correctional facilities/institutions listed from [federal](#) or [provincial](#) government websites
3. Immigration physicians/clinics:
 - a physician who is in the list of panel physicians in Ontario from federal government [websites](#), or
 - a submitter with a panel physician that has ordered ≥ 200 HIV diagnostic tests with $\geq 50\%$ tests tested for visa/immigration purposes since April 26, 2010, or
 - a submitter without a panel physician that has ordered ≥ 200 HIV diagnostic tests with $\geq 65\%$ tests tested for visa/immigration purposes since April 26, 2010
4. Sexual health clinics/public health units:
 - a submitter who serves in a sexual clinic identified with a key word, or
 - a specified HIV clinic, or
 - a public health unit site, as identified from the [Ontario Ministry of Health Service Provider Locations](#)
5. Hospitals:
 - a hospital site, as identified from the [Ontario Ministry of Health Service Provider Locations](#), or
 - a laboratory in a hospital site
6. Community health centres:
 - a community health centre site, as identified from the [Ontario Ministry of Health Service Provider Locations](#)
7. Other physicians/clinics/labs:
 - a physician who is not classified as an HIV treating physician or an immigration physician, or
 - a clinic that is not classified as any of the above submitter types, or in the "Other health care facilities" type below, or
 - a laboratory that is not in a hospital site
8. Other health care facilities
 - a fertility clinic identified by key word, or
 - a school-based wellness centre identified by key word and is not classified as any above submitter type, or
 - a mental/addiction health clinic site, as identified from the [Ontario Ministry of Health Service Provider Locations](#), and is not classified in any above submitter type, or
 - a long-term care/retirement facilities, as identified from [Ontario Ministry of Health Service Provider Locations](#)
9. Unassigned
 - unable to be assigned in any above submitter type

Data Tables

1. Overall

Table 1.1 Number of HIV tests, HIV test rate per 1,000 people, number of positive results, and HIV test positivity rate, Ontario, 2011 to 2020

Year	Number of tests	Population (all ages)	Rate per 1,000	Positive results	Positivity rate
2011	428,441	13,261,381	32.3	834	0.19%
2012	436,085	13,390,632	32.6	707	0.16%
2013	441,648	13,510,781	32.7	666	0.15%
2014	457,726	13,617,553	33.6	696	0.15%
2015	485,046	13,707,118	35.4	686	0.14%
2016	527,093	13,875,394	38.0	716	0.14%
2017	573,818	14,070,141	40.8	697	0.12%
2018	637,788	14,308,697	44.6	738	0.12%
2019	677,254	14,544,701	46.6	683	0.10%
2020	500,517	14,745,712	33.9	515	0.10%

Notes: Data provided by Public Health Ontario Laboratory. Positivity rate refers to the percent of tests that were HIV-positive. HIV tests with previous evidence of HIV not included. Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. See [Appendices](#) for more information.

2. By sex

Table 2.1 Number of HIV tests and HIV test positivity rate, by sex, Ontario, 2011 to 2020

Year	Males			Females			Sex not reported		
	Number of tests	Positive results	Positivity rate	Number of tests	Positive results	Positivity rate	Number of tests	Positive results	Positivity rate
2011	199,515	658	0.330%	212,551	163	0.077%	16,375	13	0.08%
2012	203,840	560	0.275%	216,013	143	0.066%	16,232	4	0.02%
2013	209,604	555	0.265%	217,389	106	0.049%	14,655	5	0.03%
2014	218,762	560	0.256%	223,183	130	0.058%	15,781	6	0.04%
2015	231,163	557	0.241%	236,256	127	0.054%	17,625	2	0.01%
2016	251,364	567	0.226%	256,308	141	0.055%	19,343	8	0.04%
2017	277,702	569	0.205%	276,918	125	0.045%	19,138	2	0.01%
2018	308,848	576	0.186%	309,168	160	0.052%	19,584	2	0.01%
2019	333,524	514	0.154%	325,318	167	0.051%	18,089	2	0.01%
2020	238,381	404	0.169%	249,655	105	0.042%	12,302	6	0.05%

Notes: Data provided by Public Health Ontario Laboratory. Positivity rate refers to the percent of tests that were HIV-positive. HIV tests with previous evidence of HIV not included. See [Appendices](#) for more information.

Table 2.2 Number and rate of HIV tests per 1,000 people, by sex, Ontario, 2011 to 2020

Year	Males			Females		
	Number of tests	Population (all ages)	Rate per 1,000	Number of tests	Population (all ages)	Rate per 1,000
2011	199,515	6,513,084	30.6	212,551	6,748,297	31.5
2012	203,840	6,581,938	31.0	216,013	6,808,694	31.7
2013	209,604	6,643,473	31.6	217,389	6,867,308	31.7
2014	218,762	6,698,984	32.7	223,183	6,918,569	32.3
2015	231,163	6,746,804	34.3	236,256	6,960,314	33.9
2016	251,364	6,835,845	36.8	256,308	7,039,549	36.4
2017	277,702	6,936,575	40.0	276,918	7,133,566	38.8
2018	308,848	7,062,361	43.7	309,168	7,246,336	42.7
2019	333,524	7,184,314	46.4	325,318	7,360,387	44.2
2020	238,381	7,283,995	32.7	249,655	7,461,717	33.5

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unreported sex not included (approximately 3% each year). Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. See [Appendices](#) for more information.

3. By age

Table 3.1 Rate of HIV tests per 1,000 people by age, 2016 to 2020

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+
2016	29.5	82.0	103.0	96.4	77.6	51.9	34.1	24.0	18.6	16.0	13.2	9.2
2017	32.4	87.6	112.9	102.2	83.6	55.7	35.9	25.5	19.4	16.3	13.9	9.3
2018	35.8	93.0	118.7	109.9	91.4	62.5	40.5	28.4	21.9	18.5	15.6	10.8
2019	37.1	96.2	121.4	114.0	95.3	66.0	42.6	30.9	23.4	19.4	16.5	11.0
2020	22.0	63.9	91.5	84.6	71.0	47.7	29.8	22.3	17.1	14.5	13.5	9.6

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unreported age not included (less than 0.5%). Rates calculated using Statistics Canada population estimates, accessed 11/05/2021. See [Appendices](#) for more information.

Table 3.2 Rate of HIV tests per 1,000 males by age, males, 2016 to 2020

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+
2016	20.6	67.9	94.7	89.5	75.2	52.8	38.0	27.0	21.2	18.1	15.3	11.3
2017	22.7	72.8	106.2	96.5	81.7	57.6	39.9	29.2	22.2	19.0	16.5	11.7
2018	25.8	77.4	111.2	104.6	89.3	64.6	44.8	32.1	24.6	21.0	18.3	13.3
2019	27.5	80.9	114.6	109.8	94.0	69.5	48.0	36.0	26.9	22.4	19.6	13.5
2020	14.8	50.7	83.5	77.7	67.8	49.4	32.6	25.3	19.3	15.8	15.1	11.7

Table 3.3 Rate of HIV tests per 1,000 males by age, females, 2016 to 2020

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+
2016	36.4	91.2	105.1	97.5	75.1	47.4	27.7	18.9	14.5	12.8	10.4	7.0
2017	40.0	97.4	113.8	102.2	80.6	50.5	29.5	19.8	15.0	12.6	10.4	6.9
2018	43.6	103.7	120.5	110.0	89.1	57.4	33.8	22.7	17.4	14.8	12.1	8.2
2019	44.3	106.8	122.9	113.5	92.6	60.0	35.2	24.1	18.4	15.4	12.7	8.3
2020	28.0	74.2	96.0	88.3	71.5	44.2	25.8	18.1	14.0	12.4	11.3	7.5

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unreported age and sex not included (approximately 3%). Rates calculated using Statistics Canada population estimates, accessed 11/05/2021. See [Appendices](#) for more information.

Table 3.4 Number of HIV tests and HIV test positivity rate by age and sex, Ontario, 2020

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	2,914	0	0.00%	1,227	0	0.00%	1,587	0	0.00%
15 to 19	18,742	5	0.03%	6,447	4	0.06%	11,648	1	0.01%
20 to 24	66,326	53	0.08%	27,470	45	0.16%	36,807	8	0.02%
25 to 29	98,418	97	0.10%	46,350	77	0.17%	49,999	20	0.04%
30 to 34	88,207	105	0.12%	40,977	85	0.21%	45,493	20	0.04%
35 to 39	70,548	69	0.10%	33,487	50	0.15%	35,756	18	0.05%
40 to 44	43,942	48	0.11%	22,059	38	0.17%	21,001	9	0.04%
45 to 49	27,837	41	0.15%	14,854	33	0.22%	12,315	7	0.06%
50 to 54	21,628	36	0.17%	12,134	29	0.24%	8,866	7	0.08%
55 to 59	18,355	22	0.12%	10,316	17	0.16%	7,550	5	0.07%
60 to 64	13,947	21	0.15%	7,442	16	0.21%	6,112	4	0.07%
65 to 69	10,833	5	0.05%	5,793	3	0.05%	4,749	2	0.04%
70+	17,274	13	0.08%	9,283	7	0.08%	7,476	4	0.05%

Notes: Data provided by Public Health Ontario Laboratory. Positivity rate refers to the percent of tests that were HIV-positive. HIV tests with previous evidence of HIV not included. Tests with unreported age not included (less than 0.5%). See [Appendices](#) for more information.

Table 3.5 Number and rate of HIV tests per 1,000 people by age and sex, Ontario, 2020

Age	Total			Males			Females		
	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	2,914	2,280,558	1.3	1,227	1,164,714	1.1	1,587	1,115,844	1.4
15 to 19	18,742	853,123	22.0	6,447	436,920	14.8	11,648	416,203	28.0
20 to 24	66,326	1,037,535	63.9	27,470	541,758	50.7	36,807	495,777	74.2
25 to 29	98,418	1,075,963	91.5	46,350	554,970	83.5	49,999	520,993	96.0
30 to 34	88,207	1,042,725	84.6	40,977	527,454	77.7	45,493	515,271	88.3
35 to 39	70,548	993,601	71.0	33,487	493,698	67.8	35,756	499,903	71.5
40 to 44	43,942	922,080	47.7	22,059	446,985	49.4	21,001	475,095	44.2
45 to 49	27,837	932,882	29.8	14,854	455,300	32.6	12,315	477,582	25.8
50 to 54	21,628	969,506	22.3	12,134	479,121	25.3	8,866	490,385	18.1
55 to 59	18,355	1,074,362	17.1	10,316	533,244	19.3	7,550	541,118	14.0
60 to 64	13,947	962,276	14.5	7,442	470,365	15.8	6,112	491,911	12.4
65 to 69	10,833	804,800	13.5	5,793	383,950	15.1	4,749	420,850	11.3
70+	17,274	1,796,301	9.6	9,283	795,516	11.7	7,476	1,000,785	7.5

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Tests with unreported age not included (less than 0.5%). Rates calculated using Statistics Canada population estimates, accessed 11/05/2021. See [Appendices](#) for more information.

Table 3.6 HIV test positivity rate by age, males, 2018 to 2020

Year	Age category (HIV test positivity rate)											
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+
2018	0.11%	0.15%	0.21%	0.19%	0.20%	0.19%	0.22%	0.20%	0.24%	0.11%	0.15%	0.11%
2019	0.09%	0.11%	0.18%	0.18%	0.14%	0.10%	0.24%	0.22%	0.26%	0.12%	0.10%	0.04%
2020	0.06%	0.16%	0.17%	0.21%	0.15%	0.17%	0.22%	0.24%	0.16%	0.21%	0.05%	0.08%

Table 3.7 HIV test positivity rate by age, females, 2018 to 2020

Year	Age category (HIV test positivity rate)											
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+
2018	0.01%	0.02%	0.03%	0.04%	0.08%	0.07%	0.09%	0.09%	0.15%	0.07%	0.08%	0.08%
2019	0.02%	0.02%	0.04%	0.05%	0.06%	0.08%	0.08%	0.07%	0.09%	0.07%	0.06%	0.06%
2020	0.01%	0.02%	0.04%	0.04%	0.05%	0.04%	0.06%	0.08%	0.07%	0.07%	0.04%	0.05%

Notes: Data provided by Public Health Ontario Laboratory. Positivity rate refers to the percent of tests that were HIV-positive. HIV tests with previous evidence of HIV not included. Tests with unreported age and sex not included (approximately 3%). See [Appendices](#) for more information.

4. By test type

Table 4.1 Number of HIV tests and HIV test positivity rate by test type, Ontario, 2011 to 2020

Year	Nominal			Anonymous		
	Number of tests	Positive results	Positivity rate	Number of tests	Positive results	Positivity rate
2011	388,400	626	0.16%	16,214	132	0.81%
2012	396,378	525	0.13%	16,167	114	0.71%
2013	400,949	496	0.12%	17,192	115	0.67%
2014	422,182	570	0.14%	17,434	108	0.62%
2015	451,259	565	0.13%	17,255	93	0.54%
2016	499,990	605	0.12%	15,598	96	0.62%
2017	548,844	589	0.11%	14,677	89	0.61%
2018	614,684	627	0.10%	13,750	98	0.71%
2019	652,465	593	0.09%	16,478	78	0.47%
2020	491,418	463	0.09%	5,309	43	0.81%

Table 4.2 Number of HIV tests by test type and sex, Ontario, 2011 to 2020

Year	Males		Females	
	Nominal	Anonymous	Nominal	Anonymous
2011	175,666	11,183	197,823	4,713
2012	180,177	10,911	201,023	4,948
2013	183,940	12,279	203,048	4,675
2014	196,412	12,608	210,733	4,574
2015	209,209	12,750	225,090	4,300
2016	232,872	11,945	248,400	3,399
2017	260,982	11,171	269,364	3,333
2018	293,124	10,738	302,515	2,713
2019	316,207	12,977	318,699	3,141
2020	232,540	4,145	246,830	1,026

Notes: Data provided by Public Health Ontario Laboratory. Positivity rate refers to the percent of tests that were HIV-positive. HIV tests with previous evidence of HIV not included. See [Appendices](#) for more information.

Table 4.3 Percent of HIV tests by test type, Ontario, 2011 to 2020

Year	Nominal	Anonymous
2011	90.7%	3.8%
2012	90.9%	3.7%
2013	90.8%	3.9%
2014	92.2%	3.8%
2015	93.0%	3.6%
2016	94.9%	3.0%
2017	96.4%	2.2%
2018	96.3%	2.4%
2019	96.3%	2.4%
2020	98.2%	1.1%

Table 4.4 Number of HIV tests and HIV test positivity rate by test type, males, Ontario, 2011 to 2020

Year	Nominal			Anonymous		
	Number of tests	Positive results	Positivity rate	Number of tests	Positive results	Positivity rate
2011	175,666	468	0.27%	11,183	124	1.11%
2012	180,177	391	0.22%	10,911	104	0.95%
2013	183,940	404	0.22%	12,279	100	0.81%
2014	196,412	443	0.23%	12,608	100	0.79%
2015	209,209	449	0.21%	12,750	82	0.64%
2016	232,872	464	0.20%	11,945	92	0.77%
2017	260,982	473	0.18%	11,171	78	0.70%
2018	293,124	475	0.16%	10,738	90	0.84%
2019	316,207	436	0.14%	12,977	70	0.54%
2020	232,540	353	0.15%	4,145	43	1.04%

Notes: Data provided by Public Health Ontario Laboratory. Positivity rate refers to the percent of tests that were HIV-positive. HIV tests with previous evidence of HIV not included. Tests with unreported sex not included in Table 4.4 (approximately 3% each year). See [Appendices](#) for more information.

Table 4.5 Number of HIV tests and HIV test positivity rate by test type, females, Ontario, 2011 to 2020

Year	Nominal			Anonymous		
	Number of tests	Positive results	Positivity rate	Number of tests	Positive results	Positivity rate
2011	197,823	152	0.08%	4713	7	0.15%
2012	201,023	130	0.06%	4948	10	0.20%
2013	203,048	88	0.04%	4675	14	0.30%
2014	210,733	121	0.06%	4574	8	0.17%
2015	225,090	115	0.05%	4300	10	0.23%
2016	248,400	134	0.05%	3399	4	0.12%
2017	269,364	114	0.04%	3333	10	0.30%
2018	302,515	150	0.05%	2713	8	0.29%
2019	318,699	156	0.05%	3141	8	0.25%
2020	246,830	105	0.04%	1026	0	0.00%

Notes: Data provided by Public Health Ontario Laboratory. Positivity rate refers to the percent of tests that were HIV-positive. HIV tests with previous evidence of HIV not included. Tests with unreported sex not included in Table 4.5 (approximately 3% each year). See [Appendices](#) for more information.

5. By exposure category

Table 5.1 Number of HIV tests by exposure category, Ontario, 2016 to 2020

Year	Male-to-male sexual contact + IDU	Male-to-male sexual contact	Injection drug use	Heterosexual contact, identified risk	Heterosexual contact, no identified risk	Other	No risk reported / unknown
2016	260	27,857	5,588	3,496	134,106	1,000	354,786
2017	259	31,127	6,064	3,164	141,646	925	390,633
2018	295	35,488	6,973	3,315	151,624	1,032	439,061
2019	359	43,562	7,440	4,020	163,278	1,002	457,593
2020	215	26,470	5,126	1,875	92,504	897	373,430

Table 5.2 Percent of HIV tests by exposure category, Ontario, 2016 to 2020

Year	Male-to-male sexual contact + IDU	Male-to-male sexual contact	Injection drug use	Heterosexual contact, identified risk	Heterosexual contact, no identified risk	Other	Total
2016	0.2%	16.2%	3.2%	2.0%	77.8%	0.6%	100%
2017	0.1%	17.0%	3.3%	1.7%	77.3%	0.5%	100%
2018	0.1%	17.9%	3.5%	1.7%	76.3%	0.5%	100%
2019	0.2%	19.8%	3.4%	1.8%	74.3%	0.5%	100%
2020	0.2%	20.8%	4.0%	1.5%	72.8%	0.7%	100%

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. HIV tests with previous evidence of HIV not included. See [Appendices](#) for more information.

Table 5.3 Number of HIV tests by exposure category, males, Ontario, 2016 to 2020

Year	Male-to-male sexual contact + IDU	Male-to-male sexual contact	Injection drug use	Heterosexual contact, identified risk	Heterosexual contact, no identified risk	Other	No risk reported / unknown
2016	260	27,857	3,108	1,110	61,963	500	156,566
2017	259	31,127	3,372	945	64,433	465	177,101
2018	295	35,488	4,035	1,340	67,760	537	199,393
2019	359	43,562	4,263	1,675	73,507	501	209,657
2020	215	26,470	3,047	830	39,636	471	167,712

Table 5.4 Percent of HIV tests by exposure category, males, Ontario, 2016 to 2020

Year	Male-to-male sexual contact + IDU	Male-to-male sexual contact	Injection drug use	Heterosexual contact, identified risk	Heterosexual contact, no identified risk	Other	Total
2016	0.3%	29.3%	3.3%	1.2%	65.5%	0.5%	100%
2017	0.3%	30.8%	3.3%	0.9%	64.2%	0.5%	100%
2018	0.3%	32.3%	3.7%	1.2%	62.1%	0.5%	100%
2019	0.3%	34.9%	3.4%	1.3%	59.7%	0.4%	100%
2020	0.3%	37.0%	4.3%	1.2%	56.6%	0.7%	100%

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. HIV tests with previous evidence of HIV not included. See [Appendices](#) for more information.

Table 5.5 Number of HIV tests by exposure category, females, Ontario, 2016 to 2020

Year	Injection drug use	Heterosexual contact, identified risk	Heterosexual contact, no identified risk	Other	No risk reported / unknown
2016	2,202	2,386	72,143	436	179,141
2017	2,432	2,219	77,213	398	194,656
2018	2,673	1,975	83,864	454	220,202
2019	2,956	2,345	89,771	456	229,790
2020	1,963	1,045	52,868	392	193,387

Table 5.6 Percent of HIV tests by exposure category, females, Ontario, 2016 to 2020

Year	Injection drug use	Heterosexual contact, identified risk	Heterosexual contact, no identified risk	Other	Total
2016	2.9%	3.1%	93.5%	0.6%	100%
2017	3.0%	2.7%	93.9%	0.5%	100%
2018	3.0%	2.2%	94.3%	0.5%	100%
2019	3.1%	2.5%	94.0%	0.5%	100%
2020	3.5%	1.9%	94.0%	0.7%	100%

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. HIV tests with previous evidence of HIV not included. See [Appendices](#) for more information.

Table 5.7 HIV test positivity rate by exposure category, males, Ontario, 2016 to 2020

Year	Male-to-male sexual contact + IDU	Male-to-male sexual contact	Injection drug use	Heterosexual contact, identified risk	Heterosexual contact, no identified risk	Other
2016	1.92%	0.72%	0.58%	0.45%	0.07%	0.40%
2017	3.09%	0.63%	0.27%	0.63%	0.06%	0.00%
2018	1.69%	0.58%	0.40%	0.22%	0.04%	0.56%
2019	1.95%	0.44%	0.19%	0.18%	0.04%	0.00%
2020	0.00%	0.52%	0.33%	0.48%	0.07%	0.00%

Table 5.8 HIV test positivity rate by exposure category, females, Ontario, 2016 to 2020

Year	Injection drug use	Heterosexual contact, identified risk	Heterosexual contact, no identified risk	Other
2016	0.77%	0.42%	0.03%	0.23%
2017	0.49%	0.45%	0.02%	0.25%
2018	0.26%	0.35%	0.02%	0.22%
2019	0.47%	0.47%	0.01%	0.22%
2020	0.61%	0.19%	0.02%	0.00%

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. Positivity rate refers to the percent of tests that were HIV-positive. HIV tests with previous evidence of HIV not included. See [Appendices](#) for more information.

6. By health region

Table 6.1 Number, rate of HIV tests per 1,000 people, and positivity rate, by health region, Ontario, 2016 to 2020

Health Region	2016	2017	2018	2019	2020
Northern					
Number of Tests	22,809	25,089	27,144	29,799	25,521
Population (all ages)	802,787	804,043	806,713	809,097	810,181
Rate per 1,000	28.4	31.2	33.6	36.8	31.5
Positive results	14	14	25	28	24
Positivity rate	0.06%	0.06%	0.09%	0.09%	0.09%
Ottawa					
Number of Tests	43,793	45,864	53,437	54,501	39,067
Population (all ages)	964,341	983,739	1,004,802	1,025,425	1,043,130
Rate per 1,000	45.4	46.6	53.2	53.1	37.5
Positive results	58	51	43	34	37
Positivity rate	0.13%	0.11%	0.08%	0.06%	0.09%
Eastern					
Number of Tests	21,852	23,170	24,838	27,539	19,470
Population (all ages)	852,193	859,549	869,005	877,901	886,339
Rate per 1,000	25.6	27.0	28.6	31.4	22.0
Positive results	19	10	18	13	13
Positivity rate	0.09%	0.04%	0.07%	0.05%	0.07%
Toronto					
Number of Tests	185,982	200,512	222,457	237,359	164,014
Population (all ages)	2,819,398	2,862,662	2,917,915	2,963,466	2,988,408
Rate per 1,000	66.0	70.0	76.2	80.1	54.9
Positive results	354	381	398	394	278
Positivity rate	0.19%	0.19%	0.18%	0.17%	0.17%
Central East					
Number of Tests	130,194	141,657	161,338	174,959	131,103
Population (all ages)	4,125,788	4,186,566	4,259,995	4,345,686	4,418,693
Rate per 1,000	31.6	33.8	37.9	40.3	29.7
Positive results	89	99	116	97	70
Positivity rate	0.07%	0.07%	0.07%	0.06%	0.05%
Central West					
Number of Tests	74,388	85,451	87,963	93,601	75,603
Population (all ages)	2,681,980	2,723,205	2,771,651	2,821,904	2,864,816
Rate per 1,000	27.7	31.4	31.7	33.2	26.4
Positive results	88	64	63	62	53
Positivity rate	0.12%	0.07%	0.07%	0.07%	0.07%
South West					
Number of Tests	44,097	47,978	55,803	54,935	42,427
Population (all ages)	1,628,907	1,650,377	1,678,616	1,701,239	1,722,447
Rate per 1,000	27.1	29.1	33.2	32.3	24.6
Positive results	83	72	66	51	33
Positivity rate	0.19%	0.15%	0.12%	0.09%	0.08%

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. See [Appendices](#) for more information.

Table 6.2 Number, rate of HIV tests per 1,000 people, and positivity rate, by health region, males, Ontario, 2016 to 2020

Health Region	2016	2017	2018	2019	2020
Northern					
Number of Tests	10,316	11,514	12,474	13,726	11,462
Population (all ages)	400,044	400,853	402,658	404,074	404,469
Rate per 1,000	25.8	28.7	31.0	34.0	28.3
Positive results	9	10	19	14	11
Positivity rate	0.09%	0.09%	0.15%	0.10%	0.10%
Ottawa					
Number of Tests	21,169	22,950	26,344	26,664	18,559
Population (all ages)	473,134	482,585	493,205	503,772	512,619
Rate per 1,000	44.7	47.6	53.4	52.9	36.2
Positive results	38	39	31	14	20
Positivity rate	0.18%	0.17%	0.12%	0.05%	0.11%
Eastern					
Number of Tests	11,238	11,919	12,627	14,051	9,635
Population (all ages)	422,018	426,151	431,305	435,818	440,043
Rate per 1,000	26.6	28.0	29.3	32.2	21.9
Positive results	16	8	15	7	11
Positivity rate	0.14%	0.07%	0.12%	0.05%	0.11%
Toronto					
Number of Tests	92,348	101,541	113,724	124,417	84,122
Population (all ages)	1,370,220	1,392,831	1,420,072	1,443,045	1,454,341
Rate per 1,000	67.4	72.9	80.1	86.2	57.8
Positive results	307	324	325	313	236
Positivity rate	0.33%	0.32%	0.29%	0.25%	0.28%
Central East					
Number of Tests	60,398	66,578	75,410	82,632	60,809
Population (all ages)	2,039,176	2,070,180	2,108,983	2,153,745	2,190,616
Rate per 1,000	29.6	32.2	35.8	38.4	27.8
Positive results	69	76	85	73	54
Positivity rate	0.11%	0.11%	0.11%	0.09%	0.09%
Central West					
Number of Tests	33,807	39,132	40,766	43,563	32,358
Population (all ages)	1,324,623	1,345,856	1,372,774	1,399,111	1,420,972
Rate per 1,000	25.5	29.1	29.7	31.1	22.8
Positive results	63	48	42	47	39
Positivity rate	0.19%	0.12%	0.10%	0.11%	0.12%
South West					
Number of Tests	20,219	22,101	25,165	26,266	19,938
Population (all ages)	806,630	818,119	833,364	845,159	856,388
Rate per 1,000	25.1	27.0	30.2	31.1	23.3
Positive results	57	59	53	43	28
Positivity rate	0.28%	0.27%	0.21%	0.16%	0.14%

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. See [Appendices](#) for more information.

Table 6.3 Number, rate of HIV tests per 1,000 people, and positivity rate, by health region, females, Ontario, 2016 to 2020

Health Region	2016	2017	2018	2019	2020
Northern					
Number of Tests	11,845	13,028	14,152	15,439	13,550
Population (all ages)	402,743	403,190	404,055	405,023	405,712
Rate per 1,000	29.4	32.3	35.0	38.1	33.4
Positive results	5	4	6	14	13
Positivity rate	0.04%	0.03%	0.04%	0.09%	0.10%
Ottawa					
Number of Tests	21,818	22,280	25,666	26,839	20,028
Population (all ages)	491,207	501,154	511,597	521,653	530,511
Rate per 1,000	44.4	44.5	50.2	51.4	37.8
Positive results	20	11	12	20	16
Positivity rate	0.09%	0.05%	0.05%	0.07%	0.08%
Eastern					
Number of Tests	10,094	10,813	11,543	12,846	9,538
Population (all ages)	430,175	433,398	437,700	442,083	446,296
Rate per 1,000	23.5	24.9	26.4	29.1	21.4
Positive results	3	2	3	6	2
Positivity rate	0.03%	0.02%	0.03%	0.05%	0.02%
Toronto					
Number of Tests	87,785	93,545	103,829	107,881	76,455
Population (all ages)	1,449,178	1,469,831	1,497,843	1,520,421	1,534,067
Rate per 1,000	60.6	63.6	69.3	71.0	49.8
Positive results	44	55	72	79	40
Positivity rate	0.05%	0.06%	0.07%	0.07%	0.05%
Central East					
Number of Tests	64,566	69,991	80,518	87,231	66,994
Population (all ages)	2,086,612	2,116,386	2,151,012	2,191,941	2,228,077
Rate per 1,000	30.9	33.1	37.4	39.8	30.1
Positive results	17	23	30	24	15
Positivity rate	0.03%	0.03%	0.04%	0.03%	0.02%
Central West					
Number of Tests	35,811	40,882	42,248	45,368	39,652
Population (all ages)	1,357,357	1,377,349	1,398,877	1,422,793	1,443,844
Rate per 1,000	26.4	29.7	30.2	31.9	27.5
Positive results	24	16	21	15	12
Positivity rate	0.07%	0.04%	0.05%	0.03%	0.03%
South West					
Number of Tests	22,341	24,304	28,853	27,430	21,666
Population (all ages)	822,277	832,258	845,252	856,080	866,059
Rate per 1,000	27.2	29.2	34.1	32.0	25.0
Positive results	25	13	13	8	5
Positivity rate	0.11%	0.05%	0.05%	0.03%	0.02%

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV not included. Rates calculated using Statistics Canada population estimates for all ages, accessed 11/05/2021. See [Appendices](#) for more information.

7. By HIV test submitter type

Table 7.1 Number and percent of HIV tests by HIV test submitter type, overall and by sex, Ontario, 2019 to 2020

HIV test submitter type	Number of HIV tests		Percent of HIV tests					
	Total		Total		Males		Females	
	2019	2020	2019	2020	2019	2020	2019	2020
HIV treating physicians / clinics	79,212	61,360	11.7%	12.3%	13.2%	14.4%	10.3%	10.3%
Correctional facilities	2,950	2,433	0.4%	0.5%	0.7%	0.9%	0.1%	0.1%
Immigration physicians / clinics	95,710	87,275	14.1%	17.4%	13.9%	17.9%	15.0%	17.7%
Sexual health clinics / public health units (PHUs)	66,513	29,262	9.8%	5.8%	13.2%	8.1%	6.7%	3.9%
Hospitals	37,731	32,725	5.6%	6.5%	5.7%	6.7%	5.6%	6.4%
Community health centres	12,757	7,291	1.9%	1.5%	1.8%	1.4%	2.0%	1.5%
Other physicians / clinics / labs	299,214	206,167	44.2%	41.2%	40.4%	37.0%	46.8%	44.0%
Other health care facilities	71,742	64,830	10.6%	13.0%	9.2%	11.5%	12.1%	14.5%
Unassigned	11,425	9,174	1.7%	1.8%	1.8%	2.1%	1.6%	1.6%

Notes: Data provided by Public Health Ontario Laboratory. “Other physicians/clinics/labs” includes physicians who are not classified as HIV treating physicians or immigration physicians, clinics that are not classified as any of the preceding submitter types, and laboratories that are not in a hospital site. “Other health care facilities” includes fertility clinics, school-based wellness centres, mental/addiction health clinics, and long-term care/retirement facilities. HIV tests and positive results with previous evidence of HIV not included. See [Appendices](#) for more information.

Table 7.2 Positive results by HIV test submitter type, overall and by sex, Ontario, 2019 to 2020

HIV test submitter type	Total		Males		Females	
	2019	2020	2019	2020	2019	2020
HIV treating physicians / clinics	153	158	111	121	40	34
Correctional facilities	4	3	2	1	2	2
Immigration physicians / clinics	130	67	77	44	53	22
Sexual health clinics / public health units (PHUs)	138	84	127	79	11	5
Hospitals	50	53	36	38	14	14
Community health centres	20	9	12	7	8	2
Other physicians / clinics / labs	169	131	139	107	30	23
Other health care facilities	9	6	4	4	5	2
Unassigned	10	4	6	3	4	1

Notes: Data provided by Public Health Ontario Laboratory. “Other physicians/clinics/labs” includes physicians who are not classified as HIV treating physicians or immigration physicians, clinics that are not classified as any of the preceding submitter types, and laboratories that are not in a hospital site. “Other health care facilities” includes fertility clinics, school-based wellness centres, mental/addiction health clinics, and long-term care/retirement facilities. HIV tests and positive results with previous evidence of HIV not included. See [Appendices](#) for more information.

8. Transgender identity and race/ethnicity (new HIV test requisition)

Table 8.1 Number and percent of HIV tests by transgender identity, among tests submitted via new HIV test requisition (N = 195,931 with reported gender in 2020, 39.1% of all HIV tests; N = 223,198 with reported gender in 2019, 33.0% of all HIV tests), Ontario, 2019 to 2020

Gender identity	Year	Number of tests	Percent of tests
Trans female	2019	178	0.08%
	2020	106	0.05%
Trans male	2019	114	0.05%
	2020	55	0.03%

Table 8.2 Percent of HIV tests by race/ethnicity, among tests submitted via new HIV test requisition (N = 198,979 in 2020, 39.8% of all HIV tests; N = 226,716 in 2019; 33.4% of all HIV tests), Ontario, 2019 to 2020

Race/ethnicity	Number of tests		Percent of tests	
	2019	2020	2019	2020
White	66,457	44,813	29.3%	22.5%
Black	13,038	8,679	5.8%	4.4%
East/Southeast Asian	11,175	7,852	4.9%	3.9%
South Asian	8,098	6,823	3.6%	3.4%
Arab/West Asian	3,812	2,603	1.7%	1.3%
Latin American	4,465	2,685	2.0%	1.3%
Indigenous	3,817	3,300	1.7%	1.7%
Other/mixed	3,231	2,101	1.4%	1.1%
Not reported	112,623	120,123	49.7%	60.4%

Notes: Data provided by Public Health Ontario Laboratory. HIV tests with previous evidence of HIV included. HIV tests with unreported gender excluded from Table 8.1 (1.6% and 1.5% of tests submitted via the new HIV test requisition in 2019 and 2020, respectively). See [Appendices](#) for more information.

9. Point-of-Care (POC) HIV testing

Table 9.1 Number of POC HIV tests, total number of HIV tests, and percent of total HIV tests that were POC, Ontario, 2011 to 2020

Year	Number of POC tests	Total number of tests	Percent of total tests that were POC
2011	25,961	428,441	6.1%
2012	26,427	436,085	6.1%
2013	29,358	441,648	6.7%
2014	30,183	457,726	6.6%
2015	28,598	485,046	5.9%
2016	22,356	527,093	4.2%
2017	20,063	573,818	3.5%
2018	18,139	637,788	2.8%
2019	19,444	677,254	2.9%
2020	6,239	500,517	1.2%

Table 9.2 Number of POC HIV tests, confirmed positive POC tests, and test positivity rate, by sex, Ontario, 2011 to 2020

Year	Males			Females		
	Number of POC tests	Positive POC results	Positivity rate	Number of POC tests	Positive POC results	Positivity rate
2011	16,742	145	0.87%	8,697	9	0.10%
2012	17,045	123	0.72%	8,846	15	0.17%
2013	19,738	118	0.60%	9,189	16	0.17%
2014	20,410	125	0.61%	9,211	16	0.17%
2015	20,146	105	0.52%	8,014	12	0.15%
2016	16,617	113	0.68%	5,216	8	0.15%
2017	15,034	104	0.69%	4,700	9	0.19%
2018	13,934	106	0.76%	3,714	10	0.27%
2019	15,151	52	0.34%	3,805	8	0.21%
2020	4,767	26	0.55%	1,298	2	0.15%

Notes: Data provided by Public Health Ontario Laboratory. POC HIV tests with previous evidence of HIV excluded. Positivity rate refers to the percent of tests that were HIV-positive. POC = point-of-care. See [Appendices](#) for more information.

Table 9.3 Number of POC HIV tests by age, Ontario, 2019 to 2020

Age	Number of POC tests	
	2019	2020
<15	4	0
15 to 19	428	109
20 to 24	2,878	867
25 to 29	4,636	1,429
30 to 34	3,626	1,084
35 to 39	2,338	837
40 to 44	1,515	492
45 to 49	1,052	315
50 to 54	881	294
55 to 59	657	206
60 to 64	329	119
65 to 69	178	65
70+	151	49
Not reported	778	373

Notes: Data provided by Public Health Ontario Laboratory. POC HIV tests with previous evidence of HIV included. Positivity rate refers to the percent of tests that were HIV-positive. POC = point-of-care. See [Appendices](#) for more information.

Table 9.4 Number of HIV tests by exposure category, Ontario, 2016 to 2020

Year	Male-to-male sexual contact + IDU	Male-to-male sexual contact	Injection drug use	Heterosexual contact, identified risk	Heterosexual contact, no identified risk	Other	No risk reported / unknown
2016	71	11,568	499	1,366	7,861	12	1,001
2017	67	11,062	463	1,053	6,596	14	818
2018	78	10,103	549	850	5,428	12	1,132
2019	75	10,923	618	962	5,765	4	1,104
2020	31	3,282	286	328	1,912	0	400

Table 9.5 Percent of HIV tests by exposure category, Ontario, 2016 to 2020

Year	Male-to-male sexual contact + IDU	Male-to-male sexual contact	Injection drug use	Heterosexual contact, identified risk	Heterosexual contact, no identified risk	Other	No risk reported / unknown	Total
2016	0.3%	51.7%	2.2%	6.1%	35.1%	0.1%	4.5%	100%
2017	0.3%	55.1%	2.3%	5.2%	32.9%	0.1%	4.1%	100%
2018	0.4%	55.7%	3.0%	4.7%	29.9%	0.1%	6.2%	100%
2019	0.4%	56.2%	3.2%	4.9%	29.6%	0.0%	5.7%	100%
2020	0.5%	52.6%	4.6%	5.3%	30.6%	0.0%	6.4%	100%

Notes: Data provided by Public Health Ontario Laboratory. “Identified risk” means either the individual’s country of birth is reported as an HIV-endemic country, or the individual’s opposite-sex/gender partner is reported to be at least one of: HIV-positive; user of injection drugs; born in an HIV-endemic country; a bisexual male. POC = point-of-care. POC HIV tests with previous evidence of HIV included. See [Appendices](#) for more information.

10. Prenatal HIV testing

Table 10.1 Number pregnant people who received a prenatal HIV test, number of births (live and stillbirths), and ratio of pregnant people who received a prenatal HIV test to births (live and stillbirths), Ontario, 2012 to 2020

Year	Estimated number of pregnant people who received a prenatal HIV test	Number of births (live and stillbirths)	Ratio of pregnant people who received a prenatal HIV test to births (live and stillbirths)
2012	133,626	141,820	0.94
2013	132,676	140,053	0.95
2014	133,735	140,372	0.95
2015	134,168	140,117	0.96
2016	134,840	141,285	0.95
2017	135,940	141,360	0.96
2018	137,541	141,143	0.97
2019	138,038	141,700	0.97
2020	138,229	137,588	1.00

Notes: Annual number of pregnant people who received a prenatal HIV test provided by Public Health Ontario Laboratory and the number of births (live and stillbirths) provided by the Better Outcomes Registry & Network (BORN). HIV tests with previous evidence of HIV included. It is important to note that the number of births (live and stillbirths) is a known undercount of all pregnant people, as miscarriages occurring before 20 weeks of pregnancy are not included. This metric is also limited in that prenatal HIV tests are assigned to the year the test is performed, while births are assigned to the year the birth occurs; because HIV testing is typically conducted in the first trimester of pregnancy, many pregnant people will be tested for HIV in the calendar year prior to the year they give birth. See [Appendices](#) for more information.