HIV diagnoses in Ontario, 2019

About OHESI

The Ontario HIV Epidemiology and Surveillance Initiative (OHESI) is a collaboration involving the AIDS and HepC Programs of the Ontario Ministry of Health (MOH), Public Health Ontario (PHO), the Public Health Agency of Canada (PHAC), and the Ontario HIV Treatment Network (OHTN) Applied Epidemiology Unit (AEU). The objectives of OHESI are to analyze, monitor and disseminate knowledge products on the epidemiology of HIV in Ontario. OHESI is a vital partnership that supports Ontario's ongoing ability to assess the impact of policy directions and HIV related program initiatives.

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 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 initiated the Ontario HIV Epidemiology and Surveillance Initiative (OHESI) and continues to provide administrative and technical support for the partnership.

Contact information

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

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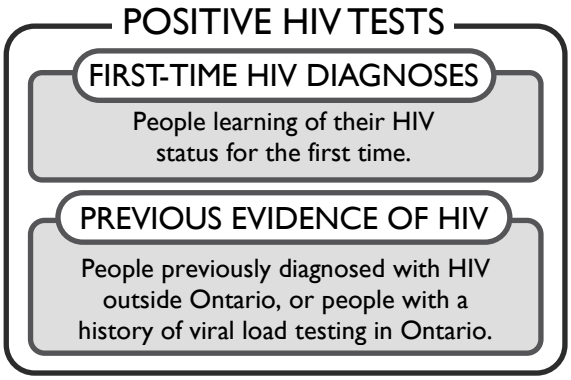
Key Trends and Findings

Throughout the HIV epidemic, Ontario has analyzed surveillance data to ensure timely and targeted delivery of services and deployment of resources. These data inform our progress on targets and help us understand which populations are experiencing a disproportionate burden of HIV risk and infection. Over time, it's important to understand trends in both: 1) first-time HIV diagnoses (infections that likely occurred in Ontario) to guide prevention activities for people at risk of HIV: and 2) all people entering care each year in Ontario, which includes first-time HIV diagnoses plus people with previous evidence of HIV newly entering care in Ontario (people who had a positive diagnostic HIV test who already knew their HIV status and whose infection likely occurred outside the province), to inform planning for care services.



Of the 897 positive HIV tests in Ontario in 2019, 687 were first-time HIV diagnoses[1] and 210 had previous evidence of HIV. To determine if a positive HIV tests is a first-time HIV diagnosis, we must have completed test history. When test history is missing (as it is for 48% of positive HIV tests in 2019), some diagnoses may be inaccurately categorized as first-time.

HIV is not a generalized epidemic in Ontario. It primarily affects a small number of populations that have higher prevalence of HIV than the general population, including; gay, bisexual and other men who have sex with men (GBMSM), African, Caribbean and Black (ACB) people, people who use injection drugs (PWID), Indigenous Peoples, and women whose partners are members of these populations and/or who face systematic barriers that put them at risk. Although Ontario's HIV epidemic has been fairly stable over the past few years, there are some notable recent trends.

Since 1985 (when Ontario first started testing for HIV), only in 2013 and 2015 has the number of first-time HIV diagnoses been lower than the 687 reported in 2019. When considered relative to the population size, the rate of first-time HIV diagnoses per 100,000 people reached its lowest point in 2019 since 1985: 4.7 per 100,000 people. Since 2016, the number of positive tests with previous evidence of HIV has doubled, accounting for nearly a quarter (23.4%) of all positive HIV tests in 2019.

The decrease in first-time HIV diagnoses in 2019 was due largely to a decrease in white males, while counts of diagnoses remained stable in racialized males and in females. While the rate of first-time HIV diagnoses per capita decreased between 2018 and 2019 among males, it remained stable in females.

The decline in first-time HIV diagnoses among white males and not among racialized males is particularly apparent within GBMSM, who accounted for 64.0% of all first-time HIV diagnoses in 2019 and 79.9% of diagnoses among males. Ottawa is the region with the most substantial recent decrease (82%) in first-time HIV diagnoses among GBMSM: from 22 in 2015 to fewer than 5 in 2019. Since 2018, the use of HIV pre-exposure prophylaxis (PrEP) has increased among GBMSM, so it is logical to consider that PrEP uptake could be successfully preventing HIV transmissions among GBMSM males – particularly white males – in Ontario[2]. The challenge now is to ensure that racialized GBMSM have the same access to prevention technologies.

[1] We estimate between 6.3% and 7.5% of first-time HIV diagnoses to have an uncaptured previous HIV diagnosis; therefore, reported overall counts of first-time HIV diagnoses overall are likely an overcount by this amount.
[2] More information regarding HIV pre-exposure prophylaxis (PrEP) uptake and provision in Ontario can be found in the OHTN report HIV pre-exposure prophylaxis (PrEP) in Ontario, 2020

While the majority of first-time HIV diagnoses in GBMSM were in those aged less than 35 in 2019, nearly a quarter (23.1%) of diagnoses in this population were in those aged 45 or older, which reinforces the importance of promoting regular testing to all GBMSM, regardless of age.

People with previous evidence of HIV accounted for nearly half (45.4%) of all positive HIV tests in ACB people in 2019 – more than double the ~20% seen prior to 2016.

In 2019, 27.0% of first-time HIV diagnoses were among ACB people. There were more first-time HIV diagnoses among ACB males (70) than ACB females (55) in 2019, a trend that has been consistent for as long as the surveillance data has been able to define ACB people (since 2009). Nearly two thirds (65.1%) of ACB males reported their HIV exposure category as male-to-male sexual contact, while 100% of ACB females reported heterosexual contact.

PWID accounted for 12.2% of first-time HIV diagnoses in 2019 (40 diagnoses in males, 22 in females). The South West region continued to see a steady decline in first-time HIV diagnoses among PWID: 73% from 37 in 2016 to 10 in 2019. A consistent majority (64.2%-78.9%) of first-time HIV diagnoses among PWID were in males between 2010 and 2019.

Indigenous Peoples accounted for 4.9% of first-time HIV diagnoses (13 diagnoses in males, 9 in females) in 2019. In recent years, just over half (51.2%) of Indigenous males diagnosed with HIV reported male-to-male sexual contact without injection drug use (IDU) as an HIV exposure, whereas more than three quarters (76.9%) of Indigenous females diagnosed reported IDU. While a plurality of first-time HIV diagnoses in Indigenous Peoples were in the Northern region in recent years (40.7%), the majority were outside the north, principally in South West, Toronto, and Central West regions.

The surveillance data on first-time HIV diagnoses presented in this report reinforce the importance of ensuring all populations disproportionately affected by HIV – especially those who experience multiple behavioural and systemic risk factors – have the same opportunity to benefit from HIV prevention and testing programs and services. If Ontario is to meet the goals of its HIV strategy, particular attention must be paid to reaching racialized peoples and to understanding and mitigating the factors that increase risk.

Technical Summary

In the 2019 Diagnosis Report, findings and trends are described in two broad sections:

- **Overall** (the overall epidemic in Ontario). Includes breakdowns by sex, HIV exposure category, race/ethnicity, age, and health region.
- **Priority Populations** (composed of five subsections that describe the epidemic within the respective five populations outlined as priorities for HIV programming in Ontario's response to HIV). For each priority population, breakdowns are included where appropriate by sex, HIV exposure category, race/ethnicity, age and region.

Where counts are small, multiple years and/or categories may be aggregated to ensure privacy and better elucidate trends.

Overall

Sex

In 2019, there were 515 first-time HIV diagnoses among males and 169 first-time HIV diagnoses among females. The rate of diagnoses was 7.2 per 100,000 among males and 2.3 per 100,000 among females. Between 2010 and 2019, the rate of diagnoses decreased among males, but not among females. Due mainly to the decrease in diagnoses in males, females accounted for 24.7% of first-time HIV diagnoses in 2019 – an increase over the previous 10 years when on average, females accounted for ~20% of diagnoses. *Due to missing data on HIV test history, we estimate between 4.5% and 5.4% of first-time HIV diagnoses among males and between 13.9% and 16.3% among females to have an uncaptured previous HIV diagnosis.*

HIV exposure category[1]

With respect to HIV exposure category (mutually exclusive categories that represent the most likely route of HIV acquisition, assigned by hierarchy), a majority of first-time HIV diagnoses were reported as male-to-male sexual contact (59.2%), followed by heterosexual contact with identified risk (15.2%) and heterosexual contact with no identified risk (12.5%). Among males, male-to-male sexual contact also accounted for the largest proportion (74.0%), and the number of diagnoses reported as injection drug use (IDU) decreased from 36 (8.0%) in 2015 to 17 (4.4%) in 2019. Among females, heterosexual contact with identified risk accounted for the largest proportion of diagnoses (53.1%), followed by IDU and heterosexual contact with no identified risk (both 22.9%).

Race/ethnicity[2]

White people accounted for the largest proportion of first-time HIV diagnoses in 2019 (43.0%, decreased from 54.9% in 2015), as Black people went from accounting for 20.2% in 2015 to more than 25.9% in 2019, and Latin Americans doubled from 5.0% to 10.6%. This was largely due to

[1] All reported findings are among HIV exposure category was reported. An average of 24.4% of first-time HIV diagnoses between 2015 and 2019 did not have HIV exposure category reported.
[2] All reported findings are among race/ethnicity was reported. An average of 31.3% of first-time HIV diagnoses between 2015 and 2019 did not have race/ethnicity reported.

decreased diagnoses in white males. In 2019, broken down by race/ethnicity and sex, white males accounted for the largest proportion of diagnoses (38.4%), followed by Black males (14.6%), Black females (11.3%), and Latin American males (10.4%). Among males in 2019, white males accounted for the largest proportion of diagnoses (47.4%), followed by Black (18.1%), and Latin American (12.9%) males, whose share increased from 5.6% in 2015. Among females in 2019, Black females accounted for the largest proportion of diagnoses (59.3%), followed by white (24.4%), and Indigenous (10.5%) females.

Age

Nearly 4 in 10 first-time HIV diagnoses were among those aged 25-34 overall. Females tended to be older at the time of diagnoses (median age 36 vs 34 among males).

Health region

In 2019, Toronto region had the largest numbers and highest rates per 100,000 people of first-time HIV diagnoses, overall and among both males and females. Between 2015 and 2019, rates of diagnoses per 100,000 people decreased among males in Ottawa, Toronto, and South West regions, and increased among females in Toronto region.

Priority Populations

HIV is not a generalized epidemic in Ontario. It is concentrated in a small number of populations that have higher HIV prevalence than the general population: known as "priority populations" for HIV programming in Ontario's response to HIV. Each population is uniquely defined by indicators of HIV risk factors, race/ethnicity, country of birth, and/or sex on the HIV test requisition and Laboratory Enhancement Program (LEP) forms. When the defining criteria of each priority population is reported, positive HIV tests (and therefore first-time HIV diagnoses) are assigned to a priority population, where applicable. As HIV risk factors and race/ethnicity are not reported for a sizeable proportion of first-time diagnoses, we are not able to assign some diagnoses to priority populations. For example, race/ethnicity was not reported for 34.4% of diagnoses in 2019, and so for 34.4% of first-time HIV diagnoses it is not known whether they were part of the "Indigenous Peoples" priority population or not. Therefore, it may be more valid to focus on trends over time rather than specific numbers or proportions.

Unlike HIV exposure categories, the priority populations are not mutually exclusive: **an HIV diagnosis can be assigned to more than one priority population** (if applicable). For example, a diagnosis in a male who reported sexual contact with men and Black race/ethnicity would be assigned to two priority populations: gay, bisexual and other men who have sex with men (GBMSM) and African, Caribbean or Black people (ACB).

Percentages associated with priority populations are calculated based on each priority population separately and only where the defining information is reported. That is, the percentage calculation is based off the diagnoses known to be attributed to a single priority population (numerator) divided by the total number of diagnoses where the status of that priority population (yes or no) is known (denominator). Given this, nearly two thirds (64.0%) of first-time HIV diagnoses were attributed to GBMSM, 27.0% were attributed to ACB, 24.6% were attributed to Women, 12.2% were attributed to PWID, and 4.9% were attributed to Indigenous Peoples.

Gay, bisexual and other men who have sex with men (GBMSM)

While the majority of first-time HIV diagnoses (64.0% of all, 79.9% of diagnoses among males) were attributed to GBMSM in 2019, there was a decrease in the number of diagnoses attributed to GBMSM (2015: 338; 2019: 307). This decrease is due to a decrease in the number of diagnoses reported as male-to-male sexual contact (2015: 316; 2019: 284); the number of diagnoses reported as male-to-male sexual contact + IDU was stable (2015: 22; 2019: 23)[1]. Between 2015 and 2019, male-to-male sexual contact + IDU accounted for between 4.2% and 7.5% of diagnoses among GBMSM[1]. Where race/ethnicity was reported, while there was a decrease in diagnoses among white GBMSM (2014: 183; 2019: 138), the counts for Black GBMSM (2014: 42; 2019: 41) and Latin American GBMSM (2014: 31; 2019: 43)[2] remained stable. In 2019, Toronto region had the largest proportion of diagnoses among GBMSM (66.2%). The highest rate of diagnoses was in GBMSM aged 30-34 (14.6 per 100,000 males).

Diagnoses attributed to GBMSM are defined by having reported male or transgender male sex, and sexual contact with men as an HIV risk factor. Between 2010 and 2019, this information required to assign GBMSM status was not reported for 14.8% of first-time HIV diagnoses overall (annual average), and for 17.6% of diagnoses among males. Data shown are where GBMSM status was reported.

People who are African, Caribbean or Black (ACB)

In 2019, of the 229 positive HIV tests among ACB in Ontario: 125 were first-time HIV diagnoses and 104 had previous evidence of HIV. Since 2016, there has been an increasing trend of people with previous evidence of HIV among ACB, with nearly half (45.4%) of positive HIV tests having previous evidence of HIV in 2019 (36.9% among ACB males and 53.4% among ACB females). Looking specifically at first-time HIV diagnoses, ACB males accounted for 15.1% of diagnoses (18.8% among males; 70 diagnoses), and ACB females accounted for 11.9% of diagnoses (61.1% among females; 55 diagnoses). Within ACB, females accounted for 44.0% of first-time HIV diagnoses in 2019. Among ACB males, 63.6% of first-time HIV diagnoses are reported as male-to-male sexual contact and 33.3% as heterosexual contact[3]. Among females, 100% reported a heterosexual contact exposure category, with 85.5% reporting heterosexual contact with identified risk[4]. In 2019, Toronto region had the largest proportion of first-time HIV diagnoses among ACB overall (65.3%), and among ACB males (68.6%). Toronto region also had the largest proportion among ACB females in 2018-2019 (58.0%). In 2019, over 6 in 10 (62.8%) of first-time HIV diagnoses among ACB were among those aged 25-44 years.

Diagnoses attributed to ACB are defined by having indication of being born in an African or Caribbean country and/or Black race/ethnicity. Between 2010 and 2019, this information required to assign ACB status was not reported for 28.5% of first-time HIV diagnoses overall (annual average), for 28.1% of diagnoses among males, and for 34.9% of diagnoses among females. Data shown are where ACB status was reported.

[1] As GBMSM is defined by male or trans male sex and sexual contact with men as an HIV risk factor, all diagnoses among GBMSM have a reported HIV exposure category (either male-to-male sexual contact or male-to-male sexual contact + IDU).
[2] Diagnoses where GBMSM status reported but race/ethnicity was not reported were excluded (average of 10.9% of diagnoses between 2014 and 2019, where GBMSM status reported).
[3] Diagnoses where ACB status was reported but HIV exposure category was not reported were excluded (average of 2.8% of diagnoses between 2015 and 2019 among males where ACB status reported).
[4] Diagnoses where ACB status was reported but HIV exposure category was not reported were excluded (average of 3.7% of diagnoses between 2015 and 2019 among females where ACB status reported).

People who use injection drugs (PWID)

PWID accounted for 12.2% of first-time HIV diagnoses in 2019 (68 diagnoses), while male PWID accounted for 7.9% of all diagnoses (9.9% among males; 40 diagnoses), and female PWID accounted for 4.3% of all diagnoses (21.4% among females; 22 diagnoses). Within PWID, males accounted for 64.5% of diagnoses and females for 35.5% of diagnoses in 2019; this has been fairly stable. Among males, the number of diagnoses reported as IDU (no male-to-male sexual contact) decreased from 36 in 2015 to 17 in 2019, leaving diagnoses reported as male-to-male sexual contact + IDU to make up an increased proportion of diagnoses among male PWID despite stable counts (2015: 22, 37.9%; 2019: 23, 57.5%)[1]. Among females, the number of diagnoses attributed to PWID has been fairly stable (2015: 27; 2019: 22). Between 2015 and 2018, the South West region had the largest number of diagnoses attributed to PWID, however this number decreased by 73% from 37 in 2016 to 10 in 2019, when Toronto region had the largest number of diagnoses. Northern region had a larger proportion of its diagnoses attributed to PWID (48.1%) than any other region. Over 6 in 10 (62.9%) diagnoses among PWID in 2019 were among those aged 25-39 years.

Diagnoses attributed to PWID are defined by having reported injection drug use as an HIV risk factor. Between 2010 and 2019, this information required to assign PWID status was not reported for 30.2% of first-time HIV diagnoses overall (annual average), for 17.6% of diagnoses among males, and for 23.4% of diagnoses among females. Data shown are among where PWID status was reported.

Indigenous Peoples

Indigenous Peoples accounted for 4.9% of first-time HIV diagnoses in 2019 (22 diagnoses), while Indigenous males accounted for 2.9% of all first-time HIV diagnoses (3.6% among males; 13 diagnoses), and Indigenous females accounted for 2.0% of all first-time HIV diagnoses (10.5% among females; 9 diagnoses). Within Indigenous Peoples, females accounted for 40.9% of diagnoses in 2019. Over the four-year period 2016-2019, a little over half of diagnoses in Indigenous males were reported as male-to-male sexual contact (51.2%), almost a third were reported as IDU (30.2%), and 11.6% were reported as male-to-male sexual contact + IDU[2]. Over the period of 2016-2019, more than three quarters of diagnoses in Indigenous females were reported as IDU (76.9%)[3]. The number of Indigenous female PWID increased from 10 over the period of 2012-2015 to 20 over the period of 2016-2019[3]. Northern region accounted for 40.7% of first-time HIV diagnoses among Indigenous Peoples in 2015-2019 and also had a larger proportion of its diagnoses attributed to Indigenous Peoples (42.9%) than any other region. Over that same period, nearly two thirds (65.4%) of first-time HIV diagnoses among Indigenous Peoples were among those aged 20-34 years.

Diagnoses attributed to Indigenous Peoples are defined by having the 'First Nations', 'Inuit', and/or 'Métis' race/ethnicity reported. Between 2010 and 2019, race/ethnicity was not reported for a yearly average of 32.2% of first-time HIV diagnoses overall, for 30.1% of diagnoses among males, and for 38.5% of diagnoses among females. Data shown are where race/ethnicity was reported.

[1] As PWID is defined by the injection drug use HIV risk factor, all diagnoses among PWID have a reported HIV exposure category (either male-to-male sexual contact + IDU or IDU without male-to-male sexual contact).
[2] HIV exposure category was reported for all diagnoses reported as Indigenous males.
[3] Diagnoses where race/ethnicity was known but HIV exposure category was not reported were excluded (average of 1.9% of diagnoses between 2015 and 2019 among females where race/ethnicity reported).

Women[1]

In 2019, of the 245 positive HIV tests among Women in Ontario: 168 were first-time HIV diagnoses and 77 had previous evidence of HIV. Women accounted for 24.6% of first-time HIV diagnoses in 2019. Since 2016, an increased proportion of positive HIV tests among women were in those with previous evidence of HIV (2016 PEH: 18%, 2019: 69%). Within Women, where HIV exposure category was reported, the largest proportion of first-time HIV diagnoses was reported as heterosexual contact with identified risk (53.7%), followed by heterosexual contact with no identified risk and IDU (both 23.2%)[2]. Between 2015 and 2019, where race/ethnicity was reported, the proportion of diagnoses attributed to white women decreased from a high of 43.7% in 2016 to a low of 24.4% in 2019, whereas Black women accounted for 59.3% of diagnoses among Women in 2019[3]. Toronto region had the largest proportion of first-time HIV diagnoses among Women (47.9%) in 2019, as well as the highest rate per 100,000 females (5.3). In 2019, more than 6 in 10 (63.4%) of first-time HIV diagnoses among Women were among those aged 25-44 years.

Diagnoses attributed to Women are defined by having reported female or trans female sex reported. Between 2010 and 2019, sex was not reported for less than 1% of first-time HIV diagnoses per year. Data shown are where sex was reported.

[1] Women* is the official priority population as outlined in Ontario's Provincial HIV/AIDS Strategy; it includes ACB women, women who use injection drugs, Indigenous women, transgender women, other women who face systemic and social inequities, and women who are more likely to be exposed to HIV through a sexual or drug using partner. As indicators of systemic and social inequities of HIV are not available in the HIV surveillance data, the priority population Women* is unable to be defined. Instead, we use "Women" in this report.

[2] Diagnoses where sex was reported but HIV exposure category was not reported were excluded (average of 30.5% of diagnoses between 2015 and 2019 where sex reported).

[3] Diagnoses where sex was reported but race/ethnicity was not reported were excluded (average of 36.3% of diagnoses between 2015 and 2019 where sex reported).

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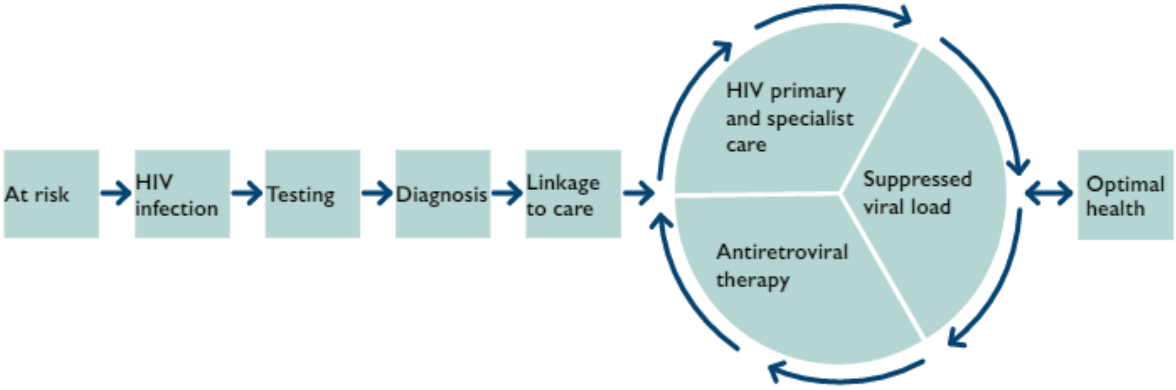
Introduction

Why look at patterns in HIV diagnoses?

HIV diagnosis is an early step in the HIV prevention, engagement and care cascade (Figure i) and is critical for people living with HIV to be linked to care. The HIV treatment cascade outlines the steps of care that people living with HIV go from at risk to HIV infection to testing to diagnosis to linkage to care, then the cycle of HIV primary and specialist care, antiretroviral therapy, and suppressed viral load, leading to the outcome of optimal health.

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



Ontario needs timely, accurate data on HIV diagnoses to guide both HIV prevention and treatment programs. Ontario is different from other jurisdictions in that it relies on public health laboratory testing data (i.e. HIV diagnostic tests, HIV viral load tests) – as opposed to HIV case reports – to monitor new diagnoses. The Public Health Ontario (PHO) Laboratory conducts all HIV diagnostic testing requested by health care providers in Ontario.

Data sources

The data used to understand diagnostic trends are collected from the following sources:

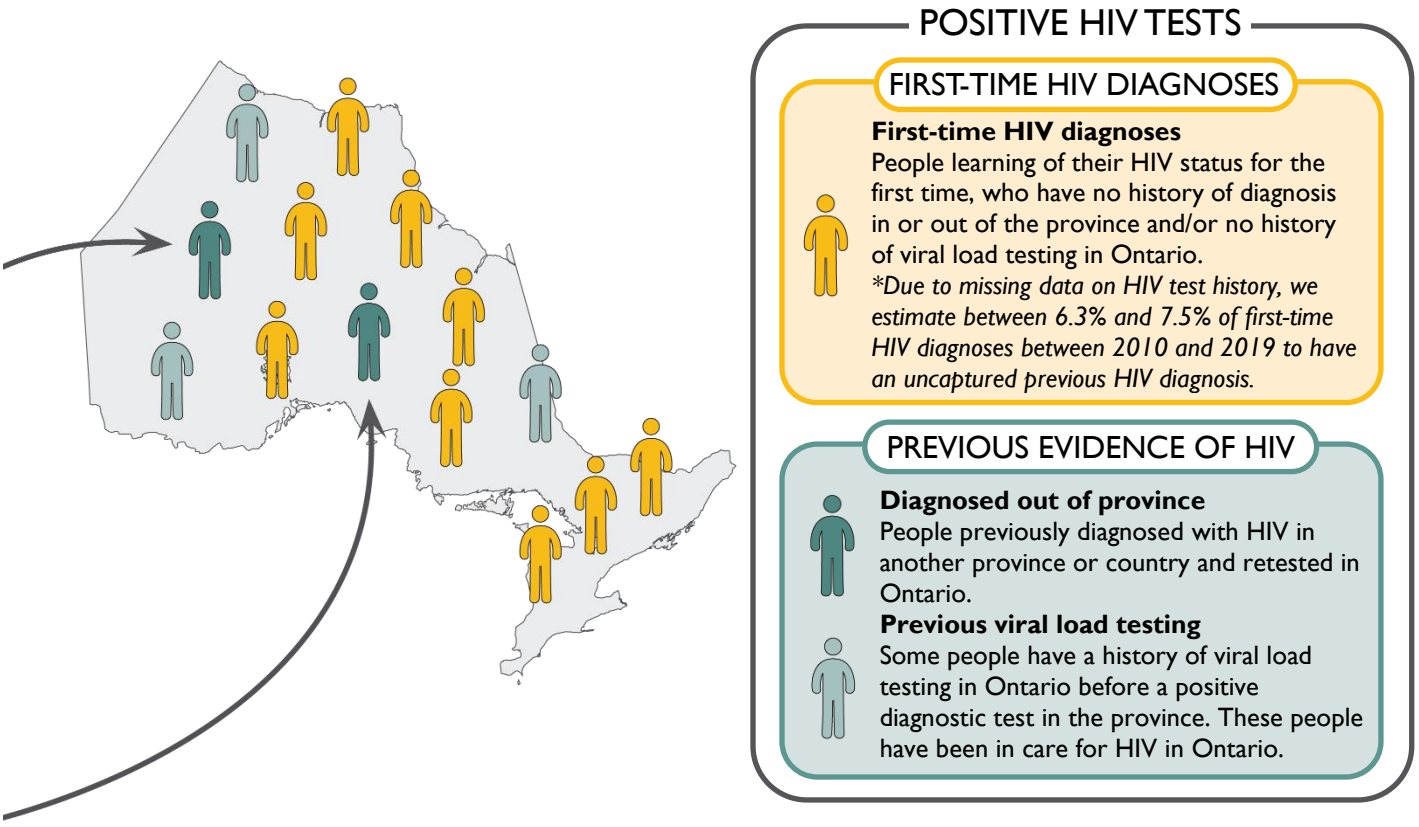
- **Information on the HIV test requisition form**. When someone gets an HIV test in Ontario, the ordering health care provider (e.g. a physician or HIV counselor) fills out a form that is sent to PHO. This form, known as an HIV test requisition, collects information on the individual being tested, including their sex, age, HIV risk factors and – since 2018[1] – race/ethnicity, country of birth, test history and transgender identity.
- **Information gathered through the Laboratory Enhancement Program**. If the person tests positive, the Laboratory Enhancement Program (LEP) sends a second form to the provider who ordered the test to collect information that may have been missed on the test requisition form. 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).
- **Viral load testing**. People in HIV care in Ontario receive regular viral load testing. If a person has a history of viral load testing data in Ontario and had a linked positive HIV test in Ontario

[1] A new HIV test requisition form was introduced in February 2018, which included additional information including race/ethnicity, country of birth, test history and transgender identity. In 2019, approximately 33% of test requisitions used the new form. If the new test requisition was used, information about race/ethnicity and country of birth were used to help assign race/ethnicity and priority populations (along with the LEP). If the old test requisition form was used, information about race/ethnicity and country of birth would have only been available from the LEP.

after a history of viral load testing, that information is used to determine that the person had previous evidence of HIV and is not a first-time diagnosis.

Positive HIV tests: First-time HIV diagnoses + people with previous evidence of HIV (PEH)

Figure ii. Positive HIV tests represent unique individuals and include first-time HIV diagnoses and people with previous evidence of HIV. Previous evidence of HIV includes having been diagnosed with HIV previously outside Ontario, or having linked previous HIV viral load testing.



The overall section as well as each priority population section begins by distinguishing between:

- **First-time HIV diagnoses** – People (unique individuals) newly diagnosed with HIV, who likely reflect local transmissions (i.e. HIV infections that occurred in Ontario). First-time HIV diagnoses are our best estimate of the number of people learning their status for the first time. These are sometimes simply termed "diagnoses" in this report for ease of description.
- **People with previous evidence of HIV** – People (unique individuals) who already knew their HIV status at the time of their first positive nominal (as opposed to anonymous testing) diagnostic test in Ontario. This previous evidence of HIV includes:
    - People new to care in Ontario but who were previously diagnosed elsewhere (i.e. another province or country) and retested in Ontario.
    - People who have been in HIV care in Ontario[1] (i.e. have a history of viral load tests) but with no previous linkable HIV diagnostic test. These individuals may have originally been

[1] Evidence of being in care includes anyone with a history of viral load testing in Ontario of 1) more than 30 days before a first diagnostic positive test or 2) within 30 days (including same day) with a viral load <200 copies/ml before a first diagnostic

tested anonymously and then retested (sometimes many years later) – perhaps when they changed health care providers. People who have evidence of a history of viral load testing before their first reported HIV positive test are counted as a positive HIV test in the first year where there is evidence of an HIV diagnosis (i.e. the year of their first viral load test).

Looking separately at first-time HIV diagnoses and people with previous evidence of HIV allows us to:

- Monitor and understand local transmissions (i.e. the current spread of the virus). It is important to understand trends in first-time HIV diagnoses to help prevention programs focus on populations in the province at greatest risk of HIV who would benefit most from prevention activities.
- Identify the care needs of all individuals who test positive each year. It is important to know the total number of people changing or entering care as well as their gender, age, race/ethnicity and region – regardless of whether they already knew their status – to plan patient-centred, culturally relevant services for all people living with HIV in the province.

It is important to note that, despite the efforts of both the new test requisition and LEP forms to collect information on previous test history for positive HIV tests, this information is still missing for a significant proportion of people. Approximately 48% of first-time HIV diagnoses in 2019 are missing data on test history either because the LEP form is not returned or it is missing data when returned. For the purposes of this analysis, any positive HIV test that did not have documented evidence of a previous positive on the test history section of the form was assumed to be a first-time HIV diagnosis, even though this likely overstates the number of first-time HIV diagnoses and understates the number of positive HIV tests with a previous HIV diagnosis. Using race-stratified modelling, OHESI estimates between 6.3% and 7.5% of first-time HIV diagnoses (between 4.5% and 5.4% among males and between 13.9% and 16.3% among females) have an uncaptured previous HIV diagnosis.

Although the HIV test requisition form captures data on gender minorities, recorded counts were too low to be included in this report.

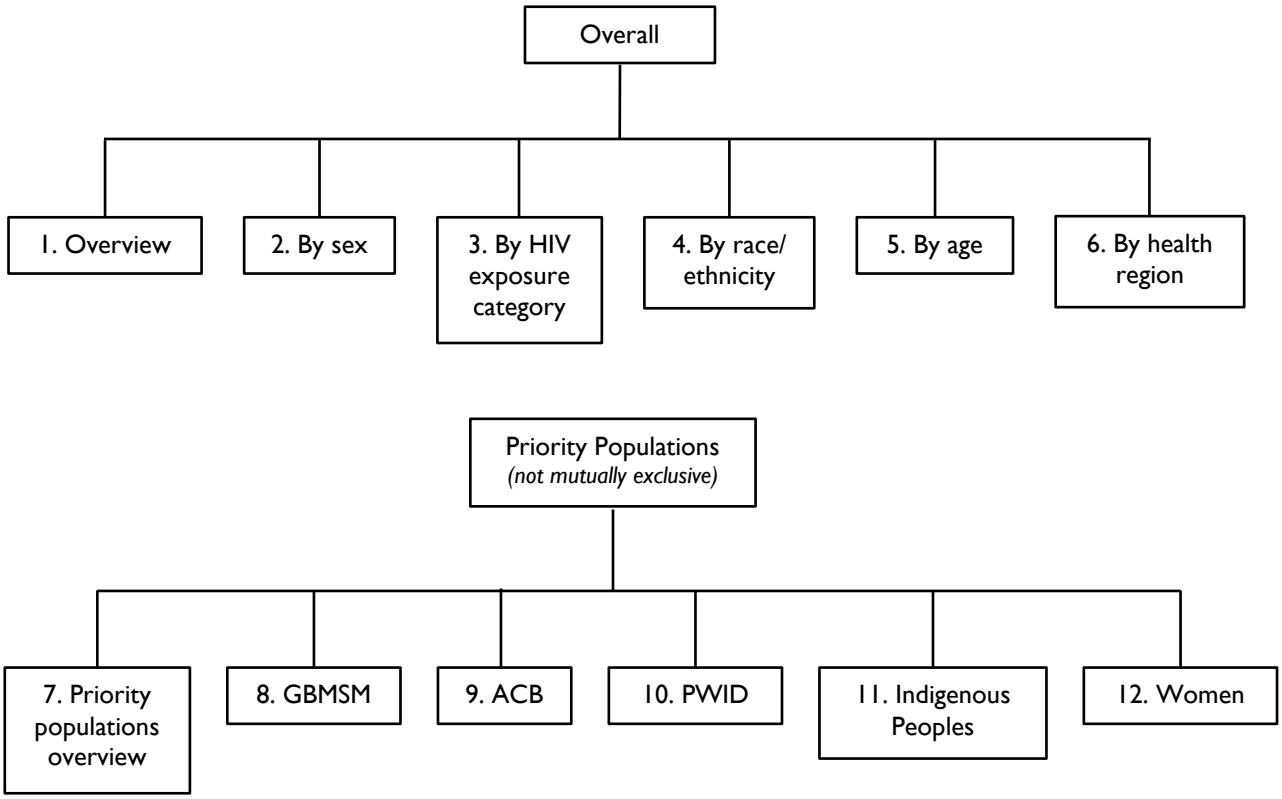
Note: **A first-time HIV diagnosis is not the same as a new HIV infection**. Many people living with HIV are not diagnosed in the same year they become infected. Trends in first-time HIV diagnoses can be influenced by factors other than infections, such as frequency of HIV testing and migration patterns, and it is difficult to disentangle these different effects.

positive test. Please see the technical notes section of this report and the Refinements to Surveillance Data blog post for more detailed information on first-time HIV diagnoses and positive HIV tests.

New report structure, analytic approach, and breakdowns by HIV exposure category

In our efforts to refine our surveillance data and accurately describe Ontario's epidemic, we took a markedly different approach to analyzing the 2019 diagnoses data. The goal was to describe the 2019 findings and trends in recent years among all first-time HIV diagnoses as well as within each of Ontario's defined Priority populations (populations outlined as priorities for HIV programming in Ontario's response to HIV). These priority populations are *not* mutually exclusive (a single individual can be represented in more than one priority population). The broad structure of the report is illustrated in **Figure iii**.

Figure iii. Schematic of the broad structure of this report. Data and figures in this report are reported in two major sections: Overall and Priority Populations. Further breakdowns within each priority population are reported where logical.



Notes: GBMSM = Gay, bisexual, and other men who have sex with men. ACB = African, Caribbean, and Black people. PWID = People who use injection drugs.

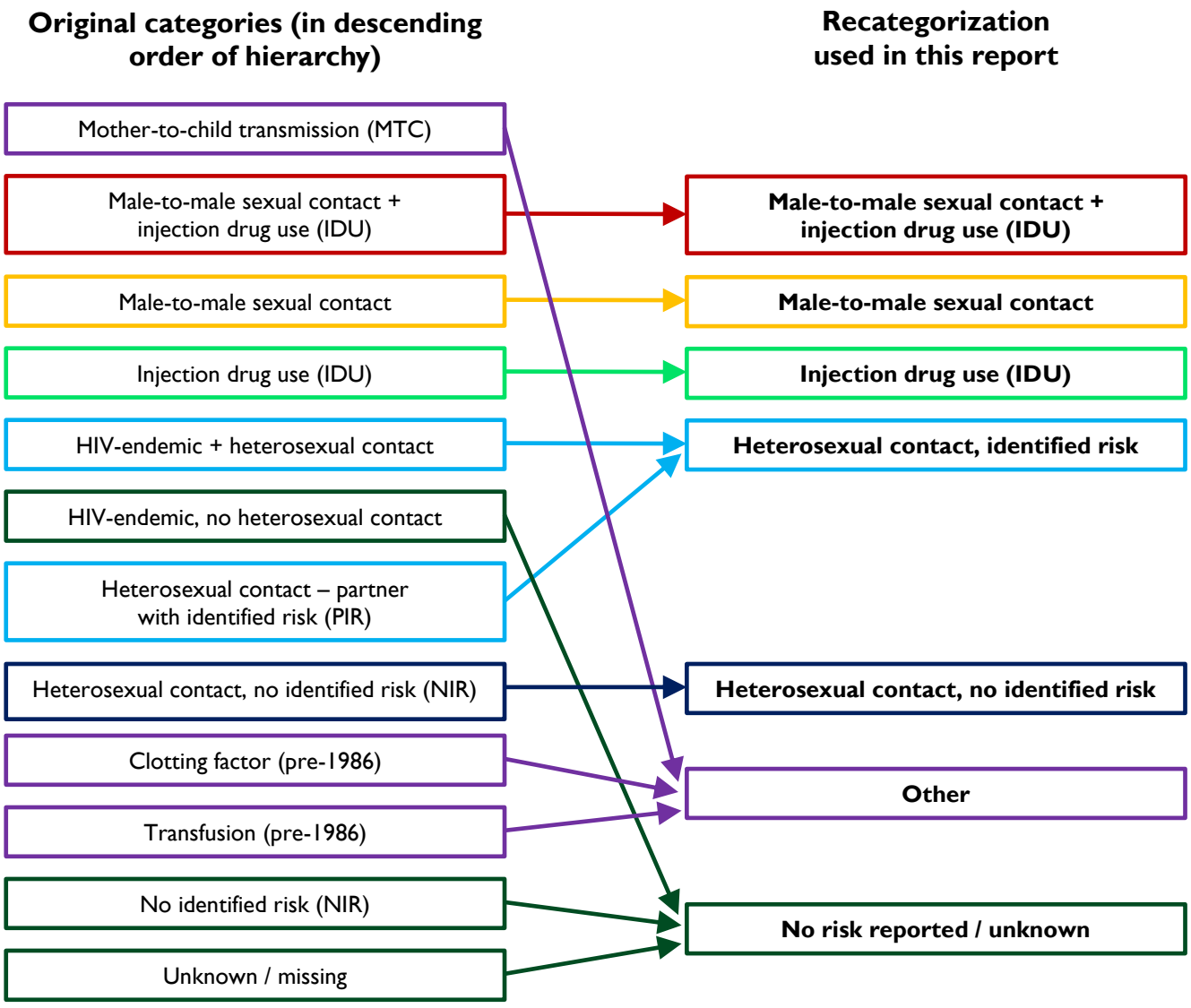
Also new to this report:

- **Updated priority population classification.** To be assigned to a priority population, only information on that single priority population is now required. For example, if race/ethnicity is missing but exposure category indicates men who have sex with men (MSM), the individual could be assigned to the gay, bisexual or other men who have sex with men (GBMSM) priority population. Diagnoses are not assigned to a population if data is not reported that defines that population. This differs from previous years' reports where race/ethnicity or country of birth had to be reported to classify individuals into any priority population.
- **Reporting counts of HIV diagnoses.** For the first time, we are reporting the number of first-time HIV diagnoses by priority population and race/ethnicity (where reported and not reported). Due to missing data, the reported number of diagnoses within priority populations and/or race/ethnicities are undercounts, and the degree of undercounting within a priority population and/or race/ethnicity may differ due to non-random missing data; however, it is important to include reported counts as they provide more context to HIV diagnoses occurring in Ontario.
- **Distinction between first-time HIV diagnoses and people with previous evidence of HIV.** See above for more information.

HIV exposure categories

Breakdowns of first-time HIV diagnoses overall and within each priority population by HIV exposure category are also new to this report. HIV exposure categories are categories 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 exposure category. The original hierarchical categories have been recategorized to somewhat broader categories for the purposes of this report, as depicted in **Figure iv** below. See HIV exposure categories in the appendices for more detailed information and definitions.

Figure iv. Original hierarchical HIV exposure categories (in descending order) and how they were recategorized for this report.



What are some of the strengths of these data and our analytical approach?

- Trends in positive HIV tests and first-time HIV diagnoses are presented as numbers and rates per 100,000 people, where possible. While numbers of diagnoses are influenced by the size of the underlying population, rates take this into account and remove population size as a possible explanation for any observed differences.
- In most figures, diagnoses are shown yearly, over a 10 or 5-year period (2010 to 2019 or 2015 to 2019), to describe trends by sex, age, HIV exposure category, race/ethnicity and health regions. This is done to show year-to-year changes over time. However, when sample sizes are too small (<5 diagnoses in each year within a sub-category), diagnoses are combined over 2-year periods (2014 to 2015, 2016 to 2017 and 2018 to 2019), 4-year periods (2012 to 2015 and 2016 to 2019) or 5-year periods (2010 to 2014 and 2015 to 2019) to reduce the effects of year-to-year variation (which can be particularly influential in populations with a small number of diagnoses) and more clearly present trends over time. Years were combined for first-time HIV diagnoses among PWID, Indigenous Peoples, and ACB females by health region.
- Breakdowns by HIV exposure category overall and within each priority population provide insight about predominant and potentially changing routes of HIV transmission specific to each population.

What are some of the limitations of this report?

- Missing data on the test requisition or LEP forms means some positive HIV tests and first-time HIV diagnoses cannot be assigned in terms of sex, age, HIV exposure category, race/ethnicity and/or a priority population. It is unknown whether some categories or populations may be more likely to be missing information, which could potentially bias the proportions in this report.
- Documentation of information on the requisition/LEP forms may vary from provider to provider. For example, some providers may ask the person getting tested about their HIV risk factors and race/ethnicity, while other providers may gather this information from a previous medical chart or use clinical intuition.

Data and Figures

The figures in the following sections show trends in first-time HIV diagnoses and positive HIV tests over the past decade (2010 to 2019), with a focus on 2019 findings.

The first "**Overall**" section describes findings specific to 2019 and trends over time overall (overview) and broken down by sex. Findings are also broken down by the following factors overall and additionally by sex: HIV exposure category; race/ethnicity; age; and health region.

The second "**Priority Populations**" section describes findings across Ontario's five overlapping priority populations, and the five subsections within it provide an overview and breakdowns (by sex, HIV exposure category, race/ethnicity, age, and health region, where logical) within each of the respective five priority populations. Descriptions of how each priority population relate to the larger overall numbers of first-time HIV diagnoses (for example, first-time HIV diagnoses attributed to GBMSM accounted for 64.0% of all first-time HIV diagnoses in 2019), as well as breakdowns of first-time HIV diagnoses *within* the specified priority population (for example, 7.5% of the 307 first-time HIV diagnoses among GBMSM were attributed to male-to-male sexual contact + IDU in 2019) are reported.

See the Appendices for more information on the data source and how these numbers were defined and calculated, and the Tables supplement for the numbers underlying the figures.

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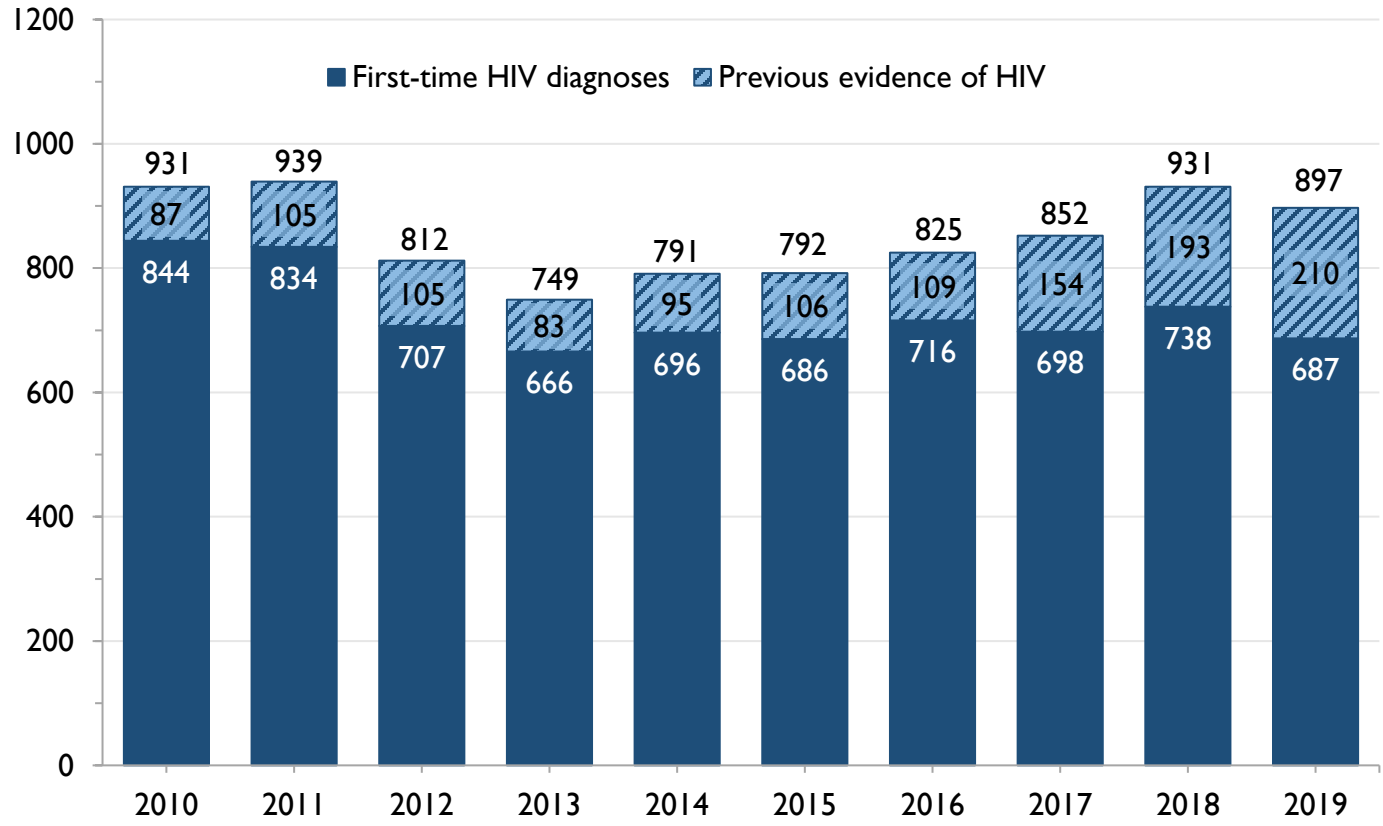
Overall

1. Overview

In 2019, of the 897 positive HIV tests (rate of 6.2 per 100,000 people) in Ontario, 687 were first-time HIV diagnoses (rate of 4.7 per 100,000 people) and 210 had previous evidence of HIV. The proportion of positive HIV tests with previous evidence of HIV – 23.4% in 2019 – has increased over time between 2010 and 2019. Between 2013 and 2018, the rate of first-time HIV diagnoses per 100,000 people remained relatively consistent (at around 5.1 per 100,000 people) but in 2019 it dropped to its lowest point since 1985 – 4.7 per 100,000 people.

Note: *Information on previous testing history is only reported in about 58% of positive HIV tests in 2019 (53% in 2010 to 2019). Due to missing data on HIV test history, we estimate between 6.3% and 7.5% of first-time HIV diagnoses overall to have an uncaptured previous HIV diagnosis.*

Figure 1.1 Number of positive HIV tests, by first-time HIV diagnoses and previous evidence of HIV, Ontario, 2010 to 2019



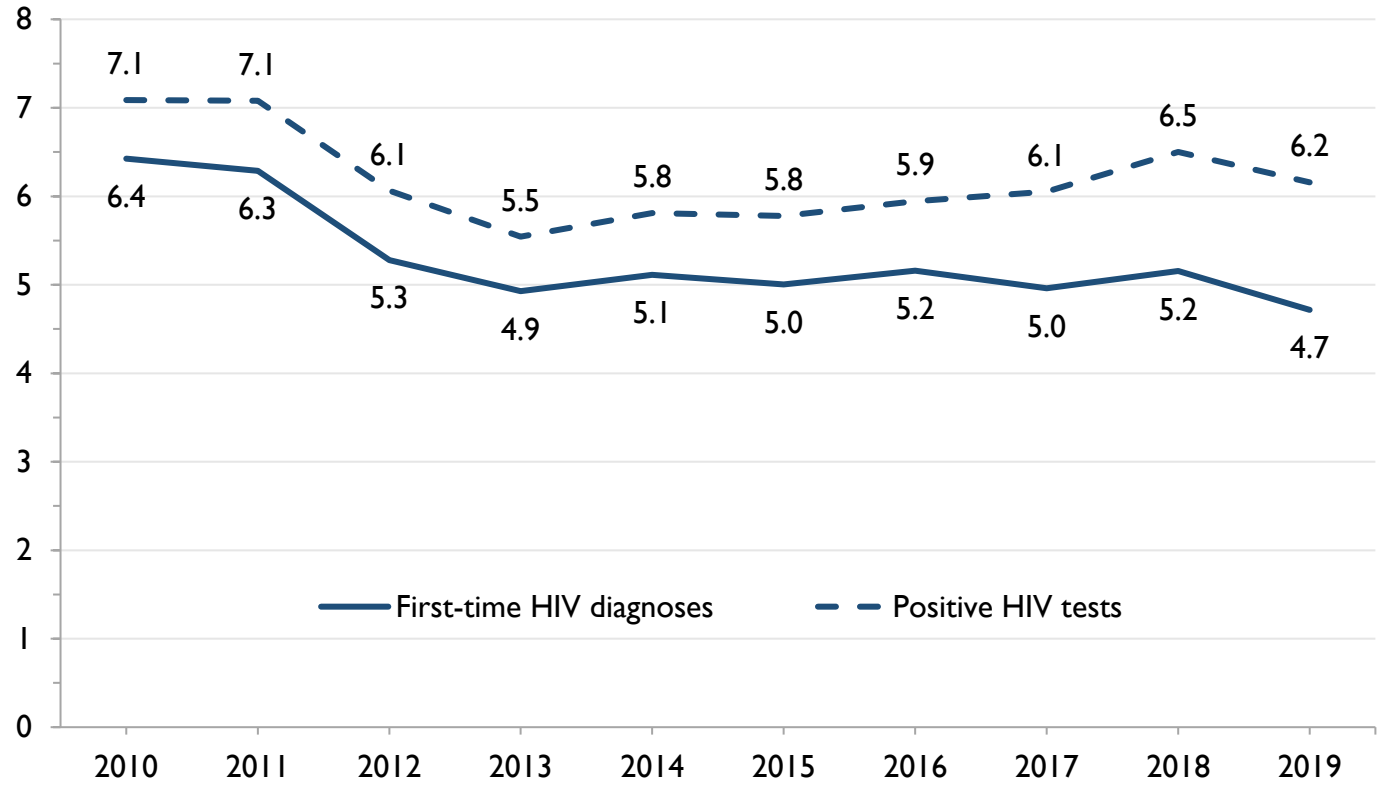
Snapshot

In 2019, of the 897 positive HIV tests in Ontario, 687 were first-time HIV diagnoses and 210 had previous evidence of HIV. Between 2010 and 2019, the proportion of positive HIV tests that had previous evidence of HIV increased from 9.3% to 23.4%, with most of this increase occurring after 2016 due to increased numbers of people with previous evidence of HIV. Conversely, between 2010 and 2019, the proportion of positive HIV tests that were first-time HIV diagnoses decreased from 90.7% to 76.6%.

Note: *Due to missing data on test history, first-time HIV diagnoses may include some people with an uncaptured previous HIV diagnosis. OHESI estimates this to be between 6.3% and 7.5% of first-time HIV diagnoses.*

Notes: Data provided by Public Health Ontario Laboratory. See Appendices for more information. See Tables Supplement for underlying data.

Figure 1.2 Rates of first-time HIV diagnoses and positive HIV tests per 100,000 people, Ontario, 2010 to 2019



Snapshot

The rate of first-time HIV diagnoses per 100,000 people ranged from a high of 6.4 in 2010 to a low of 4.7 in 2019, the lowest since the start of the epidemic. The rate of positive HIV tests per 100,000 people ranged from a high of 7.1 in 2010 to a low of 5.5 in 2013 and was 6.2 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Rates calculated using Statistics Canada population estimates for all ages, accessed 06/24/2020. See Appendices for more information. See Tables Supplement for underlying data.

2. Overall by sex

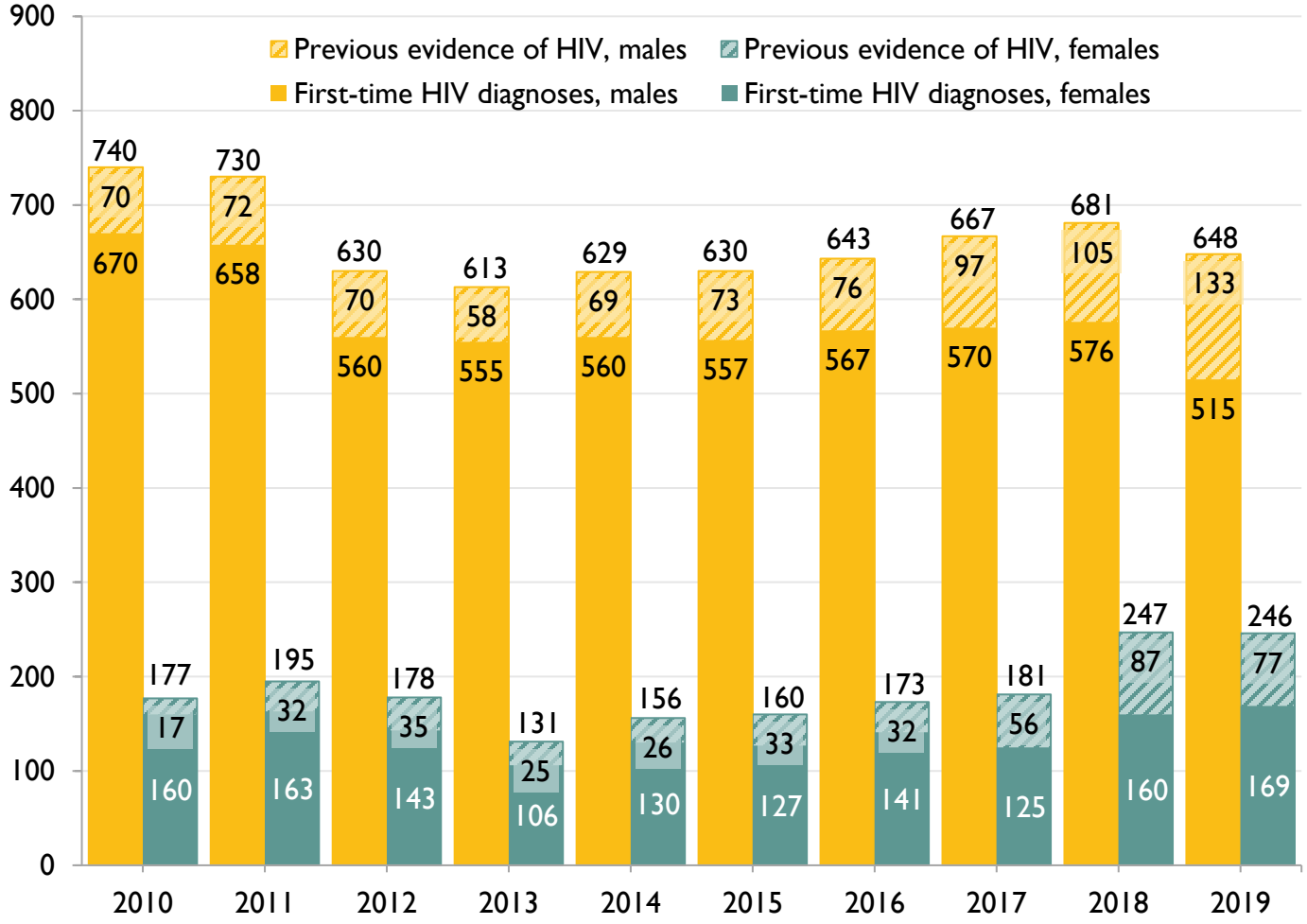
In 2019, of the 648 positive HIV tests among males, 515 were first-time HIV diagnoses and 133 (20.5%) had previous evidence of HIV. Of the 246 positive HIV tests among females, 169 were first-time HIV diagnoses and 77 (31.3%) had previous evidence of HIV. Due mainly to the decrease in first-time HIV diagnoses in males, females accounted for 24.7% of first-time HIV diagnoses in 2019 – an increase over the previous 10 years when on average, females accounted for 20% of first-time HIV diagnoses.

The number of first-time HIV diagnoses decreased among males from a fairly consistent average of 564 between 2012 and 2018 to 515 in 2019, while the number increased to 169 among females (from 160 in 2018 and from 125 in 2017).

In 2019, the rate of first-time HIV diagnoses was 7.2 per 100,000 among males and 2.3 per 100,000 among females. Between 2010 and 2019, the rate of first-time HIV diagnoses decreased among males, but not among females.

Note: *Information on previous testing history is only reported in about 58% of positive HIV tests in 2019 (53% in 2010 to 2019). Due to missing data on HIV test history, we estimate between 4.5% and 5.4% of first-time HIV diagnoses among males and between 13.9% and 16.3% among females to have an uncaptured previous HIV diagnosis.*

Figure 2.1 Number of positive HIV tests, by first-time HIV diagnoses and previous evidence of HIV, males and females, Ontario, 2010 to 2019



Snapshot

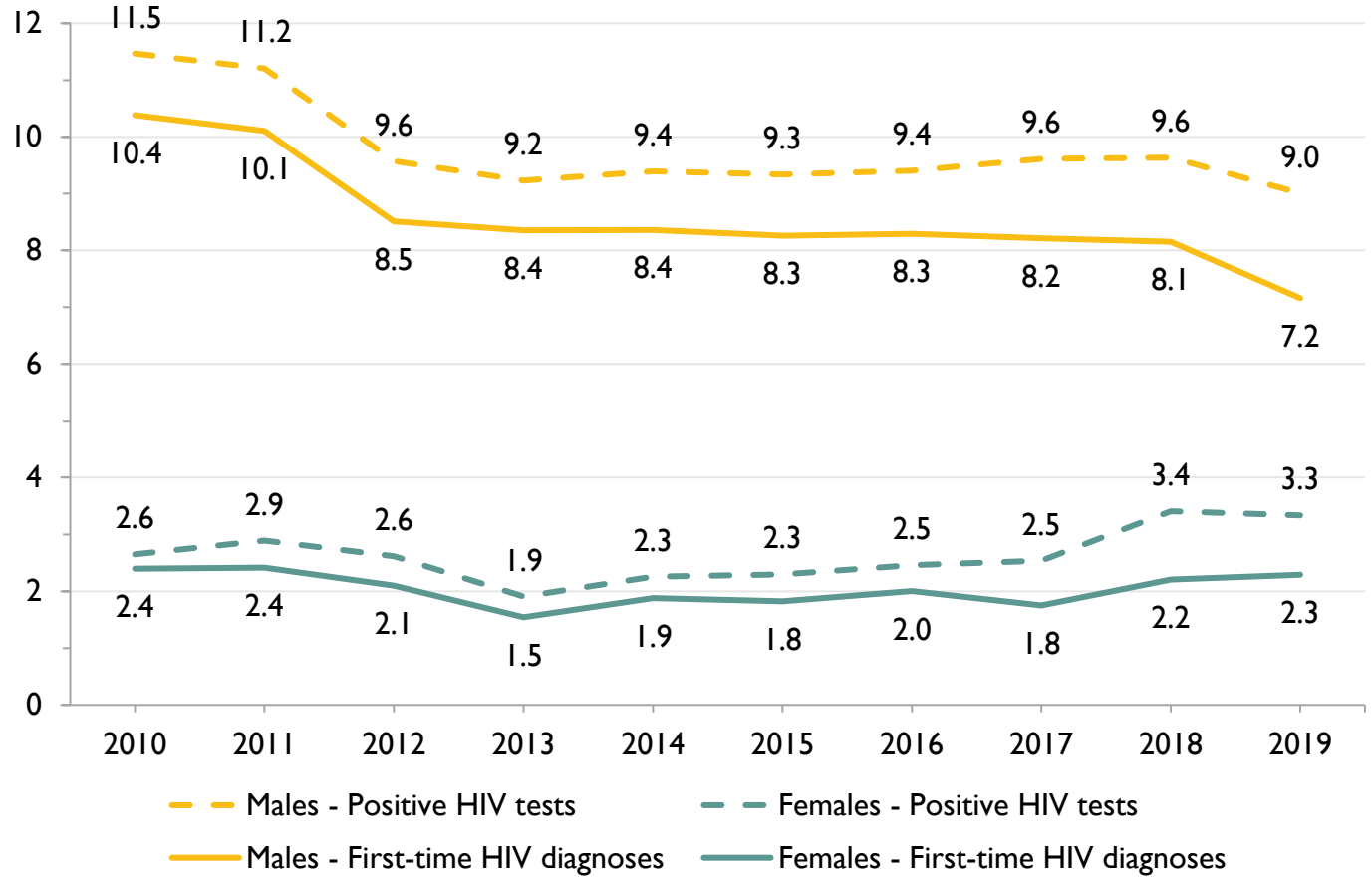
Between 2010 and 2019, the number of first-time HIV diagnoses among males ranged from a high of 670 in 2010 to a low of 515 in 2019 – although between 2012 and 2018, the number per year was relatively consistent. The proportion of positive HIV tests among males with previous evidence of HIV increased from 9.5% in 2010 to 20.5% in 2019 with most of that increase occurring in the last two years.

Between 2010 and 2019, the number of first-time HIV diagnoses among females was fairly consistent (average 142), with increases in 2018 (160) and 2019 (169) and a decrease in 2013 (106). The proportion of positive HIV tests among females with previous evidence of HIV increased from 9.6% in 2010 to 31.3% in 2019, with most of that increase occurring in the latter three years.

Note: *Due to missing data on test history, first-time HIV diagnoses may include some people with an uncaptured previous HIV diagnosis. OHESI estimates this to be between 4.5% and 5.4% of first-time HIV diagnoses among males and between 13.9% and 16.3% of first-time HIV diagnoses among females.*

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses with unreported sex excluded (less than 1% of diagnoses). See Appendices for more information. See Tables Supplement for underlying data.

Figure 2.2 Rate of first-time HIV diagnoses and positive HIV tests per 100,000 people by sex, Ontario, 2010 to 2019



Snapshot

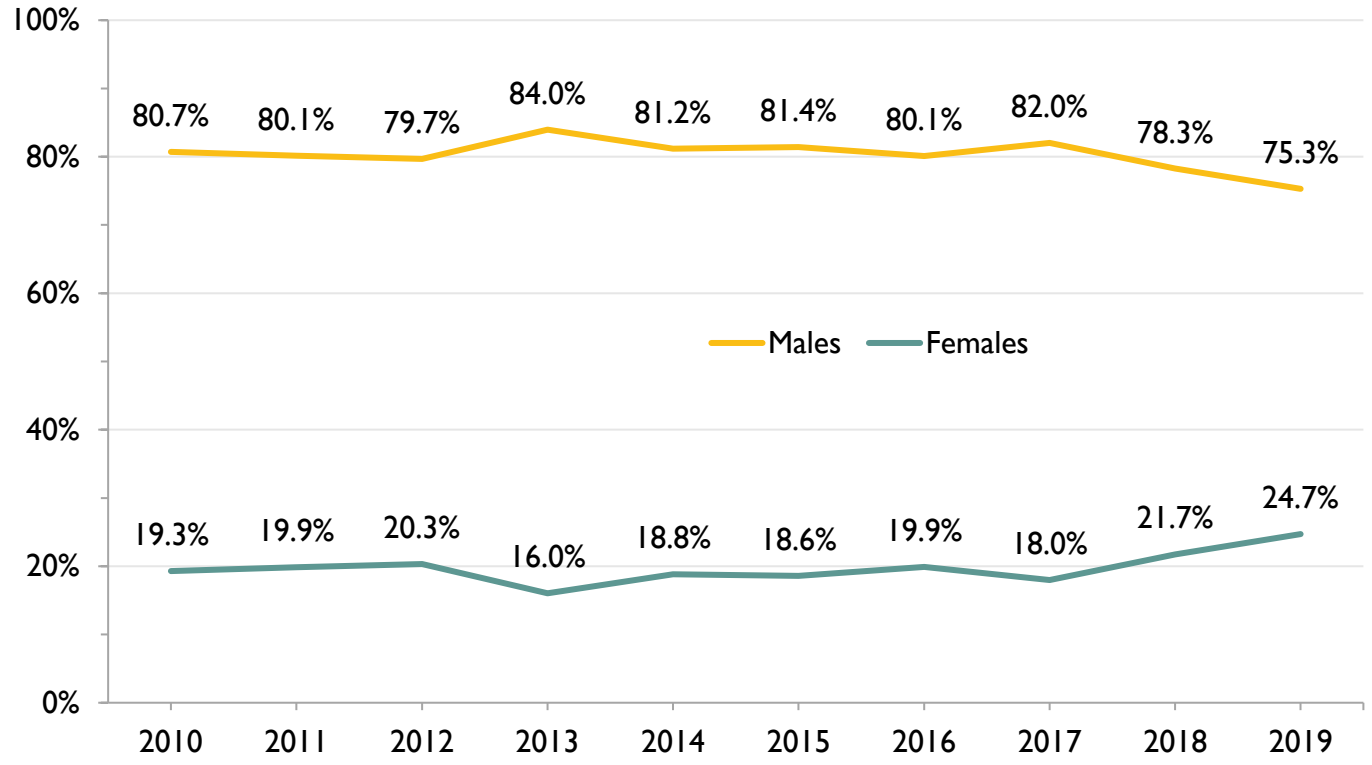
In 2019, the rate of first-time HIV diagnoses per 100,000 people was 7.2 among males and 2.3 among females.

Among males, between 2010 and 2019, the rate of first-time HIV diagnoses per 100,000 males decreased from a high of 10.4 in 2010 to a low of 7.2 in 2019. The rate of first-time HIV diagnoses per 100,000 people gradually decreased between 2013 and 2018 (from 8.4 to 8.1), before decreasing to 7.2 in 2019. The rate of positive HIV tests per 100,000 people gradually increased between 2013 and 2018 (from 9.2 to 9.6), before decreasing to 9.0 in 2019.

Among females, between 2010 and 2019, the rate of first-time HIV diagnoses per 100,000 females ranged between 1.5 and 2.4, and the rate of positive HIV tests ranged between 1.9 and 3.4.

Notes: Data provided by Public Health Ontario Laboratory. Rates calculated using Statistics Canada population estimates for all ages, accessed 06/24/2020. Diagnoses with unreported sex excluded (less than 1% of diagnoses). See Appendices for more information. See Tables Supplement and Table XX for underlying data.

Figure 2.3 Percent of first-time HIV diagnoses by sex, Ontario, 2010 to 2019



Snapshot

Between 2010 and 2019, males accounted for approximately 80% of first-time HIV diagnoses while females have accounted for approximately 20%. In 2019, males accounted for 75.3% of first-time HIV diagnoses and females accounted for 24.7%. This shift was due more to the decrease in the number of first-time HIV diagnoses among males than the increase among females.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where sex was not reported excluded (less than 1% of diagnoses). Rates calculated using Statistics Canada population estimates for all ages, accessed 06/24/2020. See Appendices for more information. See Table 2.1 and Table 2.2 for underlying data.

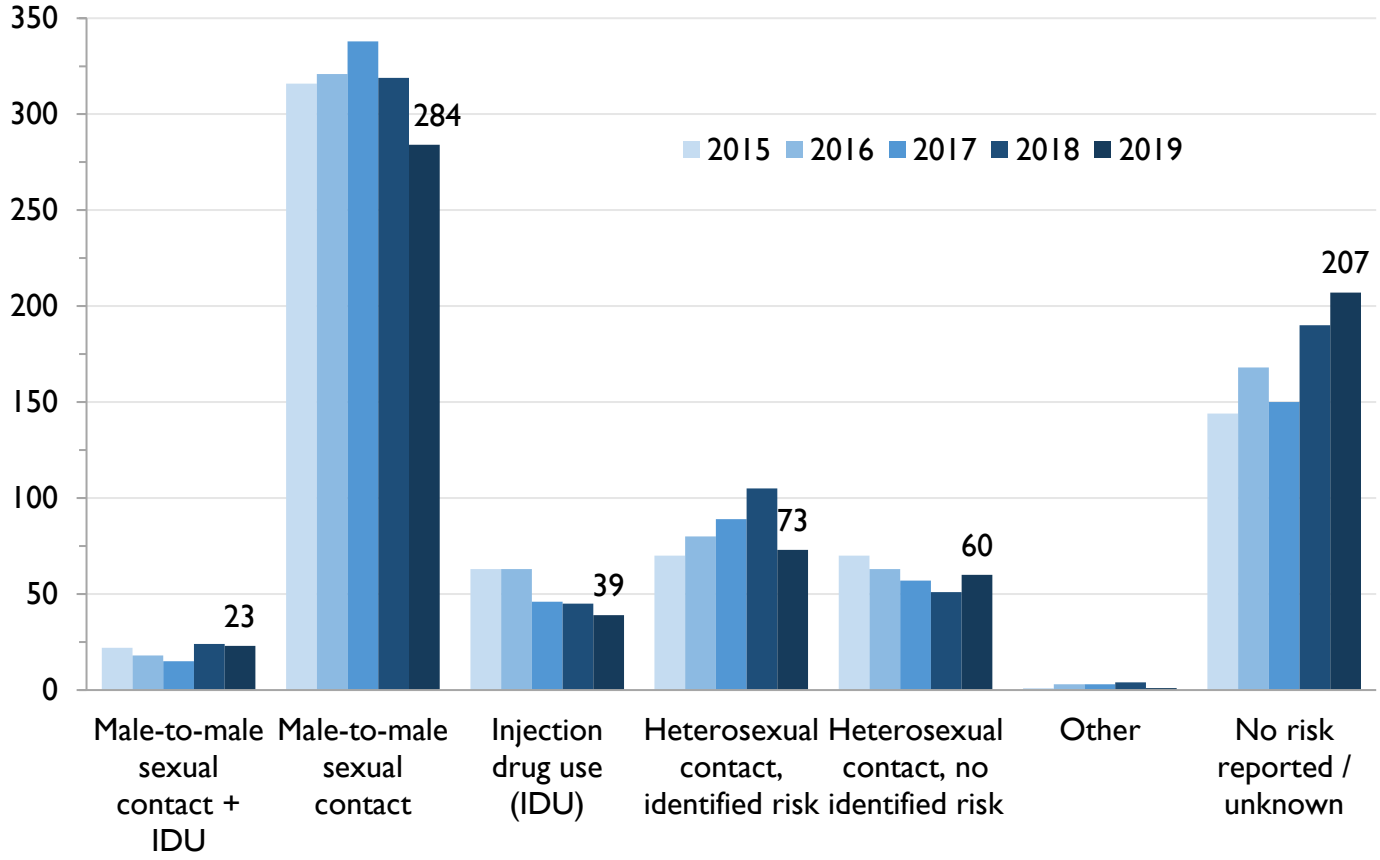
3. Overall by HIV exposure category

When a person tests for HIV, they are asked to identify their possible risks or exposures based on a standardized list of known routes of HIV transmission. If a person identifies multiple exposures, the most likely route of exposure is assigned in a hierarchical fashion based on known transmission rates.

In Ontario, male-to-male sexual contact continued to be the primary mode of HIV transmission, accounting for almost 60% of first-time HIV diagnoses where HIV exposure category was reported. While there was a decrease in the number of first-time HIV diagnoses reporting male-to-male sexual contact, that group continued to account for the same proportion of first-time HIV diagnoses. The next most common HIV exposure categories are heterosexual contact with an identified risk (15.2%) and heterosexual contact with no identified risk (12.5%). Between 2015 and 2019, there was a substantial drop in the number and proportion of first-time HIV diagnoses that reported injection drug use as the HIV exposure category. However, over that five-year period, there was also a steady increase in the number of first-time HIV diagnoses with the HIV exposure category either not reported or unknown, which makes it difficult to draw conclusions regarding trends.

Note: *The "Heterosexual contact, identified risk" category includes diagnoses where sex with a person of the opposite sex/gender is reported and either the individual's country of birth is reported as an HIV-endemic country, or the individual's sex 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 3.1 Number of first-time HIV diagnoses by HIV exposure category, Ontario, 2015 to 2019



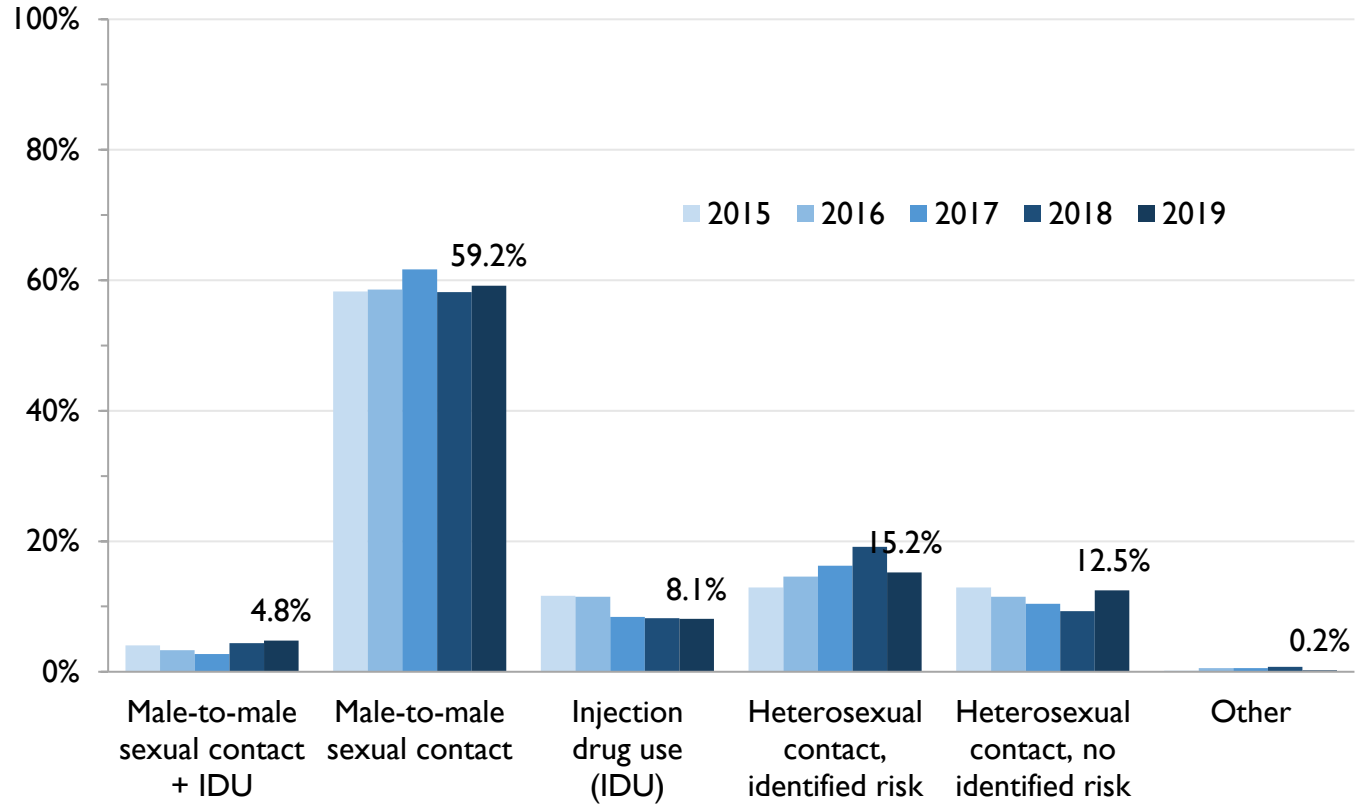
Snapshot

In 2019, 480 of the 687 first-time HIV diagnoses (69.9%) reported an HIV exposure category and 207 (30.1%) did not (i.e. no risk reported, unknown).

Among the 480 first-time HIV diagnoses with a reported HIV exposure category in 2019, the largest number were reported as male-to-male sexual contact (284), followed by heterosexual contact with identified risk (73) and heterosexual contact with no identified risk (60). This is consistent with the trend over the previous four years. However, between 2015 and 2019, the number of first-time HIV diagnoses reported as IDU decreased from 63 in 2015 and 2016 to 39 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

Figure 3.2 Percent of first-time HIV diagnoses by HIV exposure category (where reported), Ontario, 2015 to 2019



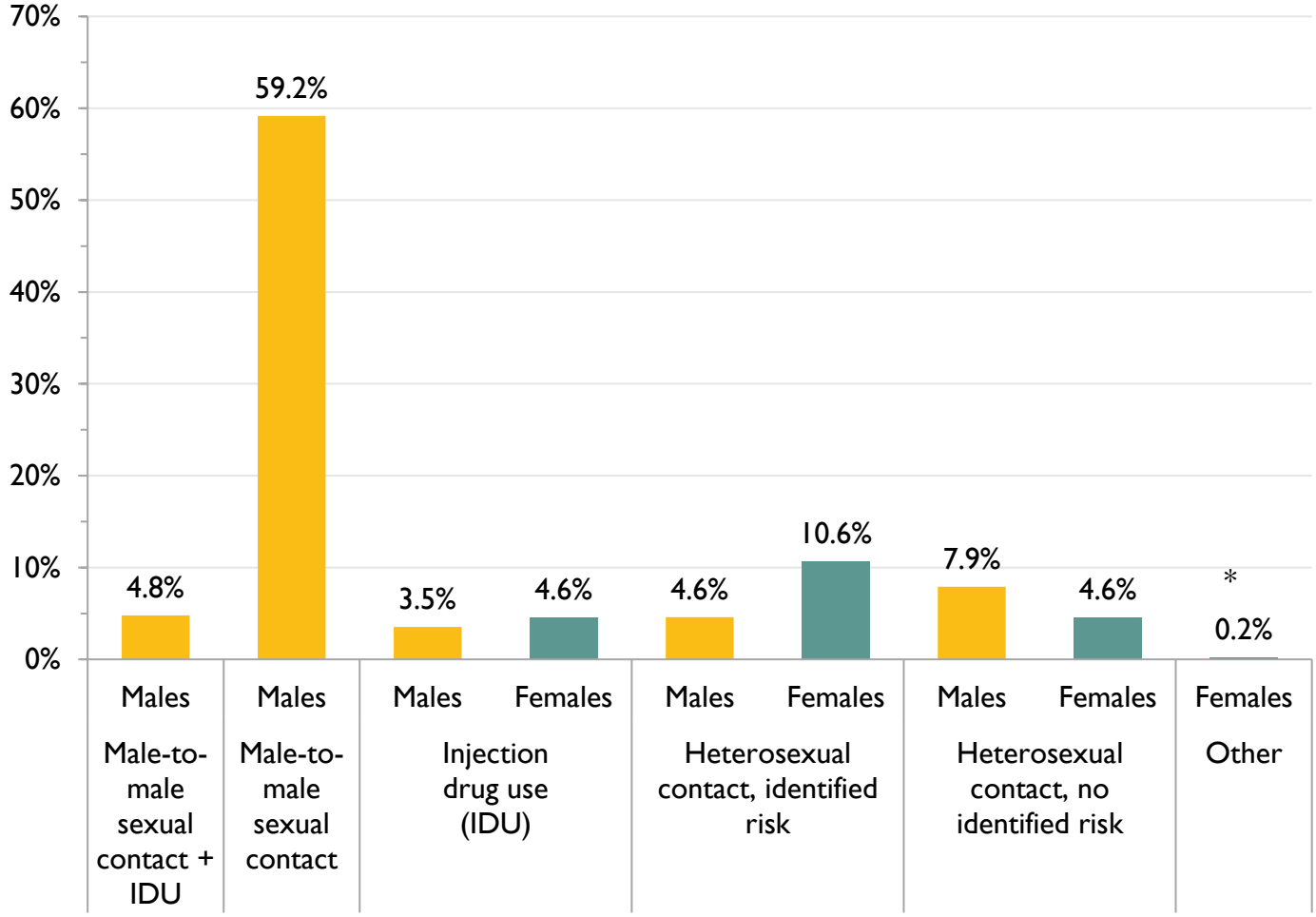
Snapshot

In 2019, among the 480 first-time HIV diagnoses with a reported HIV exposure category, the male-to-male sexual contact exposure category accounted for the largest proportion (59.2%), followed by heterosexual contact with identified risk (15.2%) and heterosexual contact with no identified risk (12.5%).

Between 2015 and 2019, proportions varied very little across all HIV exposure categories except IDU where the proportion of first-time HIV diagnoses reported as IDU decreased from 11.6% in 2015 to 8.1% in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where HIV exposure category was not reported were excluded (average of 24.4%). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

Figure 3.3 Percent of first-time HIV diagnoses by exposure category (where reported) and sex, Ontario, 2019



Snapshot

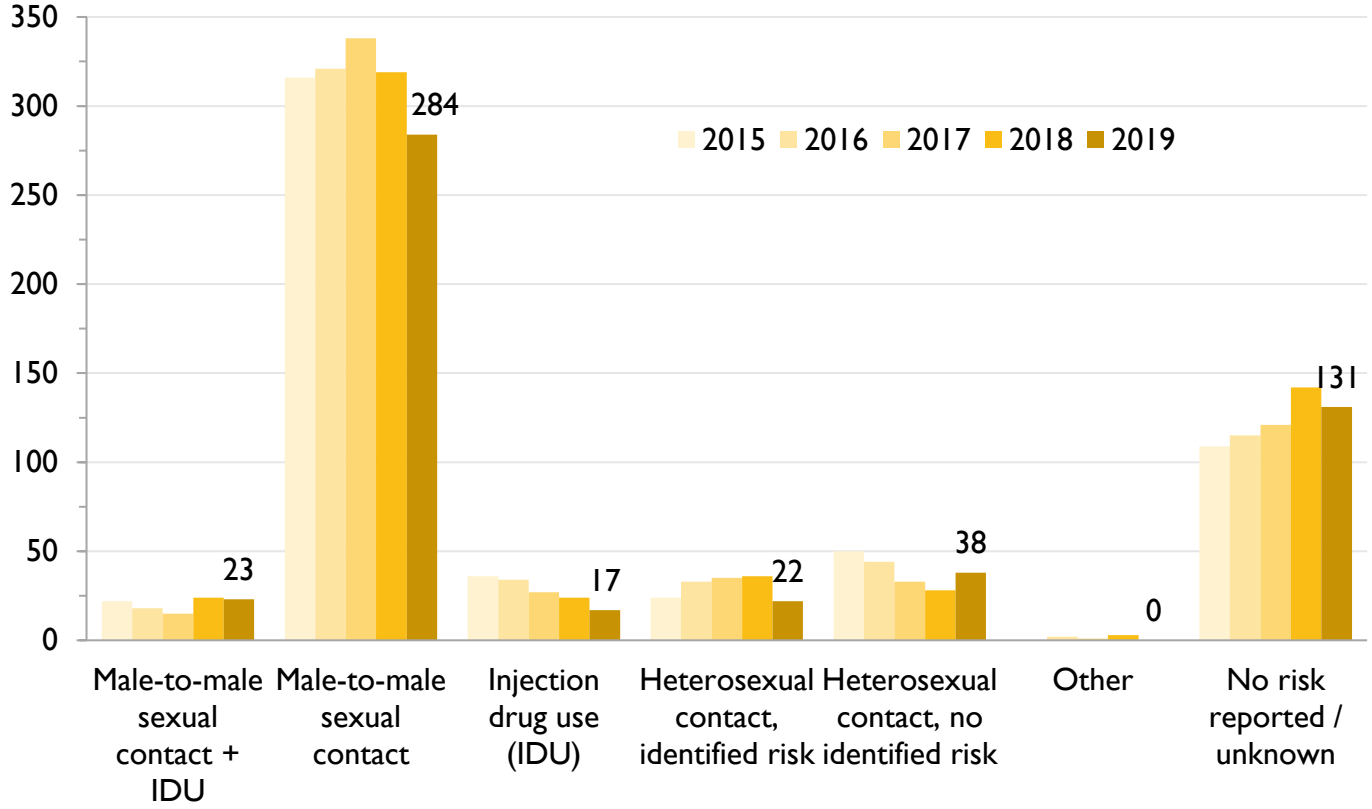
In 2019, males who reported male-to-male sexual contact accounted for the largest proportion of first-time HIV diagnoses (59.2%), followed by females who reported heterosexual contact with identified risk (10.6%), and males who reported heterosexual contact with no identified risk (7.9%). The remaining HIV exposure categories – males who reported male-to-male sexual contact and IDU, males who reported IDU (but not male-to-male sexual contact), females who reported IDU, males who reported heterosexual contact with identified risk, females who reported heterosexual contact with no identified risk, and females categorized into one of the "other" categories – each accounted for less than 5% of first-time HIV diagnoses.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where HIV exposure category was not reported were excluded (30.1% of diagnoses). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

3.i. Males by HIV exposure category

Between 2015 and 2019, among males, male-to-male sexual contact accounted for the largest proportions of first-time HIV diagnoses (74.0% in 2019) and was fairly stable over time. Other HIV exposure categories accounted for between 4.4% and 9.9% of first-time HIV diagnoses among males in 2019. The number of first-time HIV diagnoses reported as IDU decreased from 36 (8.0%) in 2015 to 17 (4.4%) in 2019.

Figure 3.4 Number of first-time HIV diagnoses by HIV exposure category, males, Ontario, 2015 to 2019



Snapshot

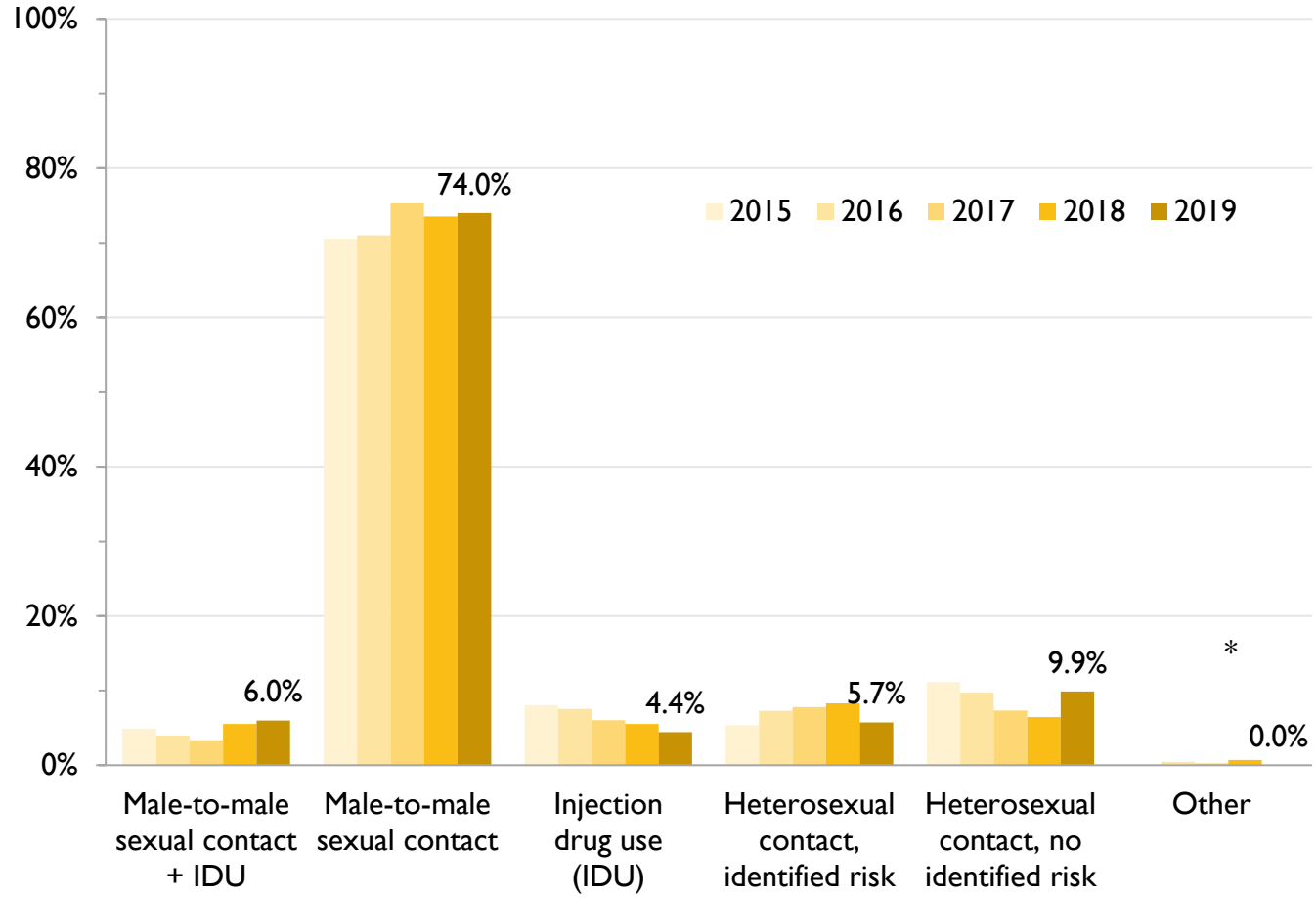
In 2019, 384 of the 515 first-time HIV diagnoses among males (74.6%) reported an HIV exposure category and 131 (25.4%) did not (i.e. no risk reported, unknown).

Among the 515 first-time HIV diagnoses with a reported HIV exposure category in 2019, the most frequently reported HIV exposure categories were male-to-male sexual contact (284), followed by heterosexual contact with no identified risk (38) and heterosexual contact with identified risk (22). This pattern is relatively consistent with the previous four years, although fewer males reported heterosexual contact with identified risk and more reported heterosexual contact with no identified risk.

Between 2015 and 2019, the number of first-time HIV diagnoses reported each year as IDU decreased by 53% from 36 in 2015 to 17 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

Figure 3.5 Percent of first-time HIV diagnoses by HIV exposure category (where reported), males, Ontario, 2015 to 2019



Snapshot

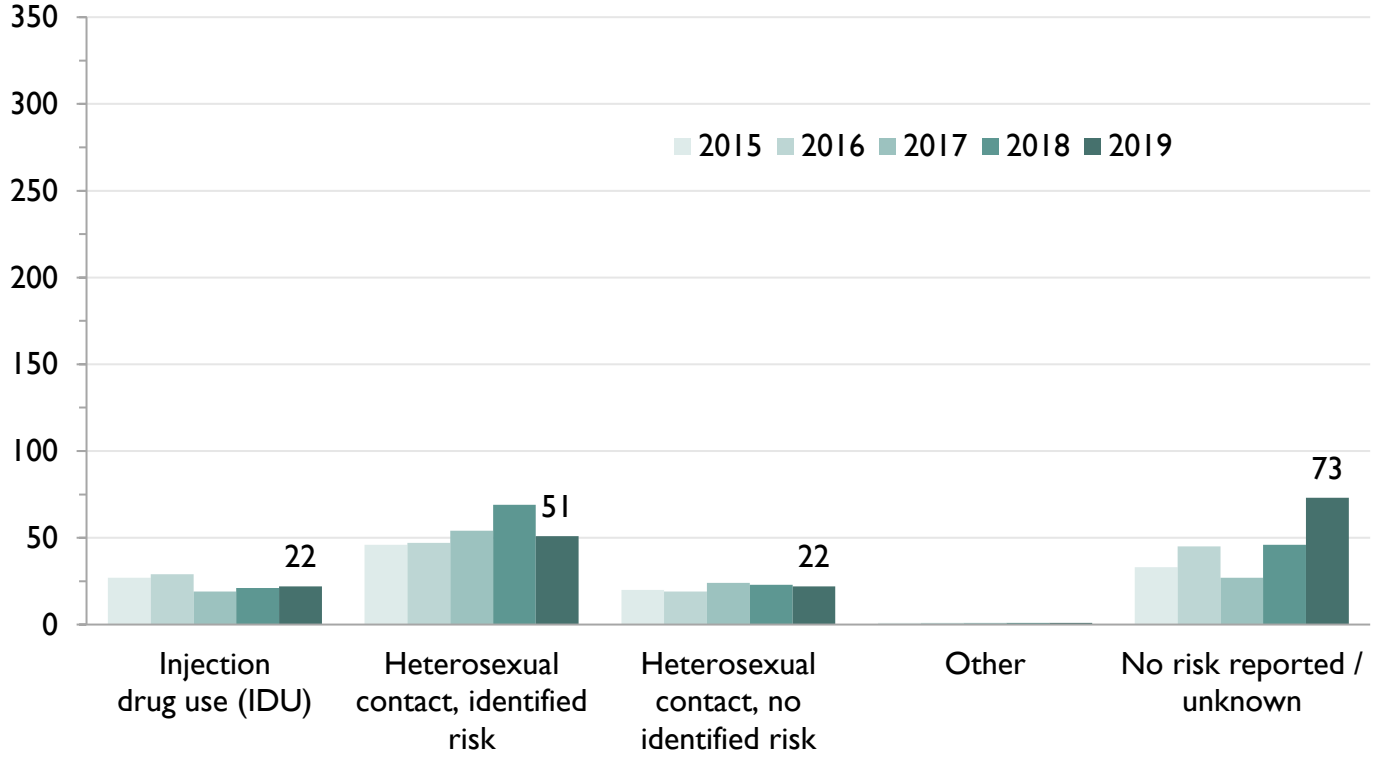
In 2019, among the 384 first-time HIV diagnoses in males that reported an exposure category, the male-to-male sexual contact HIV exposure category accounted for the largest proportion (74.0%), followed by heterosexual contact with no identified risk (9.9%) and male-to-male sexual contact + IDU (6.0%). These patterns were relatively consistent between 2015 and 2019, however the proportion of first-time HIV diagnoses among males that reported IDU as their HIV exposure category decreased from 8.0% to 4.4%.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where HIV exposure category was not reported were excluded (average of 22.2% of diagnoses per year). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

3.ii. Females by HIV exposure category

Patterns of HIV exposure categories have remained fairly stable over time in first-time HIV diagnoses among females. Between 2015 and 2019, the most frequently reported HIV exposure category among first-time HIV diagnoses among females was heterosexual contact with identified risk (53.1% in 2019). Between 18.4% and 30.2% of first-time HIV diagnoses among females reported HIV exposure through IDU and between 19.8% and 24.5% reported exposure through heterosexual contact with no identified risk.

Figure 3.6 Number of first-time HIV diagnoses by HIV exposure category, females, Ontario, 2015 to 2019



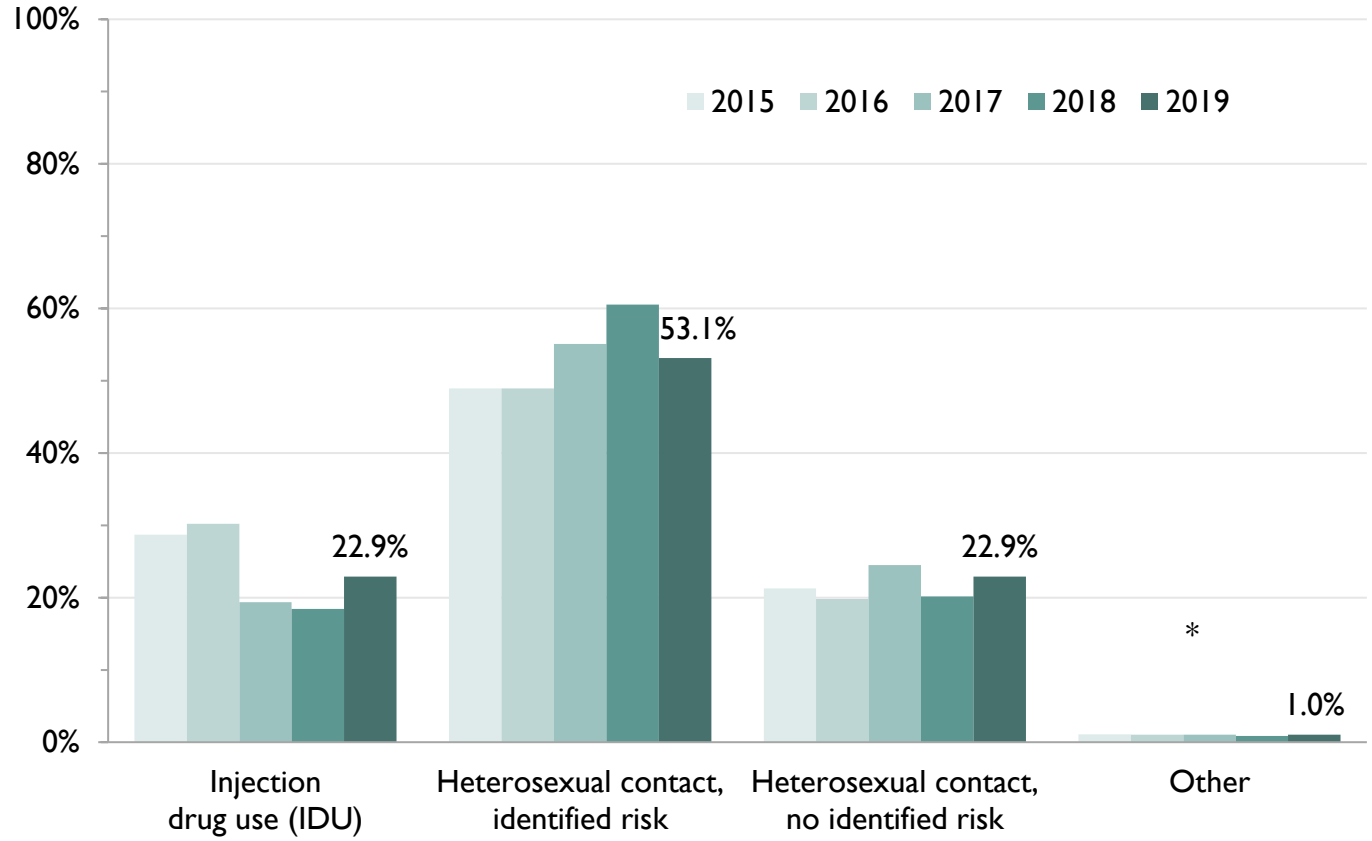
Snapshot

In 2019, 96 of the 169 first-time HIV diagnoses among females (56.8%) reported an HIV exposure category while and 73 (43.2%) did not (i.e. no risk reported, unknown).

Among the 96 first-time HIV diagnoses with a reported HIV exposure category in 2019, the most frequently reported HIV exposure category was heterosexual contact with identified risk (51) followed by heterosexual contact with no identified risk (22) and IDU (22). This pattern is relatively consistent with the previous four years.

Notes: Data provided by Public Health Ontario Laboratory. IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

Figure 3.7 Percent of first-time HIV diagnoses by HIV exposure category (where reported), females, Ontario, 2015 to 2019



Snapshot

In 2019, among the 96 first-time HIV diagnoses in females with a reported HIV exposure category, the heterosexual contact with identified risk HIV exposure category accounted for the largest proportion (53.1%), followed by heterosexual contact with no identified risk (22.9%) and IDU (22.9%). This pattern is relatively consistent between 2015 and 2019, however the proportion of first-time HIV diagnoses among females reporting IDU decreased from 28.7% in 2015 to 22.9% in 2019.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where HIV exposure category was not reported were excluded (average of 30.3% of diagnoses per year). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

4. Overall by race/ethnicity

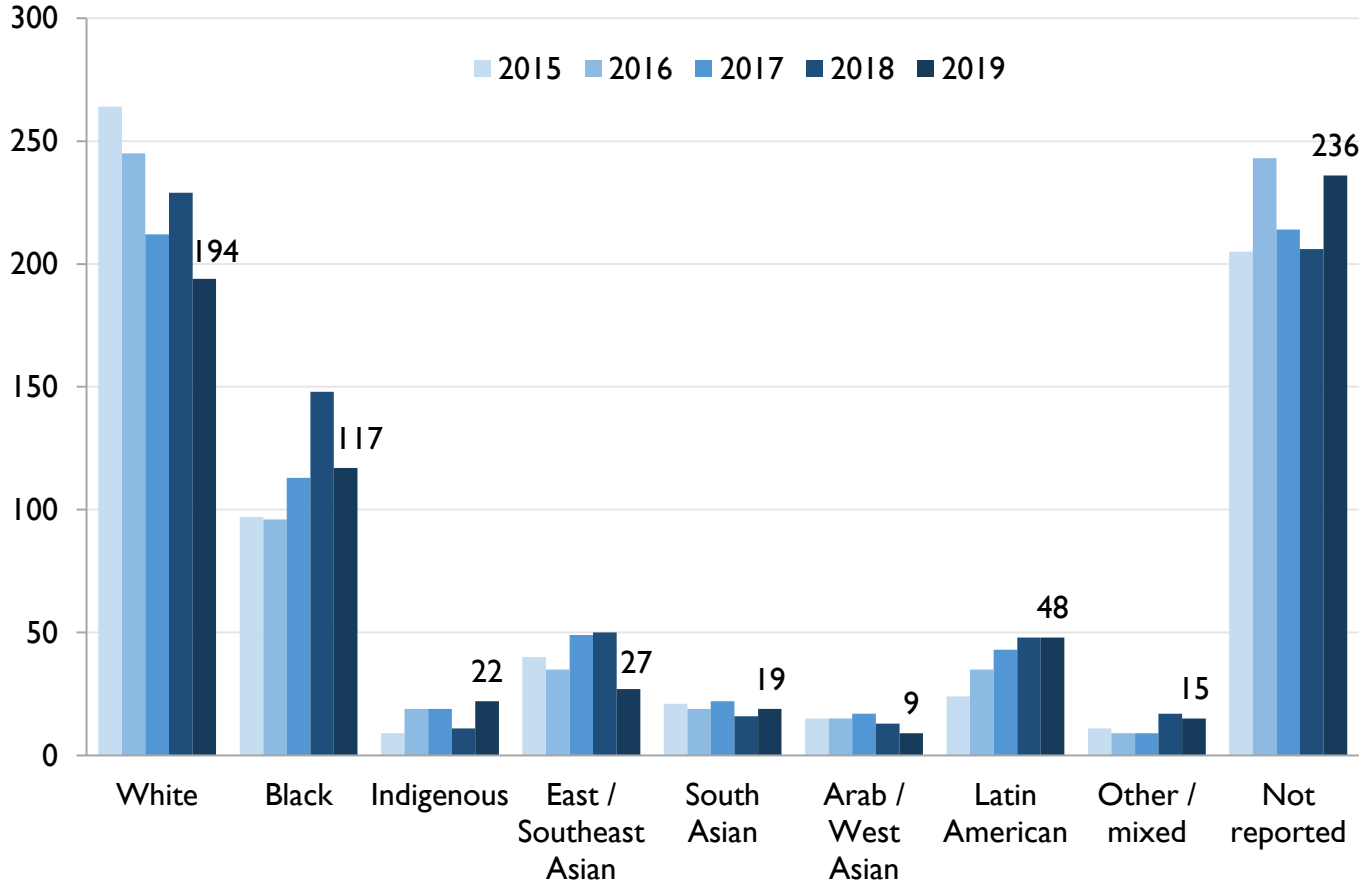
Information about the race/ethnicity of both first-time HIV diagnoses and positive HIV tests is important data for HIV prevention programs to inform and ensure that HIV care services meet the needs of ethnically diverse people.

Of the 687 first-time HIV diagnoses in 2019, 451 (65.6%) reported information on race/ethnicity and 236 (34.3%) did not. Between 2010 and 2019, race/ethnicity was not reported for about 32% of first-time HIV diagnoses; however, with the introduction of the new HIV test requisition form in 2018, we expect completeness of these data to improve over time.

Between 2015 and 2019, white people accounted for the largest number and proportion of first-time HIV diagnoses followed by Black people, South East Asians and Latin Americans. Over these years, the proportion of first-time HIV diagnoses attributed to white people decreased from 54.9% to 43.0% while the proportion attributed to Black people increased from 20.2% to 25.9%, and the proportion attributed to Latin Americans increased from 5.0% to 10.6%. These shifts stem from both the decrease in number of first-time HIV diagnoses attributed to white people and the increase in first-time HIV diagnoses attributed to Black people and Latin Americans.

When the data are broken down by race/ethnicity and sex, in 2019 white males account for 38.4% of first-time HIV diagnoses, Black males for 14.6%, Black females for 11.3%, and Latin American males for 10.4%. When we include positive HIV tests with previous evidence of HIV, the racial/ethnic breakdown shifts somewhat: white males account for 31.0% of positive HIV tests, Black females for 18.0%, Black males for 16.9%, and Latin American males for 11.3%.

Figure 4.1 Number of first-time HIV diagnoses by race/ethnicity, Ontario, 2015 to 2019



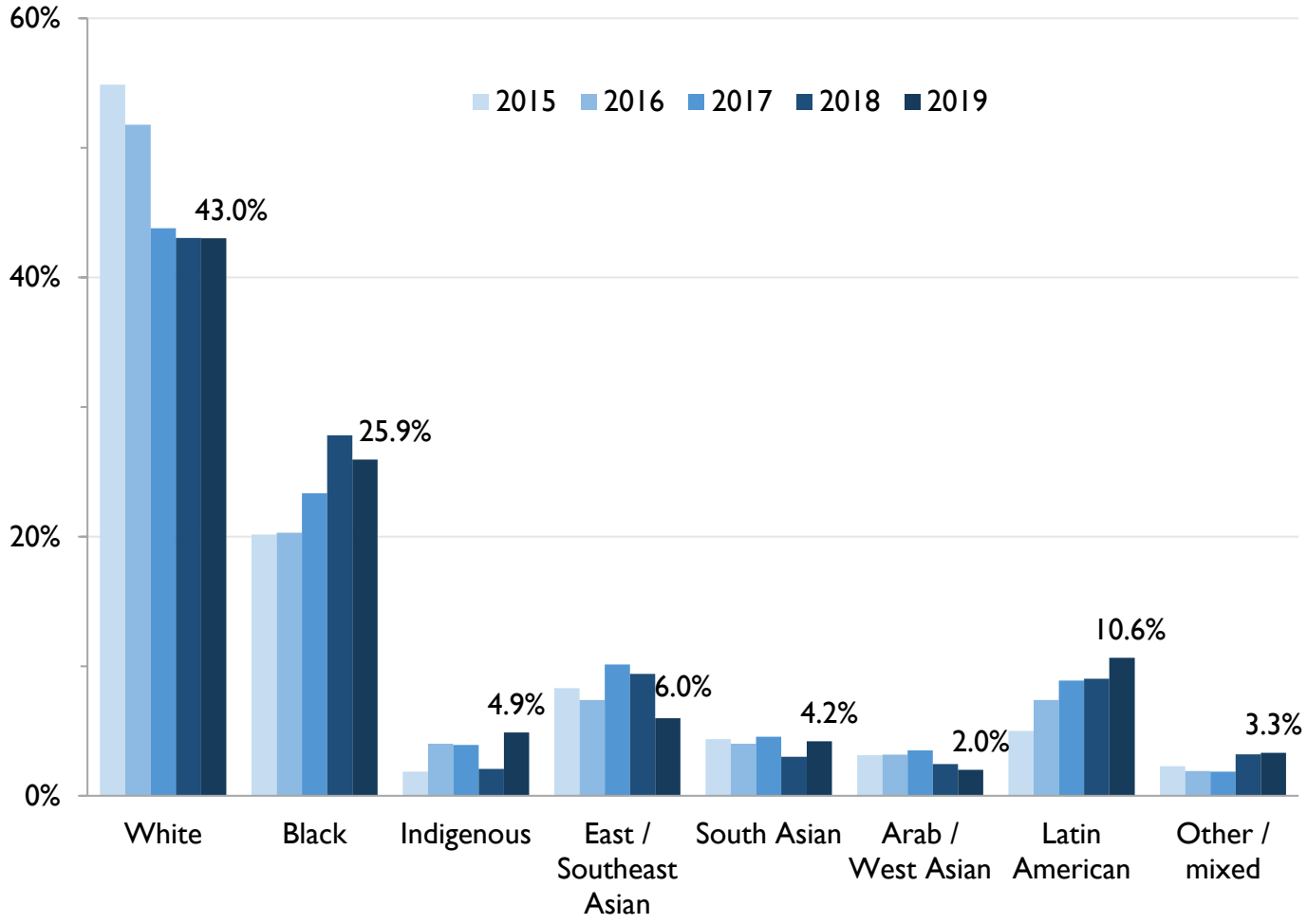
Snapshot

In 2019, among the 451 first-time HIV diagnoses with a reported race/ethnicity, 194 were in white people, 117 in Black people, 48 in Latin American people, 27 in East/Southeast Asian people, 22 in Indigenous people, 19 in South Asian people, 15 in Other/Mixed people and 9 in Arab/West Asian people.

Between 2015 and 2019, white people accounted for the largest number of first-time HIV diagnoses.

Notes: Data provided by Public Health Ontario Laboratory. See Appendices for more information. See Tables Supplement for underlying data.

Figure 4.2 Percent of first-time HIV diagnoses by race/ethnicity (where reported), Ontario, 2015 to 2019



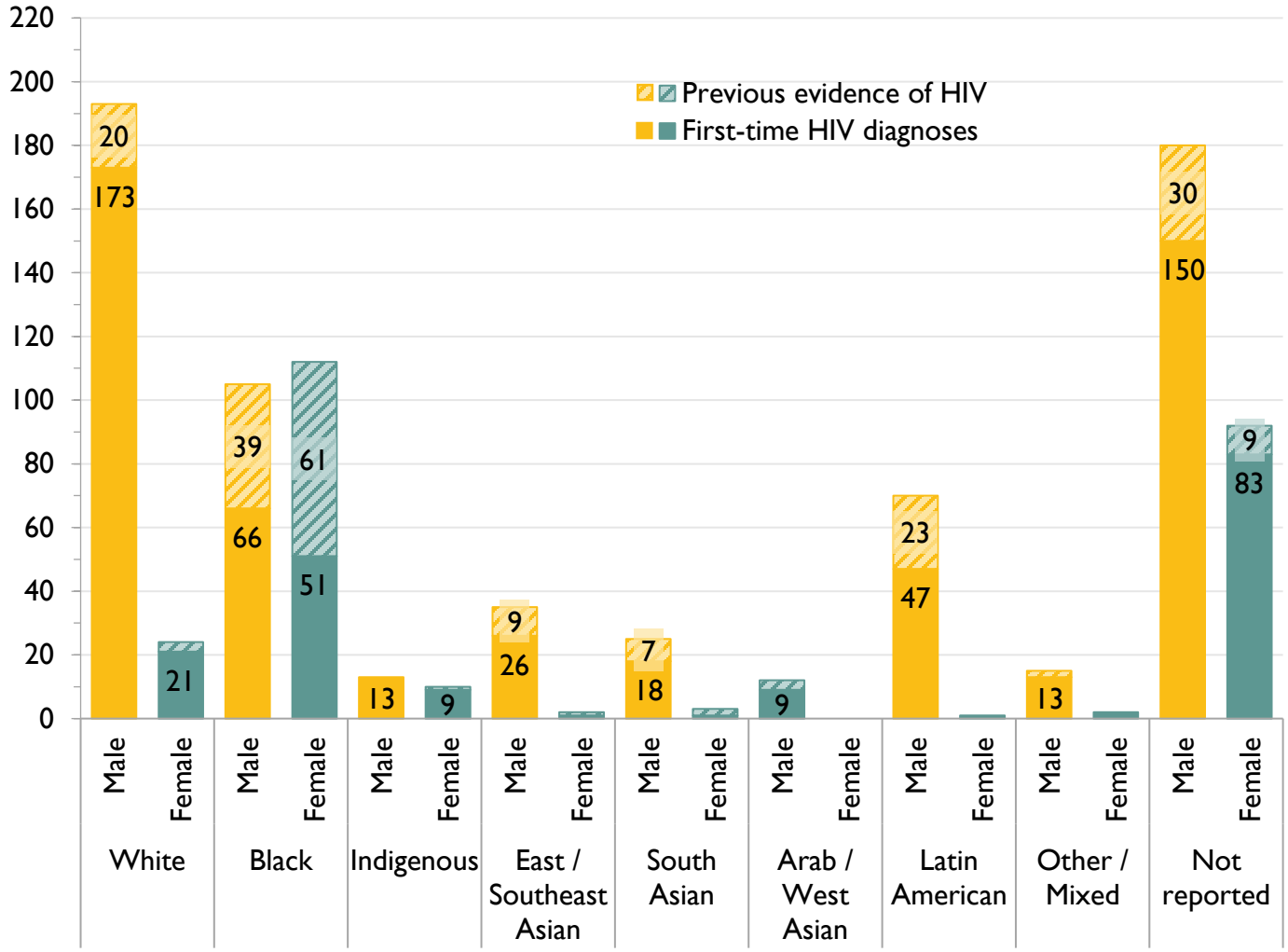
Snapshot

In 2019, among the 451 first-time HIV diagnoses with a reported race/ethnicity, white people accounted for the largest proportion (43.0%), followed by Black (25.9%), Latin American (10.6%) and East/Southeast Asian people (6.0%). Indigenous, South Asian, Arab/West Asian and Other/mixed people each accounted for less than 5% of first-time HIV diagnoses in 2019.

Between 2015 and 2019, white people, followed by Black people accounted for the largest proportions of first-time HIV diagnoses. White people accounted for a smaller proportion of first-time HIV diagnoses over these years (from 54.9% to 43.0%), while Black (from 20.2% to 25.9%) and Latin American (from 5.0% to 10.6%) people accounted for larger proportions. These changes in proportions each correspond with changes in numbers of first-time HIV diagnoses (Figure 4.1).

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where race/ethnicity was not reported were excluded (average of 31.3% of diagnoses per year). See Appendices for more information. See Tables Supplement for underlying data.

Figure 4.3 Number of first-time HIV diagnoses and positive HIV tests with previous evidence of HIV by race/ethnicity and sex, Ontario, 2019



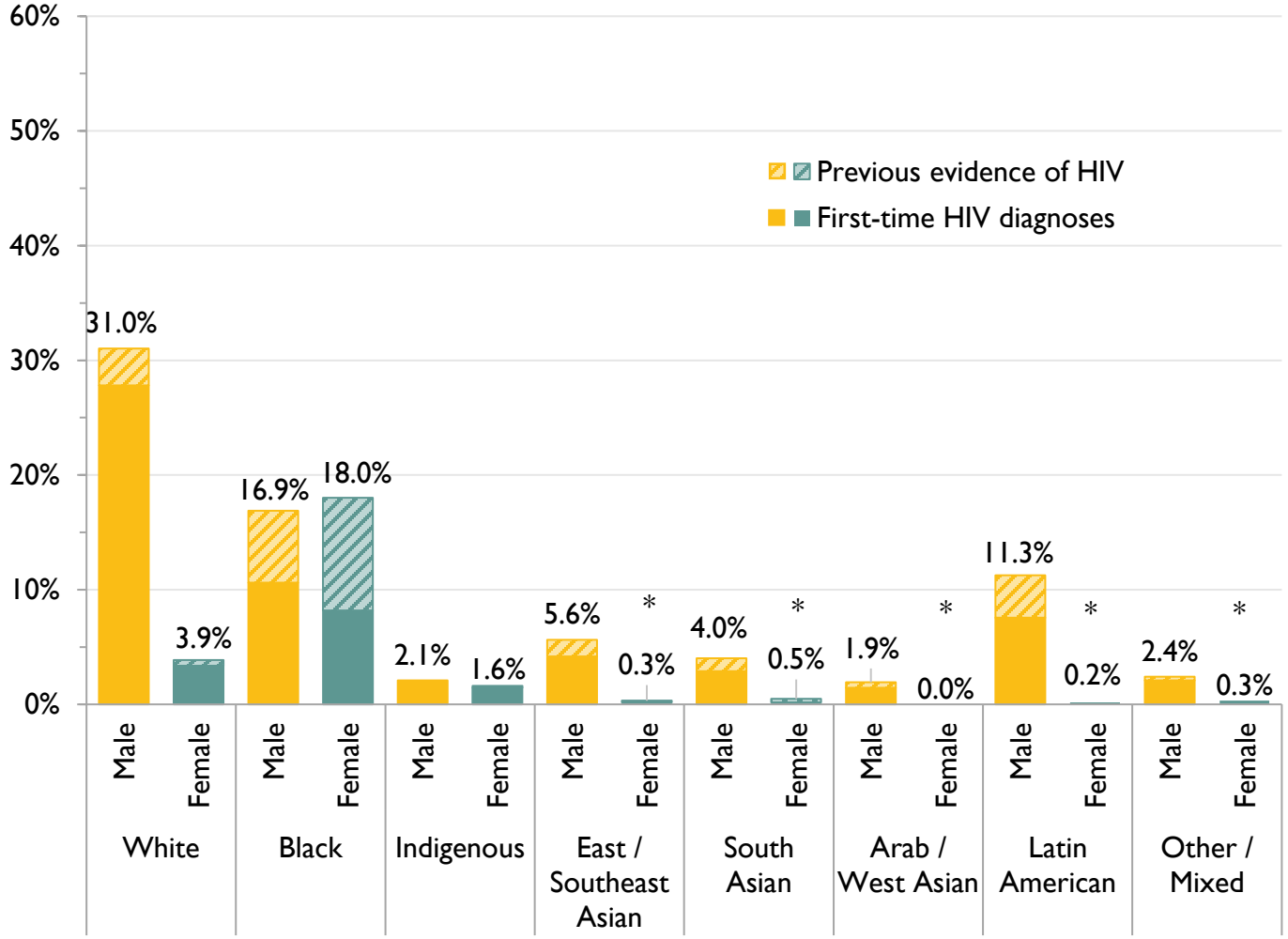
Snapshot

In 2019, among the 451 first-time HIV diagnoses with a reported race/ethnicity, 173 were in white males, 66 in Black males, 51 in Black females, 47 in Latin American males, 26 in East/Southeast Asian males, 21 in white females, 18 in South Asian males, 13 in Indigenous males, 13 in males of other/mixed races/ethnicities, 9 in Indigenous females, and 9 in Arab/West Asian males. There were fewer than 5 first-time HIV diagnoses in each of East/Southeast Asian females, South Asian females, Arab/West Asian females, Latin American females, and females of other/mixed races/ethnicities.

In 2019, among the 171 positive HIV tests with previous evidence of HIV and a reported race/ethnicity, 61 were in Black females, 39 in Black males, 23 in Latin American males, 20 in white males, 9 in East/Southeast Asian males, and 7 in South Asian males. There were fewer than 5 positive HIV tests with previous evidence of HIV in each of Indigenous males, Indigenous females, East/Southeast Asian females, South Asian females, Arab/West Asian males, Arab/West Asian females, Latin American females, males of other/mixed races/ethnicities, and females of other/mixed races/ethnicities.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. See Appendices for more information. See Tables Supplement for underlying data.

Figure 4.4 Percent of positive HIV tests by race/ethnicity (where reported) and sex, Ontario, 2019



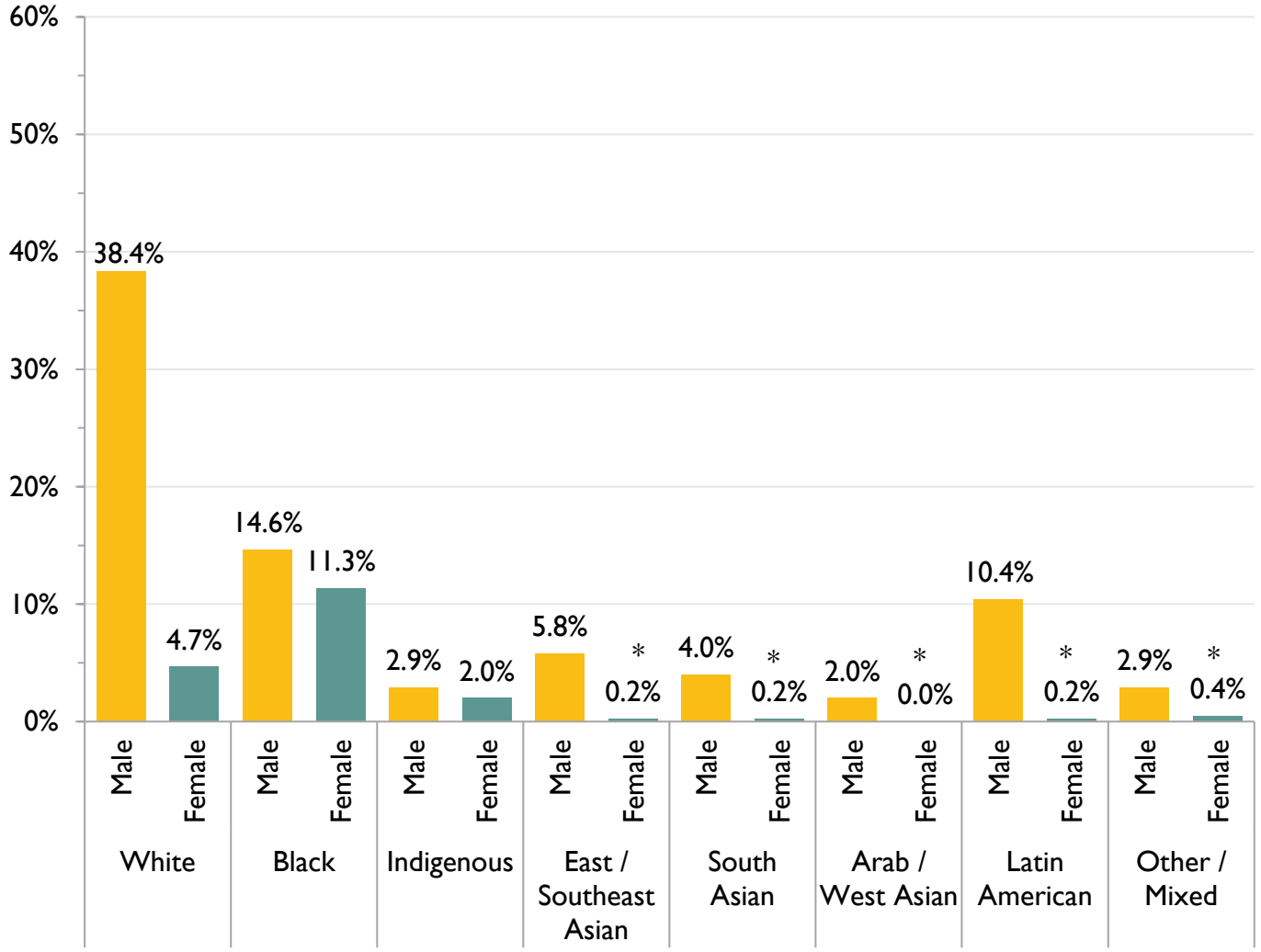
Snapshot

When positive HIV tests with previous evidence of HIV are included, a total of 622 positive HIV tests (out of 897) had a reported race/ethnicity in 2019. Of those, white males accounted for the largest proportion (31.0%) but the proportions of positive HIV tests attributed to Black females (18.0%), Black males (16.9%) and Latin American males (11.3%) were larger than that of first-time HIV diagnoses and the proportion attributed to East/Southeast Asian males (5.6%) was smaller. Other racial groups – white females, Indigenous males and females, East/Southeast Asian females, South Asian males and females, Arab/West Asian males and females, Latin American females, and Other/mixed males and females – accounted for less than 5% of positive HIV tests in 2019.

The proportion of positive HIV tests made up of first-time HIV diagnoses differ by racial/ethnic group. Although most groups have some proportion of previous evidence of HIV, the greatest number and proportion are among Black females, followed by Black males, Latin American males and white males. Of note that although the number of positive HIV tests is greater among Black females than among Black males, the number of first-time HIV diagnoses is greater among Black males.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Positive HIV tests where race/ethnicity was not reported were excluded (30.7% of tests). See Appendices for more information. See Tables Supplement for underlying data.

Figure 4.5 Percent of first-time HIV diagnoses by race/ethnicity (where reported) and sex, Ontario, 2019



Snapshot

Among the 451 first-time HIV diagnoses with a reported race/ethnicity broken down by race/ethnicity and sex in 2019, white males accounted for the largest proportion of first-time HIV diagnoses (38.4%), followed by Black males (14.6%), Black females (11.3%), Latin American males (10.4%) and East/Southeast Asian males (5.8%). White females, Indigenous males and females, East/Southeast Asian females, South Asian males and females, Arab/West Asian males and females, Latin American females, and Other/mixed males and females each accounted for less than 5% of first-time HIV diagnoses.

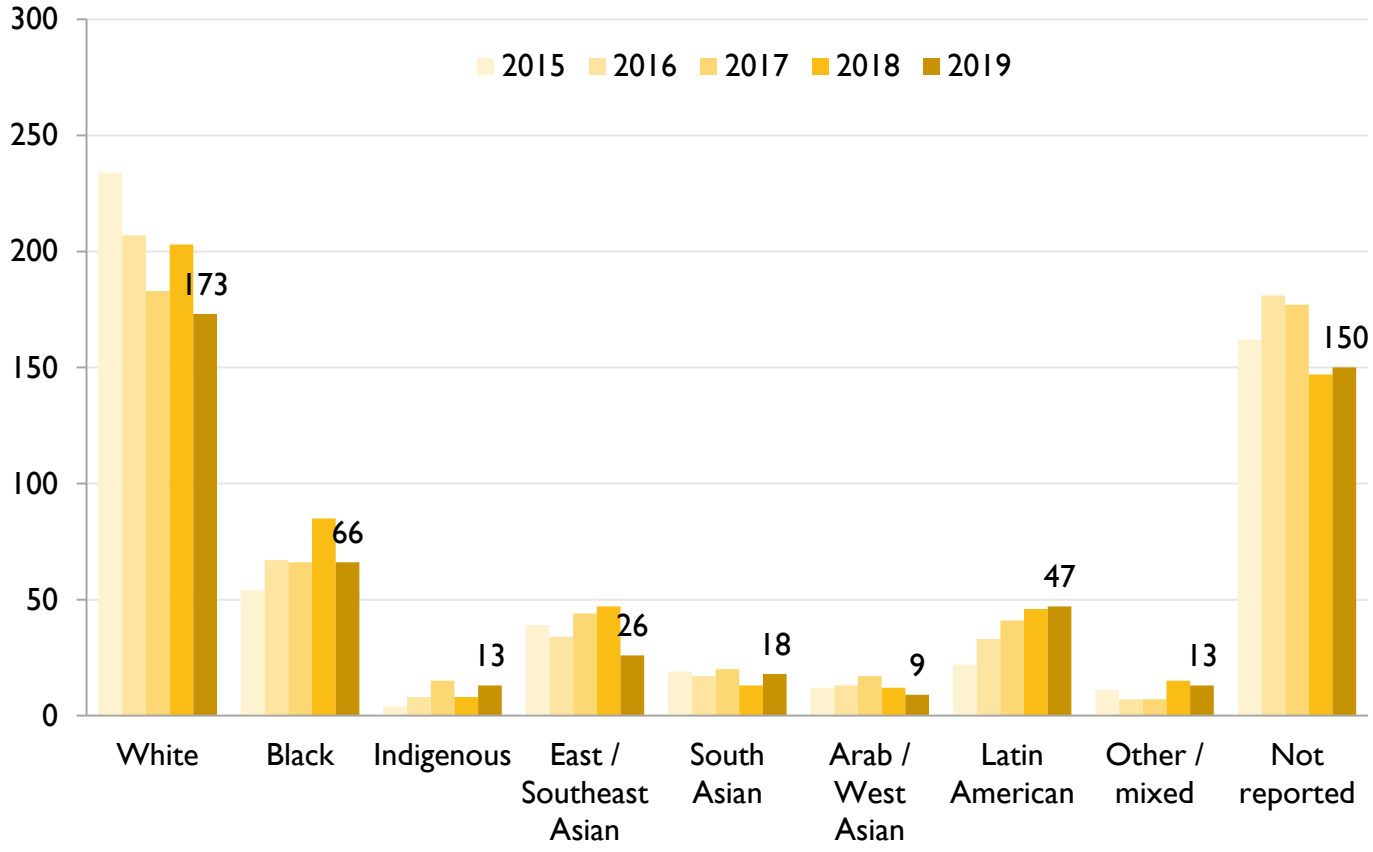
Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where race/ethnicity was not reported were excluded (34.4% of diagnoses). See Appendices for more information. See Tables Supplement for underlying data.

4.i. Males by race/ethnicity

White males have historically accounted for the majority of first-time HIV diagnoses in males in Ontario. Of the 515 first-time HIV diagnoses among males in 2019, 365 (70.9%) reported information on race/ethnicity and 150 (29.1%) did not. Of those with a reported race/ethnicity, the largest proportion (47.4%) were attributed to white males followed by Black males (18.1%) and Latin American males (12.9%).

Between 2015 and 2019, there was a decrease in the number of first-time HIV diagnoses attributed to white males, a trend not seen in males of other races/ethnicities. There was an increase in the number and proportion of first-time HIV diagnoses attributed to Latin American males.

Figure 4.6 Number of first-time HIV diagnoses by race/ethnicity, males, Ontario, 2015-2019



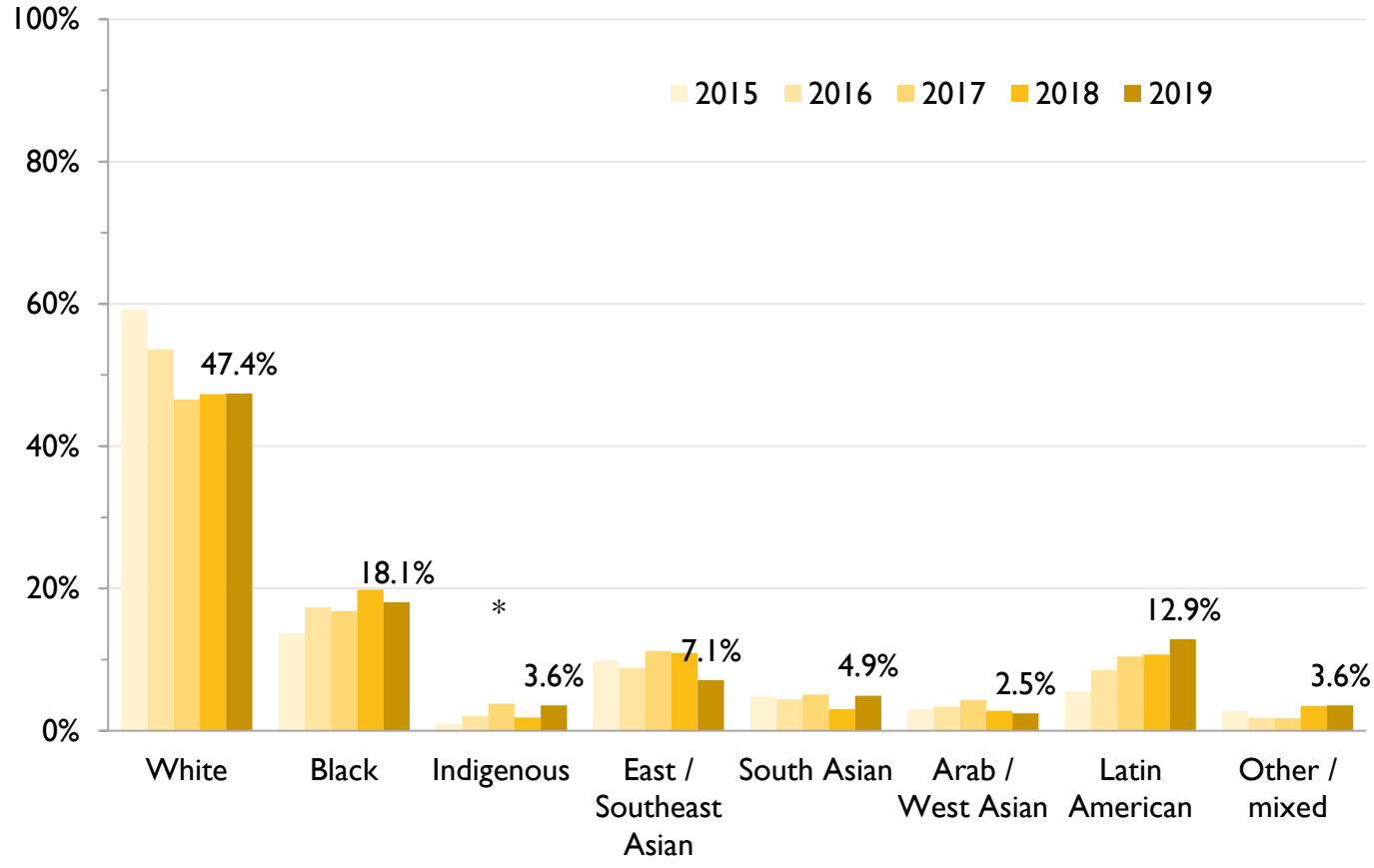
Snapshot

In 2019, among the 365 first-time HIV diagnoses in males with a reported race/ethnicity, 173 were in white males, 66 in Black males, 47 in Latin American males, 26 in East/Southeast Asian males, 18 in South Asian males, 13 in Indigenous males, 13 in Other/Mixed males and 9 in Arab/West Asian males.

Between 2015 and 2019, white males accounted for the largest number of first-time HIV diagnoses among males, however this number decreased, a trend not seen in males of other races/ethnicities. The number of first-time HIV diagnoses in Latin American males increased from 22 in 2015 to 47 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. See Appendices for more information. See Tables Supplement for underlying data.

Figure 4.7 Percent of first-time HIV diagnoses by race/ethnicity (where reported), males, Ontario, 2015 to 2019



Snapshot

Between 2015 and 2019, white males, followed by Black males accounted for the largest proportions of first-time HIV diagnoses among males.

In 2019, among the 365 first-time HIV diagnoses with a reported race/ethnicity, white males accounted for the largest proportion (47.4%), followed by Black (18.1%), Latin American (12.9%) and East/Southeast Asian males (7.1%). Indigenous, South Asian, Arab/West Asian and Other/mixed males each accounted for less than 5% of first-time HIV diagnoses among males.

The proportion of first-time HIV diagnoses among males that was attributed to Latin American males increased year over year from 5.6% in 2015 to 12.9% in 2019.

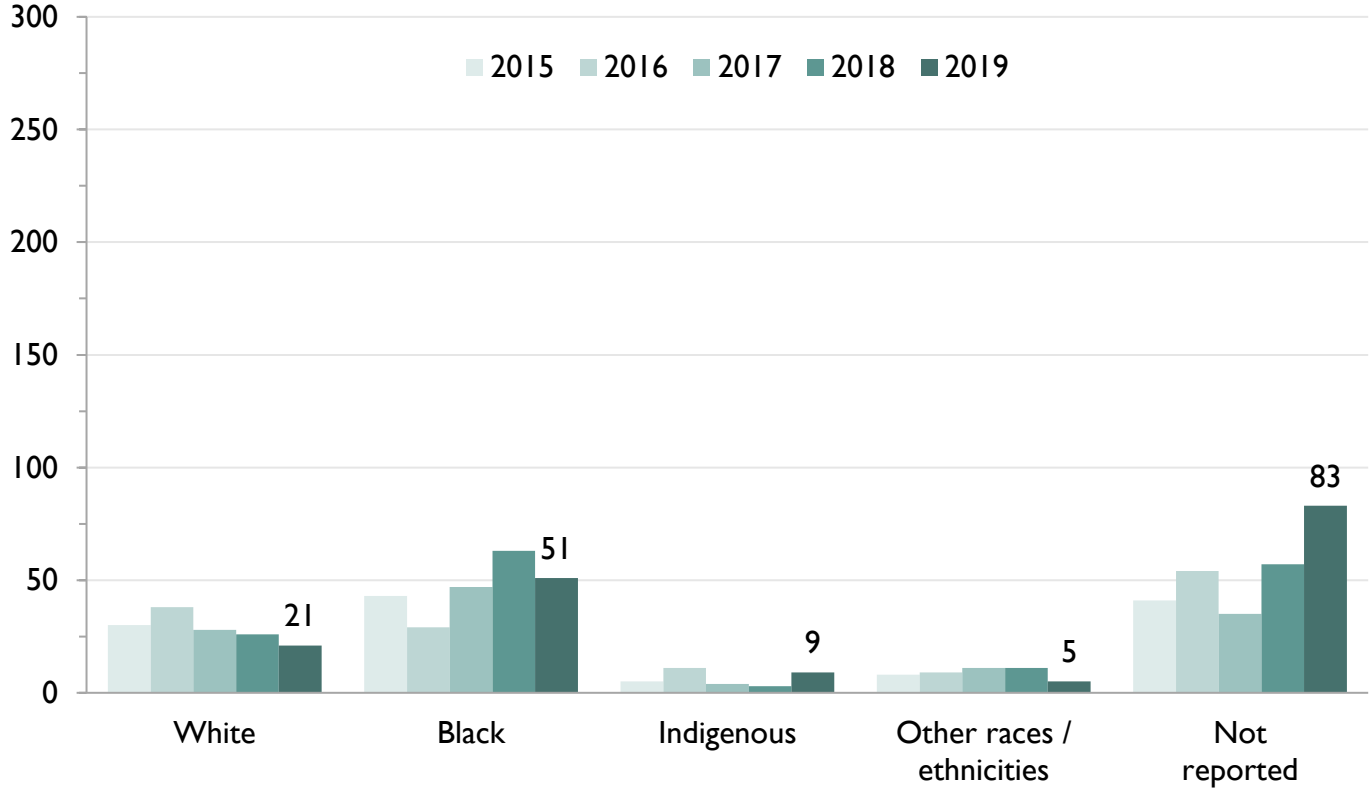
Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where race/ethnicity was not reported were excluded (average of 29.3% of diagnoses per year). See Appendices for more information. See Tables Supplement for underlying data.

4.ii. Females by race/ethnicity

Of the 169 first-time HIV diagnoses among females in 2019, 86 (50.9%) reported information on race/ethnicity and 83 (49.1%) did not.

Of the 86 that did report race/ethnicity, the largest proportion was attributed to Black females (59.3%), followed by white (24.4%), and Indigenous (10.5%) females.

Figure 4.8 Number of first-time HIV diagnoses by race/ethnicity, females, Ontario, 2015 to 2019



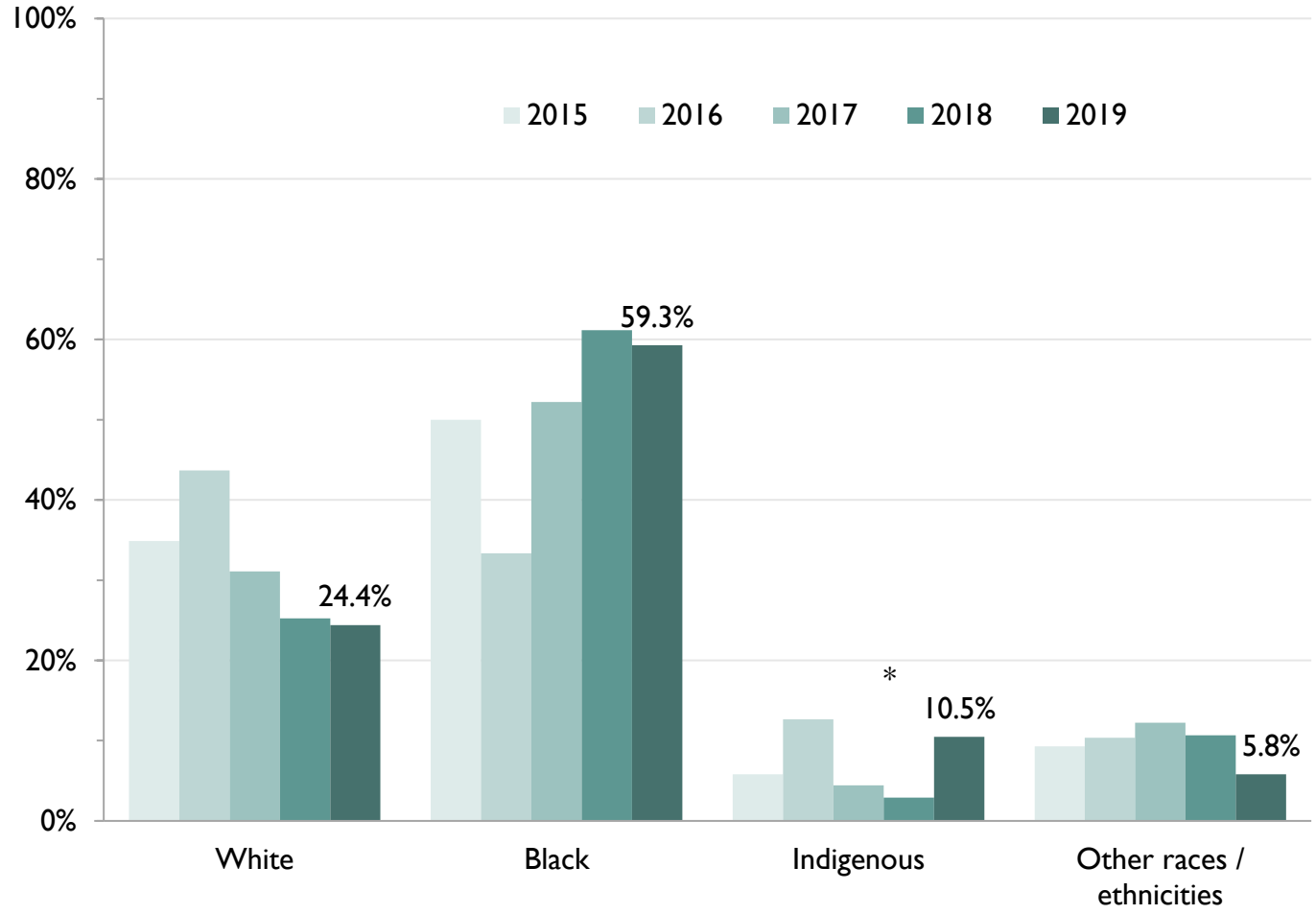
Snapshot

Among the 86 first-time HIV diagnoses among females with a reported race/ethnicity, 51 were in Black females, 21 in white females, 9 in Indigenous females, and 5 in females of other races/ethnicities.

Every year between 2015 and 2019 except 2016, Black females accounted for the largest number of first-time HIV diagnoses among females; white females accounted for the largest number in 2016.

Notes: Data provided by Public Health Ontario Laboratory. See Appendices for more information. See Tables Supplement for underlying data.

Figure 4.9 Percent of first-time HIV diagnoses by race/ethnicity (where reported), females, Ontario, 2015 to 2019



Snapshot

In 2019, among the 86 first-time HIV diagnoses in females with a reported race/ethnicity, Black females accounted for the largest proportion (59.3%), followed by white (24.4%), Indigenous (10.5%) and females of other races/ethnicities (5.8%).

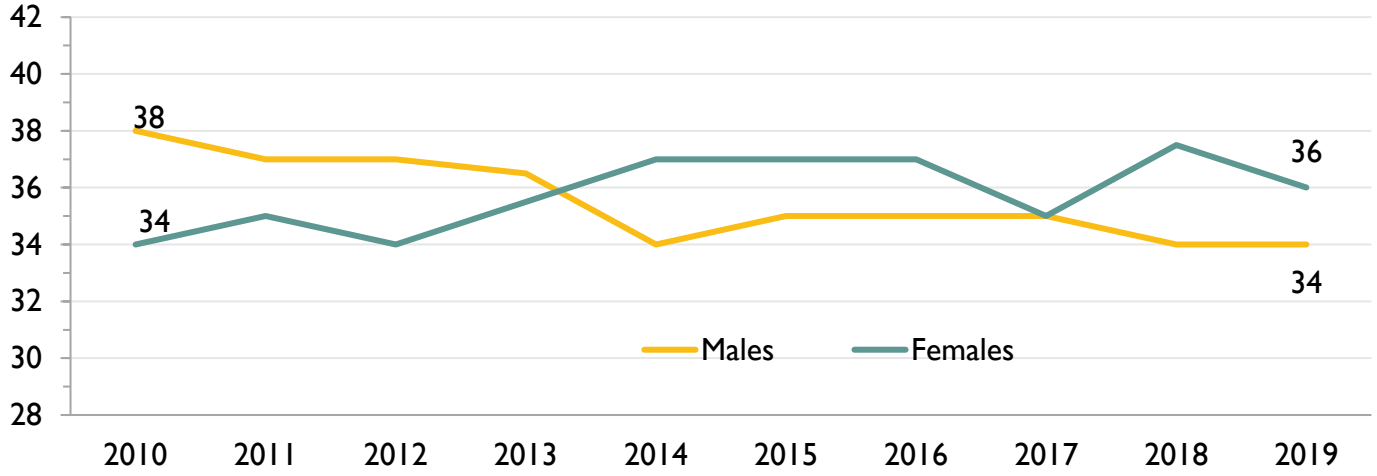
In every year between 2015 and 2019 except 2016, Black females accounted for the largest proportions of first-time HIV diagnoses among females, followed by white females.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where race/ethnicity was not reported were excluded (average of 36.7% of diagnoses per year). See Appendices for more information. See Tables Supplement for underlying data.

5. Overall by age

Between 2010 and 2019, among males, the median age of first-time HIV diagnoses ranged from 34 to 38 years and was 34 years in 2019; among females, the median age of first-time HIV diagnoses ranged from 34 to 37.5 years and was 36 years in 2019. In 2019, among males, those aged 25-29 years had the highest rate and accounted for the largest proportion of first-time HIV diagnoses. Among females, those aged 35-39 years had the highest rate and accounted for the largest proportion of first-time HIV diagnoses.

Figure 5.1 Median age of first-time HIV diagnoses by sex, Ontario, 2010 to 2019

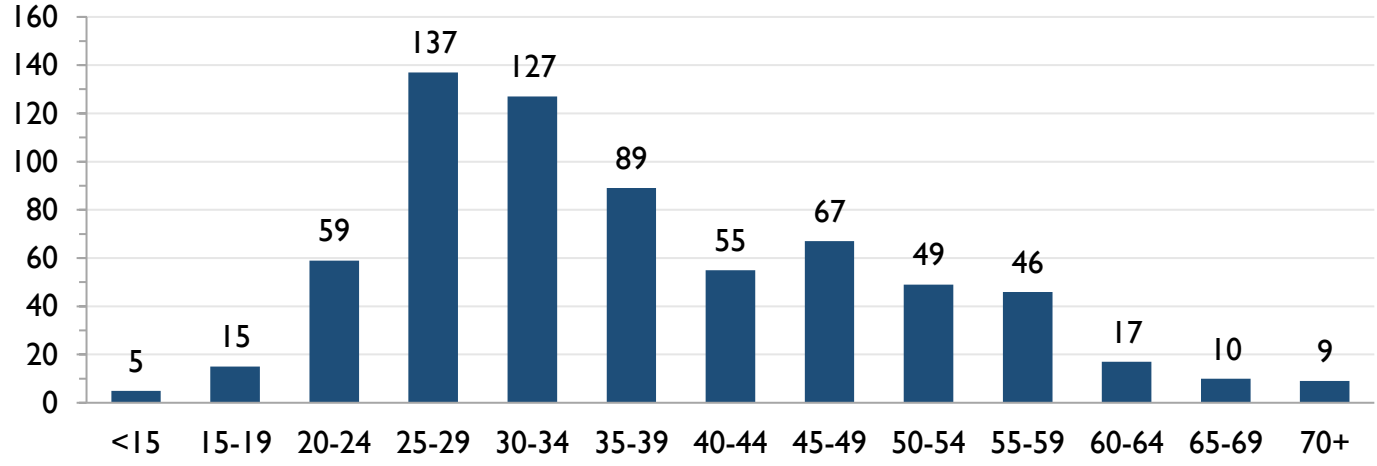


Snapshot

In 2019, the median age of first-time HIV diagnoses was 34 years among males and 36 years among females.

Between 2010 and 2019, among males, the median age of first-time HIV diagnoses ranged from 38 years in 2010 to 34 years in 2014, 2018, and 2019. Among females, the median age at first-time HIV diagnosis ranged from 34 in 2010 and 2012 to 37.5 in 2018.

Figure 5.2 Number of first-time HIV diagnoses by age, Ontario, 2019

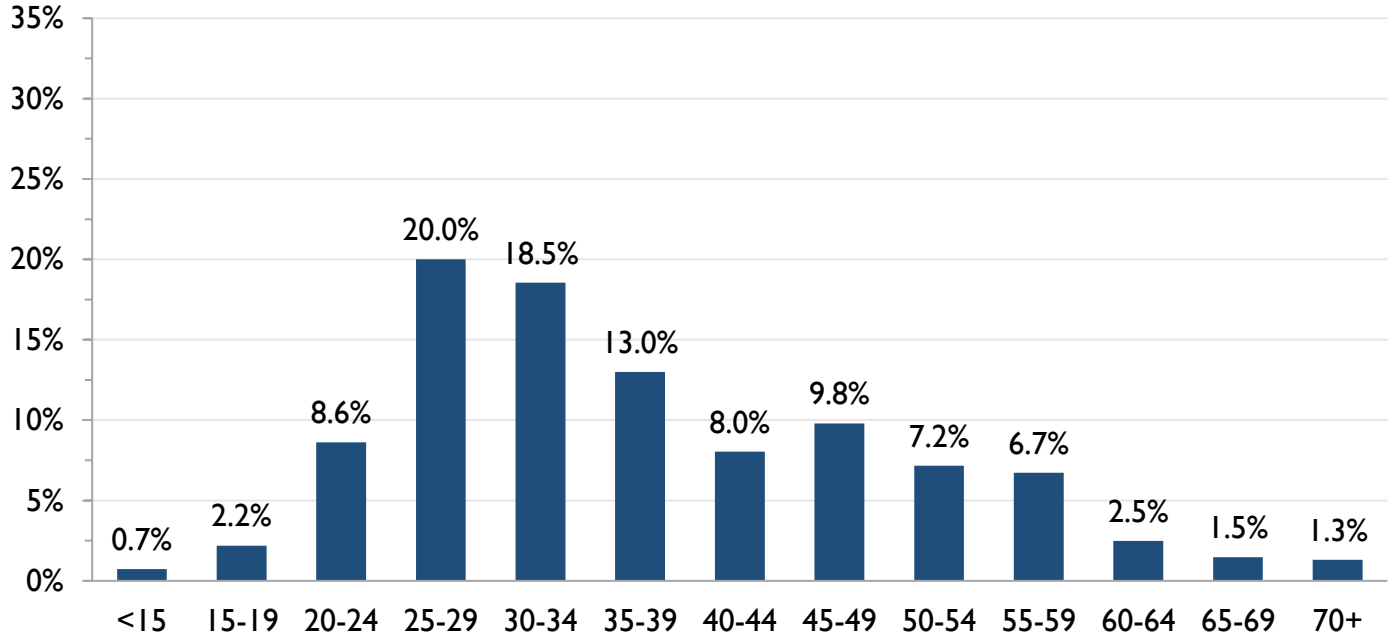


Snapshot

In 2019, those aged 25-29 years accounted for the largest number of first-time HIV diagnoses (137), followed by those aged 30-34 years (127) and those aged 35-39 years (89).

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses with sex and age not reported were excluded (less than 1%). See Appendices for more information. See Tables Supplement for underlying data.

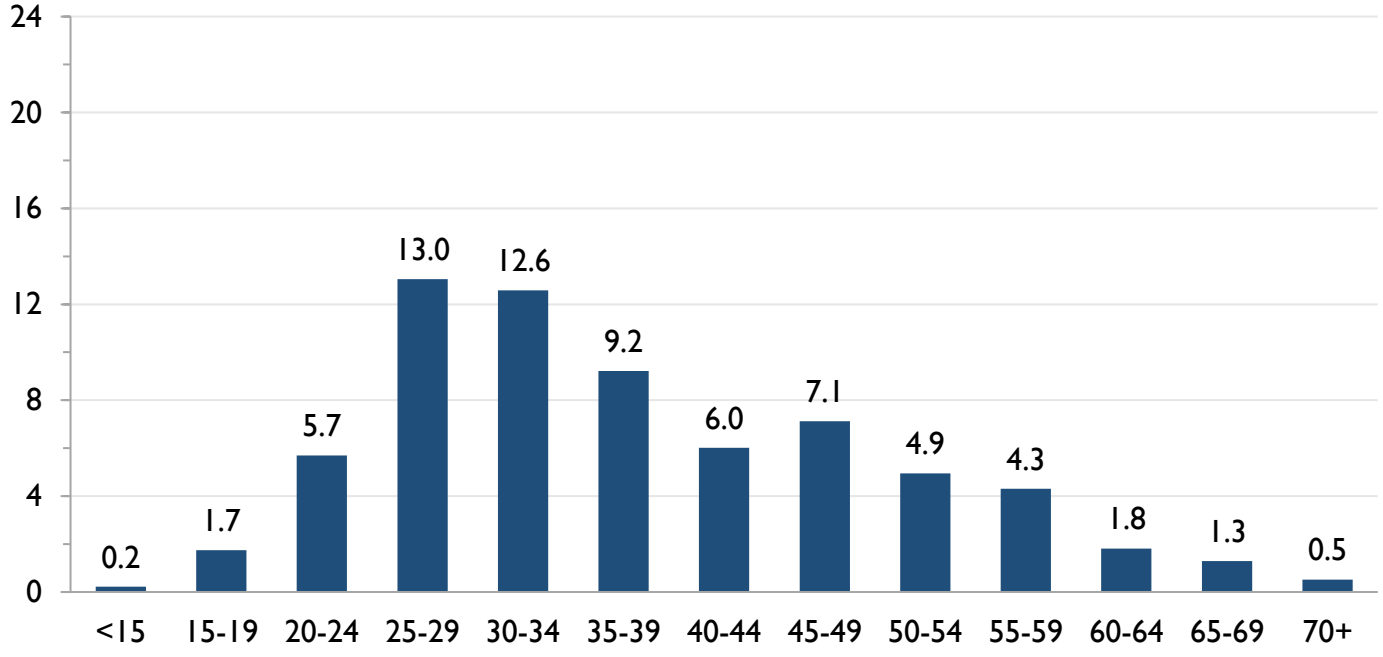
Figure 5.3 Percent of first-time HIV diagnoses by age, Ontario, 2019



Snapshot

In 2019, over one third (38.5%) of first-time HIV diagnoses were among those aged 25-34 years and the 25-29 age category accounted for the largest proportion (20.0%).

Figure 5.4 Rate of first-time HIV diagnoses per 100,000 people by age, Ontario, 2019

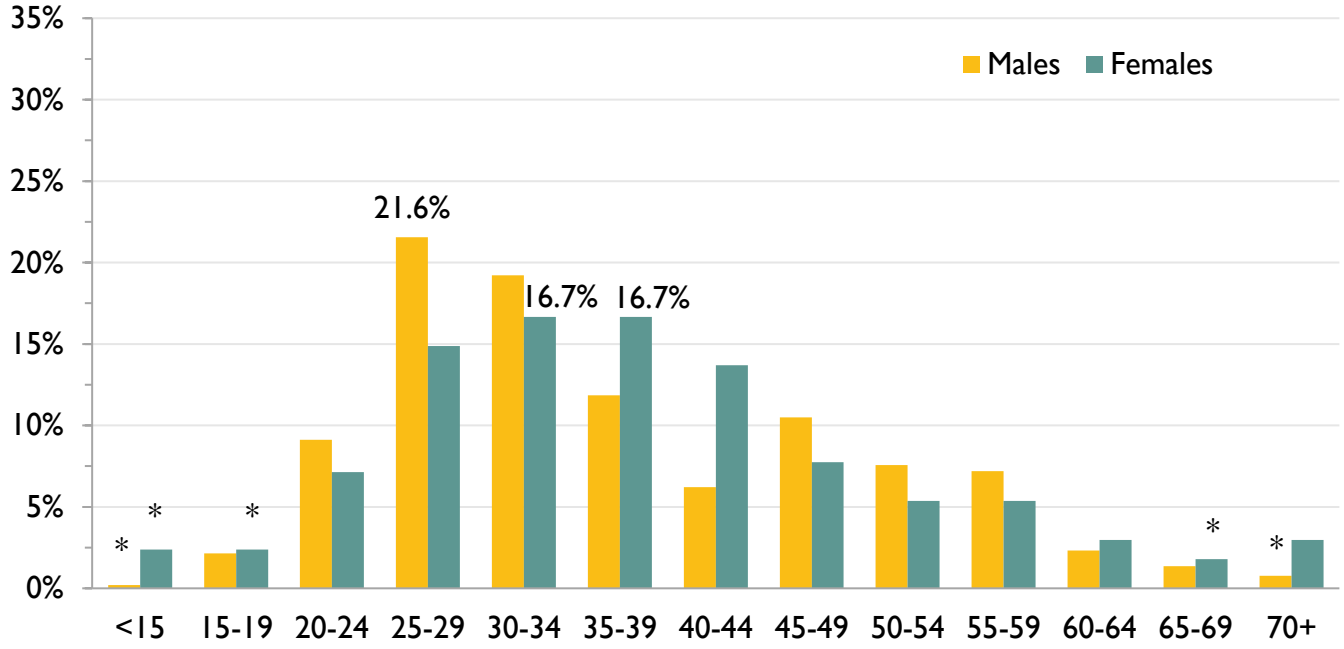


Snapshot

In 2019, the rate of first-time HIV diagnoses was highest among those aged 25-29 years (13.0 per 100,000 people) followed by those aged 30-34 years (12.6 per 100,000 people).

Notes: Data provided by Public Health Ontario Laboratory. Rates calculated using Statistics Canada population estimates for all ages, accessed 06/24/2020. Diagnoses with age not reported were excluded (less than 1%). See Appendices for more information. See Tables Supplement for underlying data.

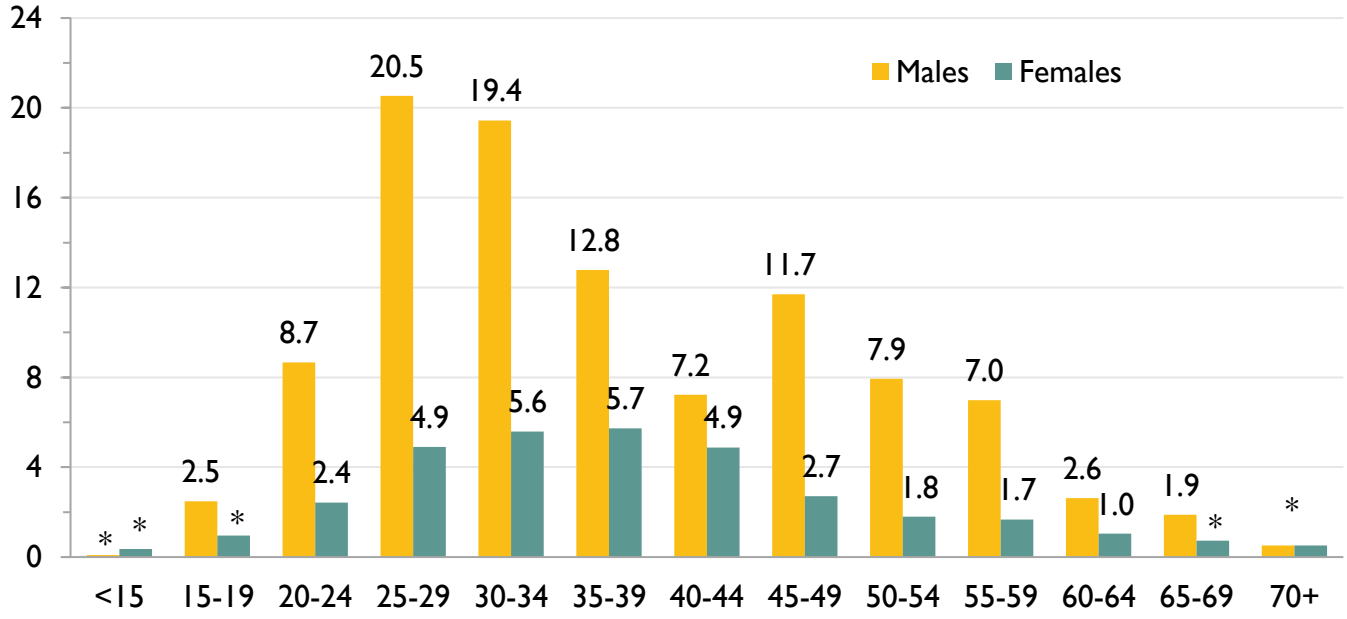
Figure 5.5 Percent of first-time HIV diagnoses by age and sex, Ontario, 2019



Snapshot

In 2019, the largest proportion of first-time HIV diagnoses among males was in those aged 25 to 29 (21.6%), and among females in those aged 30 to 34 and 35 to 39 years (both 16.7%).

Figure 5.6 Rate of first-time HIV diagnoses per 100,000 people by age and sex, Ontario, 2019



Snapshot

In 2019, the highest rate of first-time HIV diagnoses among males was in those aged 25-29 years (20.5 per 100,000 males), and among females was in those aged 35-39 years (5.7 per 100,000 females).

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Rates calculated using Statistics Canada population estimates for all ages, accessed 06/24/2020. Diagnoses with sex and age not reported were excluded (less than 1%). See Appendices for more information. See Tables Supplement for underlying data.

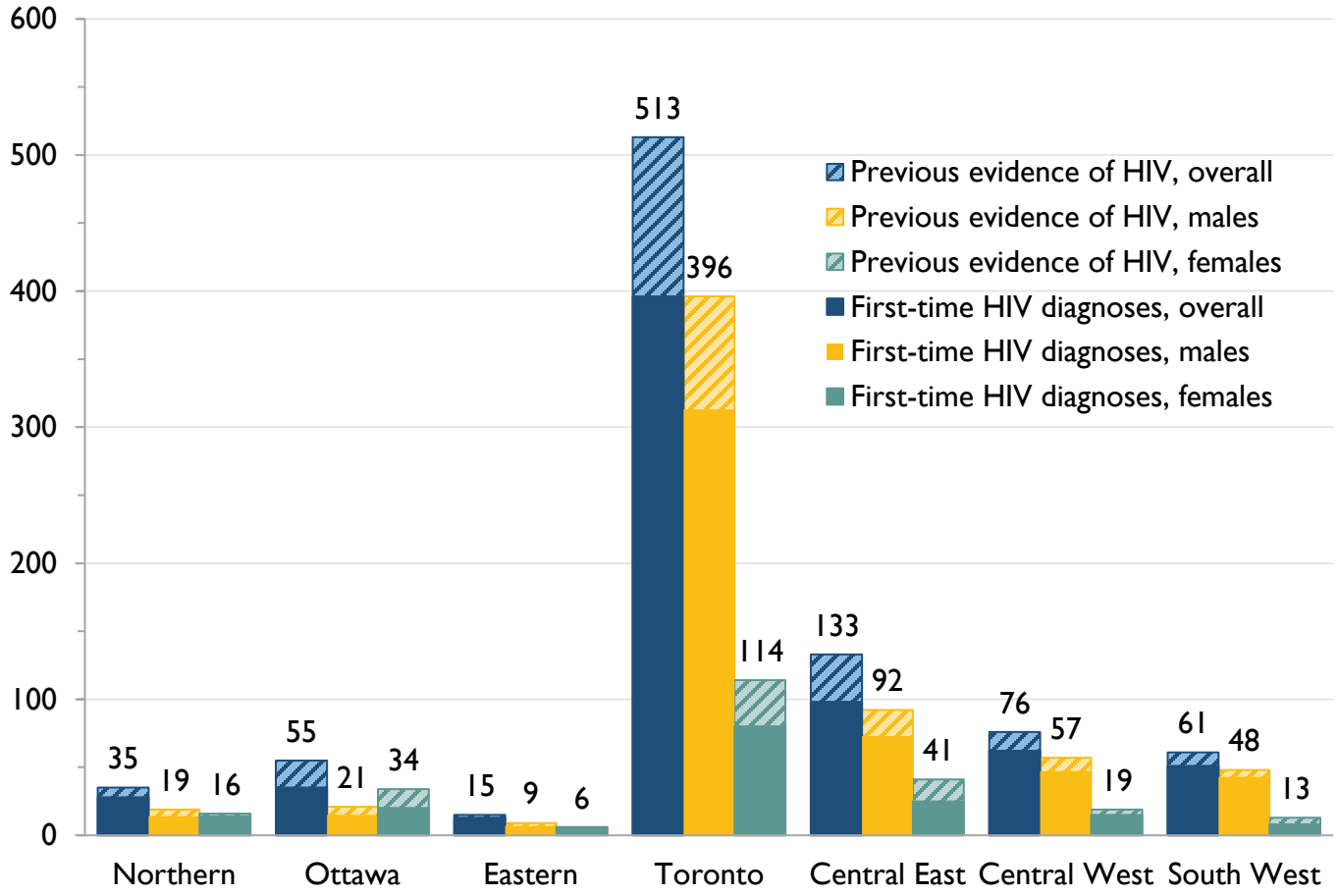
6. Overall by health region

Historically, HIV has been highly concentrated in cities in Ontario – particularly Toronto.

In 2019, Toronto region had the largest number and highest rates per 100,000 people of both positive HIV tests and first-time HIV diagnoses, overall and among both males and females. Ottawa region had the largest proportion of positive HIV tests with previous evidence of HIV (36.4%).

Between 2015 and 2019, the overall rate of first-time HIV diagnoses per 100,000 people was relatively stable in Toronto, Eastern, Central East and Central West regions and decreased in Ottawa and South West region. Rates of first-time HIV diagnoses per 100,000 people decreased among males in Ottawa, Toronto, and South West regions, and increased among females in Toronto region.

Figure 6.1 Number of positive HIV tests by health region by first-time HIV diagnoses and previous evidence of HIV, overall, males and females, Ontario, 2019



Snapshot

In 2019, Toronto region had the largest number (513) of positive HIV tests, followed by Central East (133), Central West (76), South West (61), Ottawa (55), Northern (35) and Eastern (15) regions. Ottawa region had the largest proportion of positive HIV tests with previous evidence of HIV (36.4%), followed by Central East (26.3%), Toronto (22.8%), Northern (20.0%), Central West (18.4%), South West (16.4%), and Eastern (13.3%), regions.

In 2019, among males, Toronto region had the largest number (396) of positive HIV tests, followed by Central East (92), Central West (57), South West (48), Ottawa (21), Northern (19) and Eastern (9) regions. Ottawa region had the largest proportion of positive HIV tests among males with previous evidence of HIV (28.6%), followed by Northern (26.3%), Eastern (22.3%), Toronto (21.0%), Central East (20.7%), Central West (17.5%), and South West (10.4%) regions.

In 2019, among females, Toronto region had the largest number (114) of positive HIV tests, followed by Central East (41), Ottawa (34), Central West (19), Northern (16), South West (13) and Eastern (6) regions. Ottawa region that had the largest proportion of its positive HIV tests among females with previous evidence of HIV (41.2%), followed by Central East (39.0%), South West (38.5%), Toronto (29.8%), Central West (21.1%), Northern (12.5%), and Eastern (0.0%) regions.

See **Table 6.1** below for breakdown of numbers of positive HIV tests for all regions.

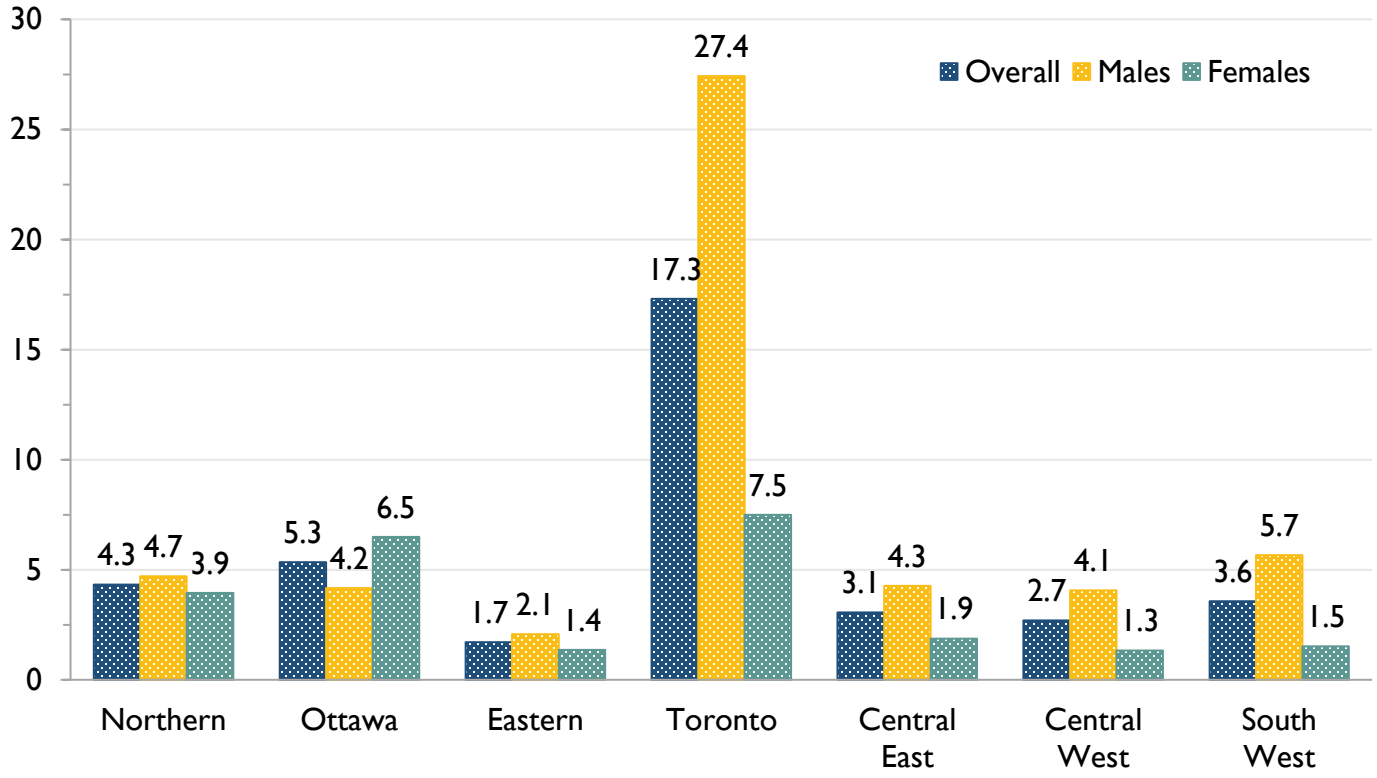
Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Table 6.1 Number of positive HIV tests by health region by first-time HIV diagnoses and previous evidence of HIV, overall, males and females, Ontario, 2019

		Northern	Ottawa	Eastern	Toronto	Central East	Central West	South West
Overall	First-time HIV diagnoses	28	35	13	396	98	62	51
	Previous evidence of HIV	7	20	2	117	35	14	10
	Total positive HIV tests	35	55	15	513	133	76	61
Males	First-time HIV diagnoses	14	15	7	313	73	47	43
	Previous evidence of HIV	5	6	2	83	19	10	5
	Total positive HIV tests	19	21	9	396	92	57	48
Females	First-time HIV diagnoses	14	20	6	80	25	15	8
	Previous evidence of HIV	<5	14	0	34	16	4	5
	Total positive HIV tests	16	34	6	114	41	19	13

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 6.2 Rate of positive HIV tests per 100,000 people by health region, males and females, Ontario, 2019

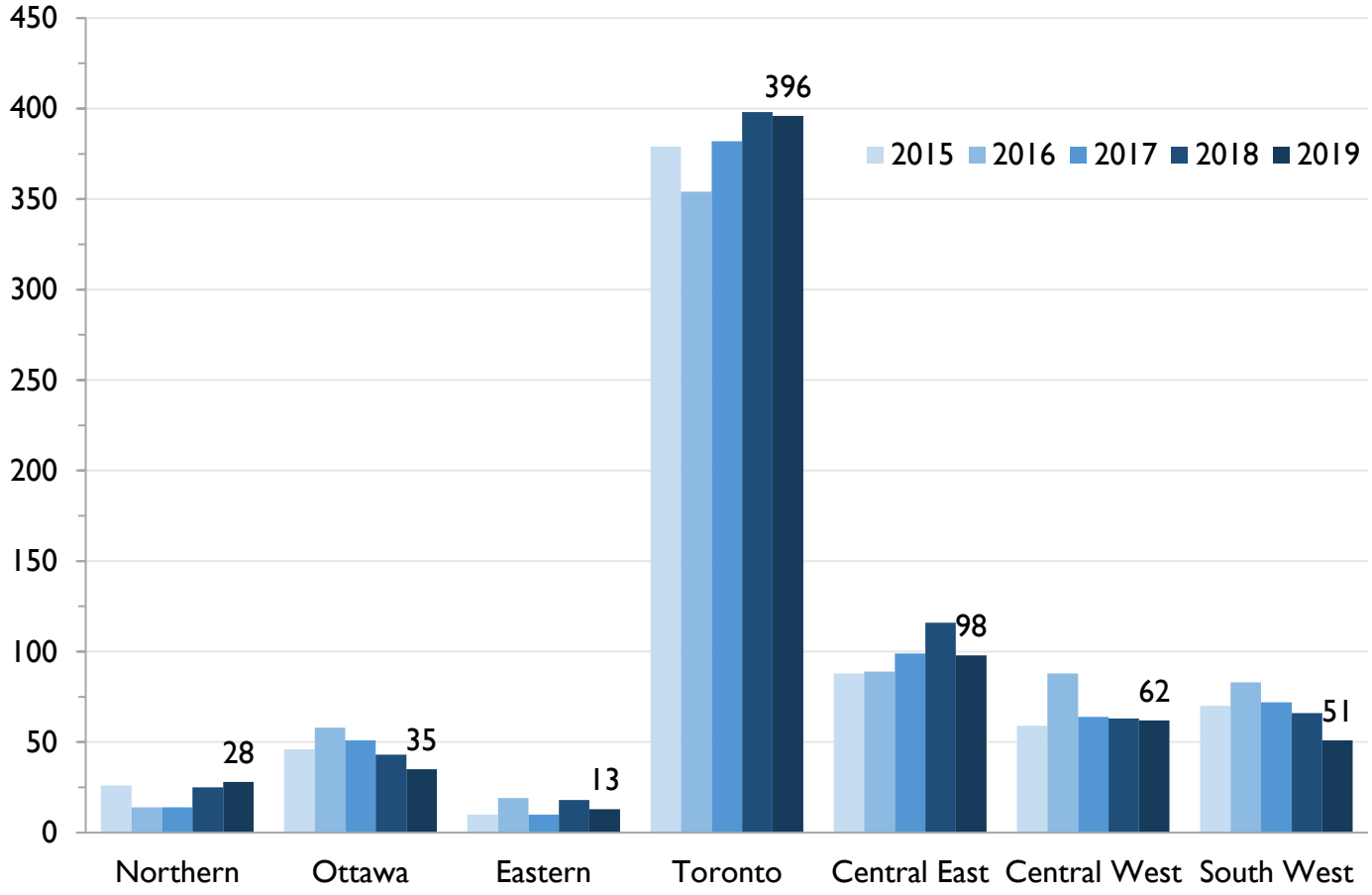


Snapshot

Positive HIV tests include first-time HIV diagnoses as well as positive tests with previous evidence of HIV. Toronto region had the highest rate of positive HIV tests per 100,000 people overall (17.3) as well as among both males (27.4) and females (7.5). Among males, Toronto region had a rate of positive HIV tests almost 5 times that of the next highest health region while among females, Toronto region had a rate 1.2 times that of the next highest health region. Among males, South West region had the second highest rate (5.7 per 100,000 males). Among females, Ottawa region had the second highest rate (6.5 per 100,000 females).

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Rates calculated using Statistics Canada population estimates for all ages, accessed 08/17/2020. Dotted bars uniquely used to depict rates of positive HIV tests. See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 6.3 Number of first-time HIV diagnoses by health region, Ontario, 2015 to 2019

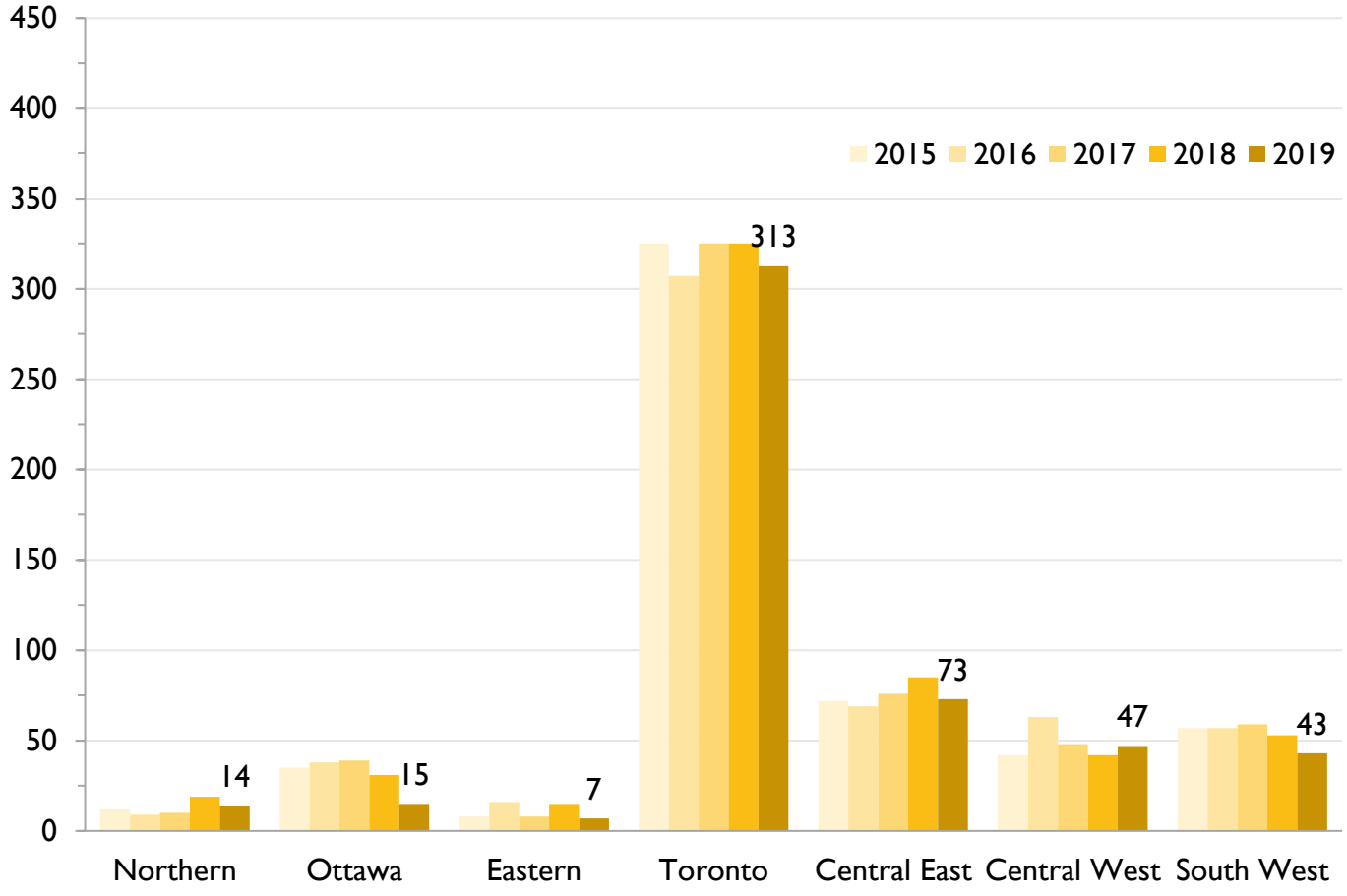


Snapshot

Between 2015 and 2019, Toronto region consistently had the largest numbers of first-time HIV diagnoses, followed by Central East region. The number of first-time HIV diagnoses was relatively stable over time in all regions except Ottawa, where the number decreased year over year from 58 in 2016 to 35 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 6.4 Number of first-time HIV diagnoses by health region, males, Ontario, 2015 to 2019

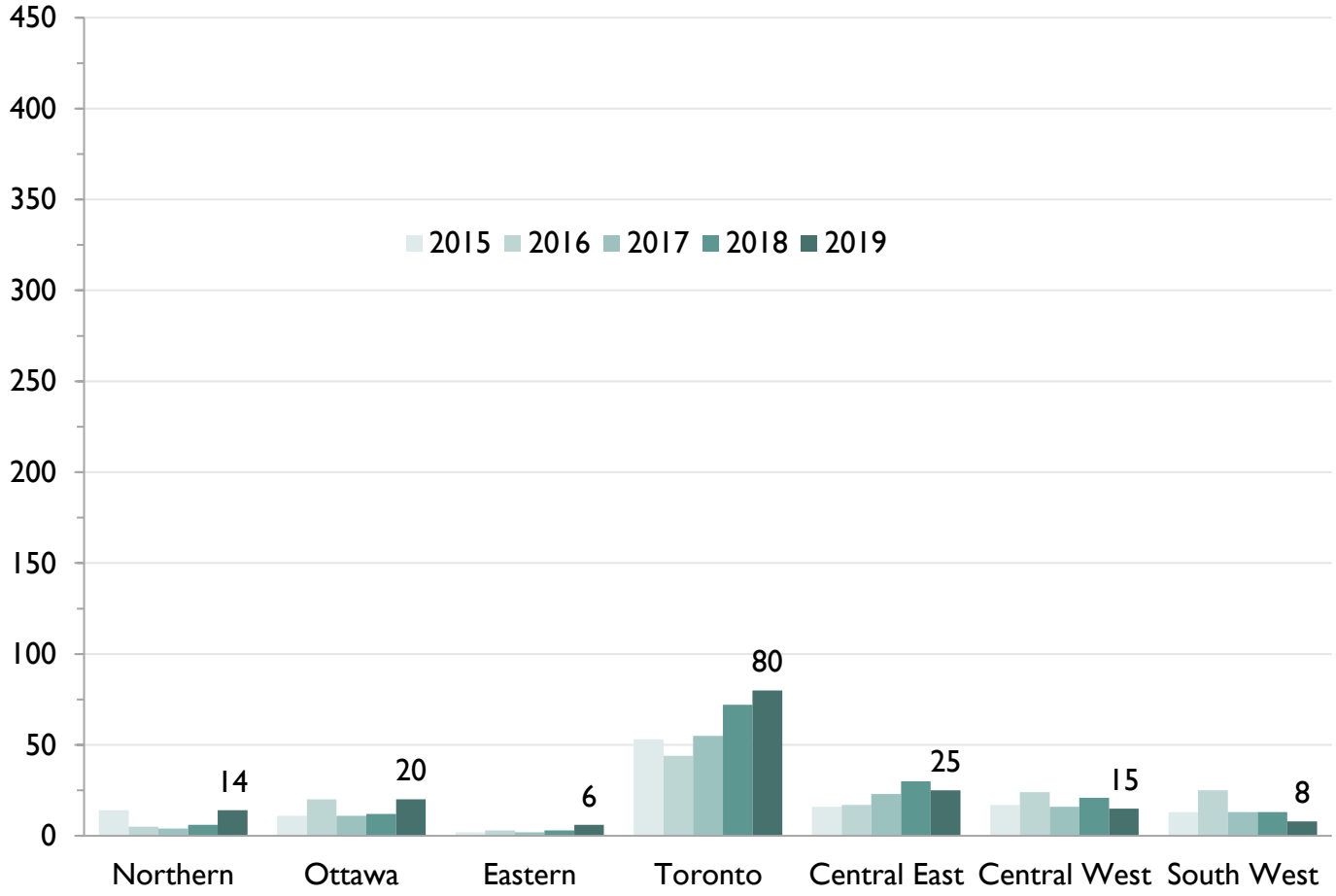


Snapshot

Between 2015 and 2019, Toronto region consistently had the largest numbers of first-time HIV diagnoses among males, followed by Central East region. The number of first-time HIV diagnoses among males was relatively stable over time in all regions except Ottawa, where the number decreased from 35 in 2015 to 15 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 6.5 Number of first-time HIV diagnoses by health region, females, Ontario, 2015 to 2019

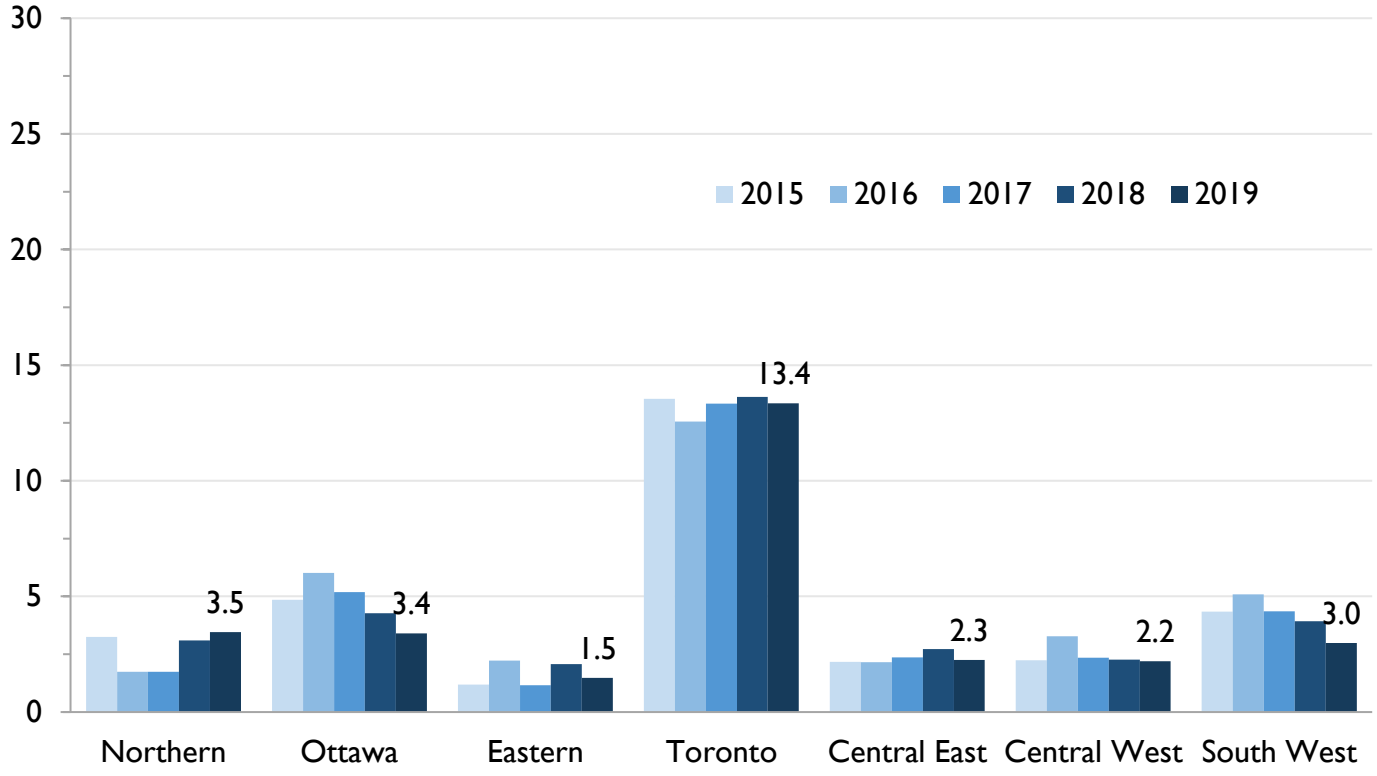


Snapshot

Between 2015 and 2019, Toronto region consistently had the largest numbers of first-time HIV diagnoses among females, followed by Central East region, except in 2016 when South West region had the second largest number. The number of first-time HIV diagnoses among females was relatively stable over time in all regions except Toronto, where the number increased from 53 in 2015 to 80 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 6.6 Rate of first-time HIV diagnoses per 100,000 people by health region, Ontario, 2015 to 2019

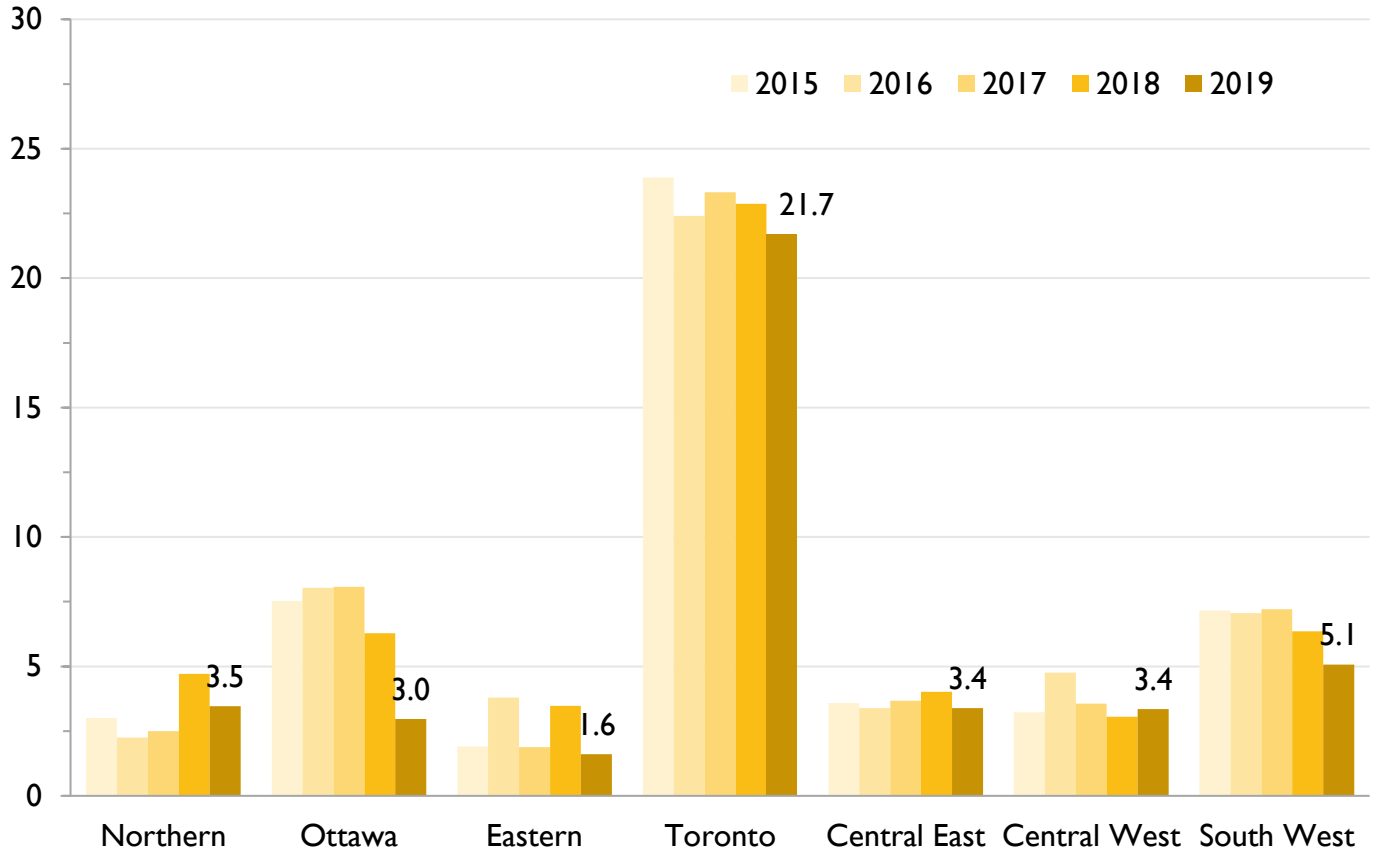


Snapshot

Between 2015 and 2019, the rate of first-time HIV diagnoses per 100,000 people has consistently been highest in Toronto region. Ottawa region had the second highest rate between 2015 and 2018, while the Northern region had the second highest rates in 2019. The rate of first-time HIV diagnoses per 100,000 people was relatively stable over time in Toronto, Eastern, Central East and Central West regions and decreased in Ottawa and South West regions.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Rates calculated using Statistics Canada population estimates for all ages, accessed 08/17/2020. See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 6.7 Rate of first-time HIV diagnoses per 100,000 people by health region, males, Ontario, 2015 to 2019

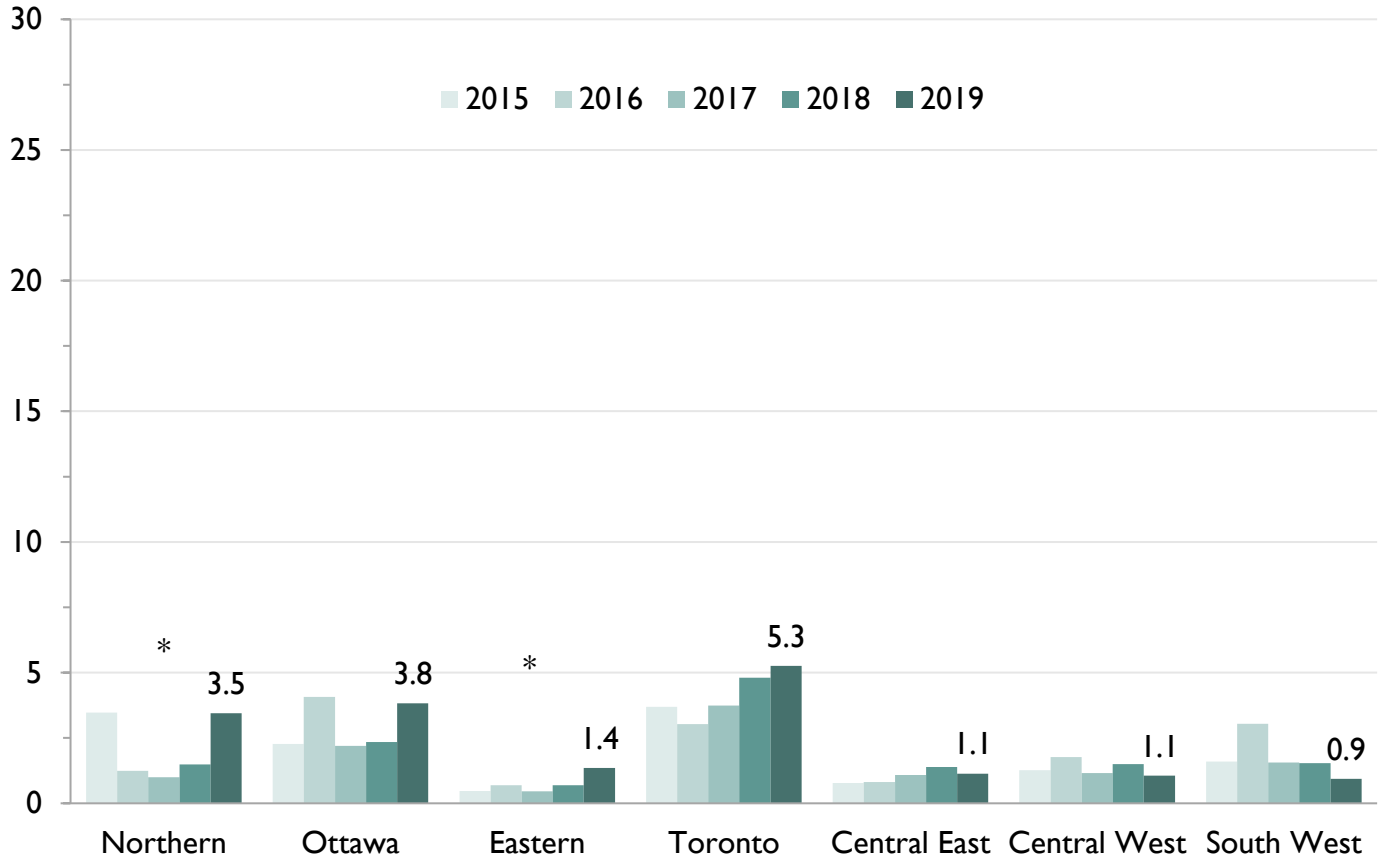


Snapshot

Between 2015 and 2019, the rate of first-time HIV diagnoses per 100,000 people among males has consistently been highest in Toronto region, followed by Ottawa region except in 2018 and 2019 when South West region had the second highest rate. The rate of first-time HIV diagnoses per 100,000 people decreased between 2015 and 2019 among males in Ottawa, Toronto, and South West regions and remained relatively stable in Central East and Central West regions.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Rates calculated using Statistics Canada population estimates for all ages, accessed 08/17/2020. See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 6.8 Rate of first-time HIV diagnoses per 100,000 people by health region, females, Ontario, 2015 to 2019



Snapshot

Between 2015 and 2019, the rate of first-time HIV diagnoses per 100,000 people among females has consistently been highest in Toronto region, followed by Ottawa region except in 2016 when Ottawa region had the highest rate (4.1) and Toronto and South West regions had the second highest rate (both 3.0). Compared to 2018, in 2019, the rate of first-time HIV diagnoses per 100,000 people among females increased in the Toronto, Northern and Ottawa regions and decreased in the Central East, Central West and South West regions.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Rates calculated using Statistics Canada population estimates for all ages, accessed 08/17/2020. See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Priority Populations

The Ontario Priority Populations for HIV include gay, bisexual and other men who have sex with men (GBMSM), people who are African, Caribbean or Black (ACB), people who use injection drugs (PWID), Indigenous Peoples, and Women* (women who are a part of a priority population or face systemic risks of HIV). Each population is uniquely defined by indicators of HIV risk factors, race/ethnicity, country of birth, and/or sex on the HIV test requisition and LEP forms. Positive HIV tests that have the defining indicators reported are assigned to a priority population, where applicable. As indicators of systemic risk of HIV are not available in the HIV surveillance data, the priority population Women* cannot be defined. Instead, we use "Women", which is defined as those diagnoses that report 'Female' or 'Trans female' sex.

The priority population categories are not mutually exclusive: a person can be a member of multiple priority populations. In 2019, among the first-time HIV diagnoses where the status (yes or no) of each priority population was reported, nearly two thirds (64.0%) of first-time HIV diagnoses were attributed to GBMSM, 27.0% to ACB, 24.6% to Women, 12.2% to PWID, and 4.9% to Indigenous Peoples. Of the 687 first-time HIV diagnoses, 100 had inadequate information and could not be attributed to any priority population and 65 were reported as not being part of any priority population (i.e. males who are not ACB or Indigenous and have an HIV risk factor other than sexual contact with men or injection drug use [IDU]).

7. Priority populations overview

Figure 7.1 Number of positive HIV tests by first-time HIV diagnoses and previous evidence of HIV, within each priority population (where each priority population status was reported; *not mutually exclusive*), Ontario, 2019

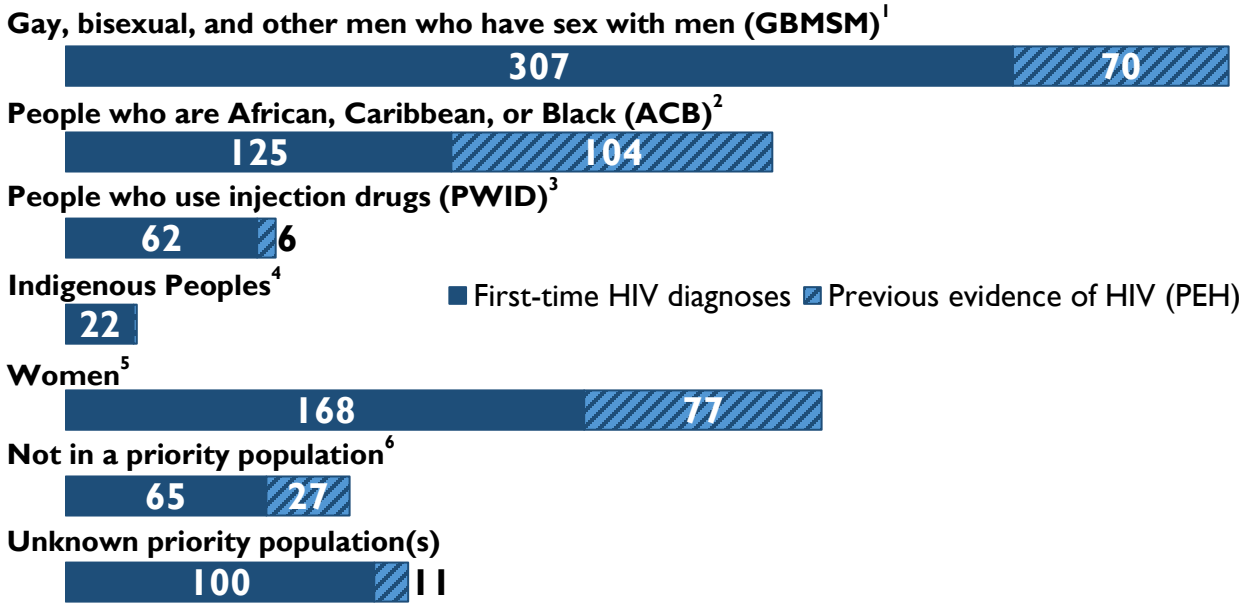
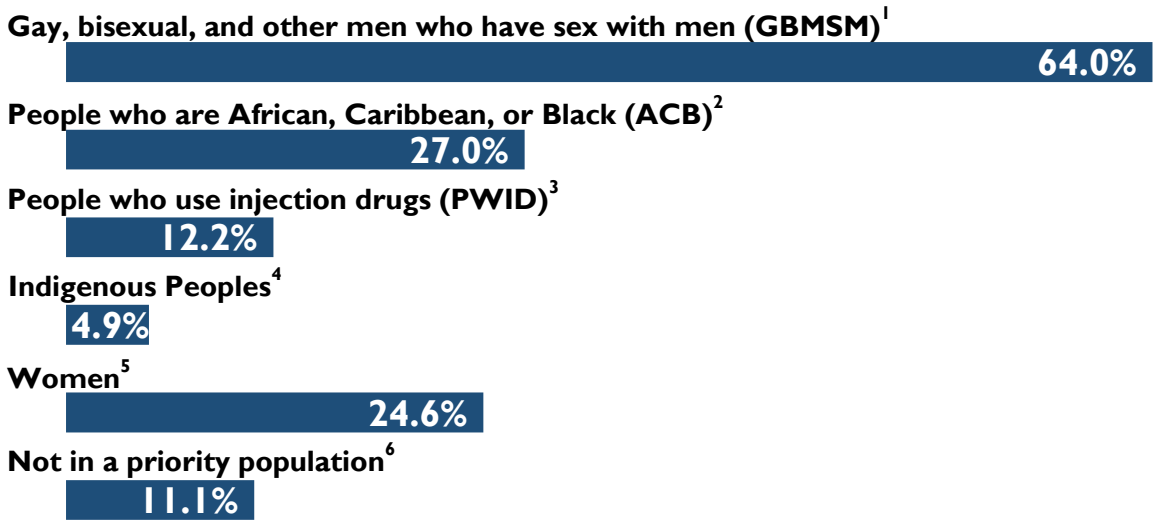


Figure 7.2 Percent of first-time HIV diagnoses by priority population (where each priority population status was reported; *not mutually exclusive*), Ontario, 2019



Notes: Data provided by Public Health Ontario Laboratory. Priority populations are not mutually exclusive and therefore proportions do not sum to 100%. 1. Where HIV exposure category was reported (not reported for 26.6% of positive HIV tests and 16.6% of first-time HIV diagnoses). 2. Where ACB status was reported (not reported for 28.7% of positive HIV tests and 32.6% of first-time HIV diagnoses). 3. Where PWID status was reported (not reported for 22.2% of positive HIV tests and 26.1% of first-time HIV diagnoses). 4. Where race/ethnicity was reported (not reported for 30.7% of positive HIV tests and 34.4% of first-time HIV diagnoses). 5. Where sex was reported (not reported for less than 1% of positive HIV tests and first-time HIV diagnoses). 6. Where status of at least one priority population was reported (not reported for 12.4% of positive HIV tests and 14.6% of first-time HIV diagnoses). See Appendices and specifically Priority populations for more information. See Tables Supplement for underlying data.

8. Gay, bisexual, and other men who have sex with men (GBMSM)

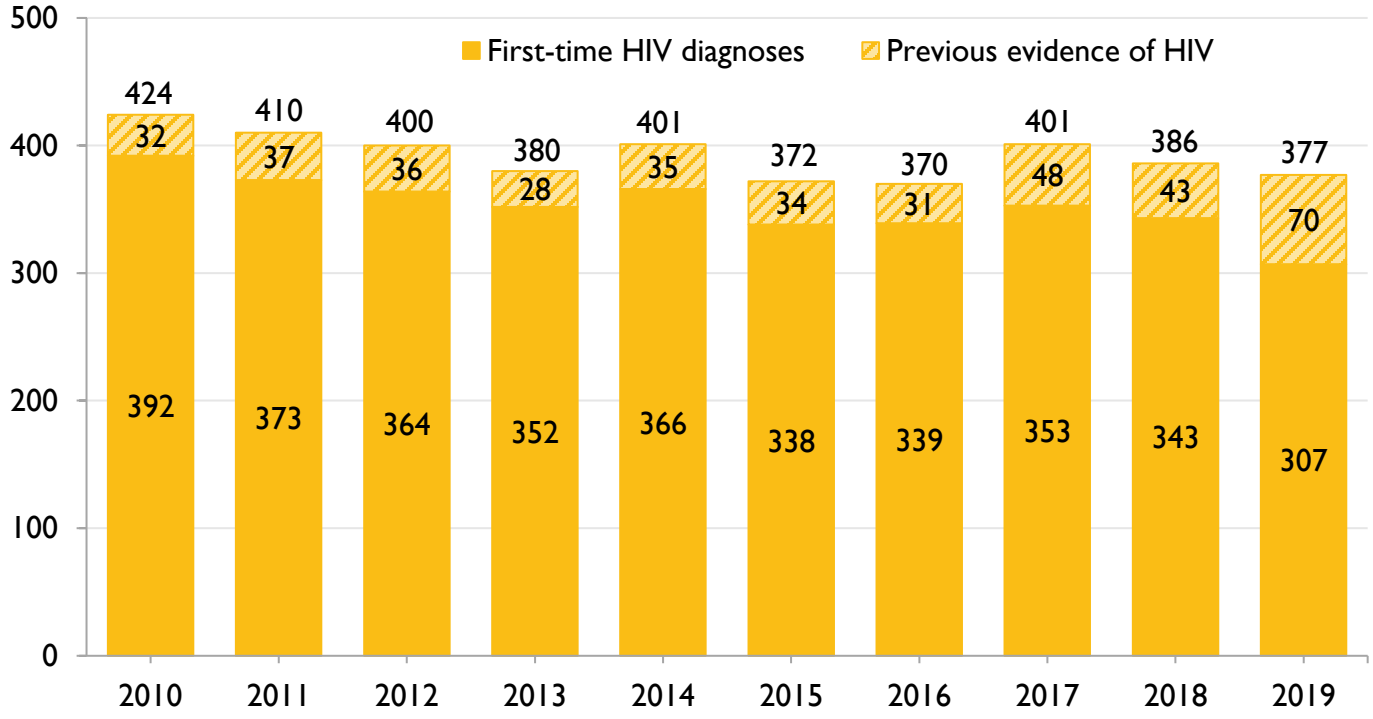
8.a. GBMSM overview

Diagnoses attributed to GBMSM are defined by having reported male or transgender male sex, and sexual contact with men as an HIV risk factor. In 2019, of the 377 positive HIV tests attributed to GBMSM in Ontario, 307 were first-time HIV diagnoses and 70 had previous evidence of HIV. The proportion of positive HIV tests with previous evidence of HIV – 18.6% in 2019 – has increased since 2016.

In 2019, GBMSM accounted for 64.0% of first-time HIV diagnoses, and 79.9% of first-time HIV diagnoses among males, with little change since 2010.

Note: *Counts of positive HIV tests and first-time HIV diagnoses among GBMSM may be underestimated, as between 2010 and 2019, the information required to assign GBMSM status was not reported for an average of 14.9% of positive HIV tests, and we estimate between 4.5% and 5.4% of first-time HIV diagnoses among males to have an uncaptured previous HIV diagnosis. Data shown are where GBMSM status was reported.*

Figure 8.1 Number of positive HIV tests, by first-time HIV diagnoses and previous evidence of HIV, GBMSM, Ontario, 2010 to 2019



Snapshot

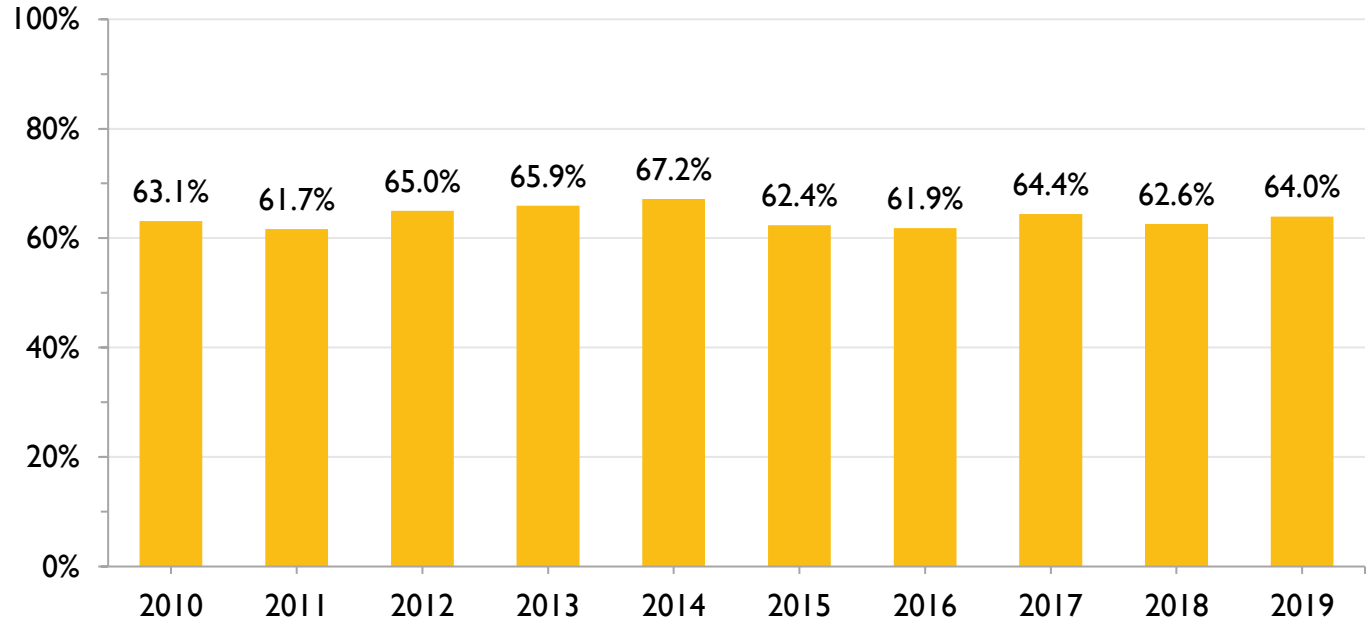
The number of first-time HIV diagnoses attributed to GBMSM averaged 358 between 2010 and 2018, decreasing to 307 in 2019.

The proportion of positive HIV tests among GBMSM with previous evidence of HIV was fairly stable between 2010 and 2016 (average: 8.5%), then increased, reaching 18.6% in 2019.

Note: *Counts of positive HIV tests and first-time HIV diagnoses among GBMSM may be underestimated, as between 2010 and 2019, the information required to assign GBMSM status was not reported for an average of 14.9% of positive HIV tests, and we estimate between 4.5% and 5.4% of first-time HIV diagnoses among males to have an uncaptured previous HIV diagnosis.*

Notes: Data provided by Public Health Ontario Laboratory. Positive HIV tests where GBMSM status was not reported were excluded (average of 14.9% of tests per year). See Appendices for more information. See Tables Supplement for underlying data.

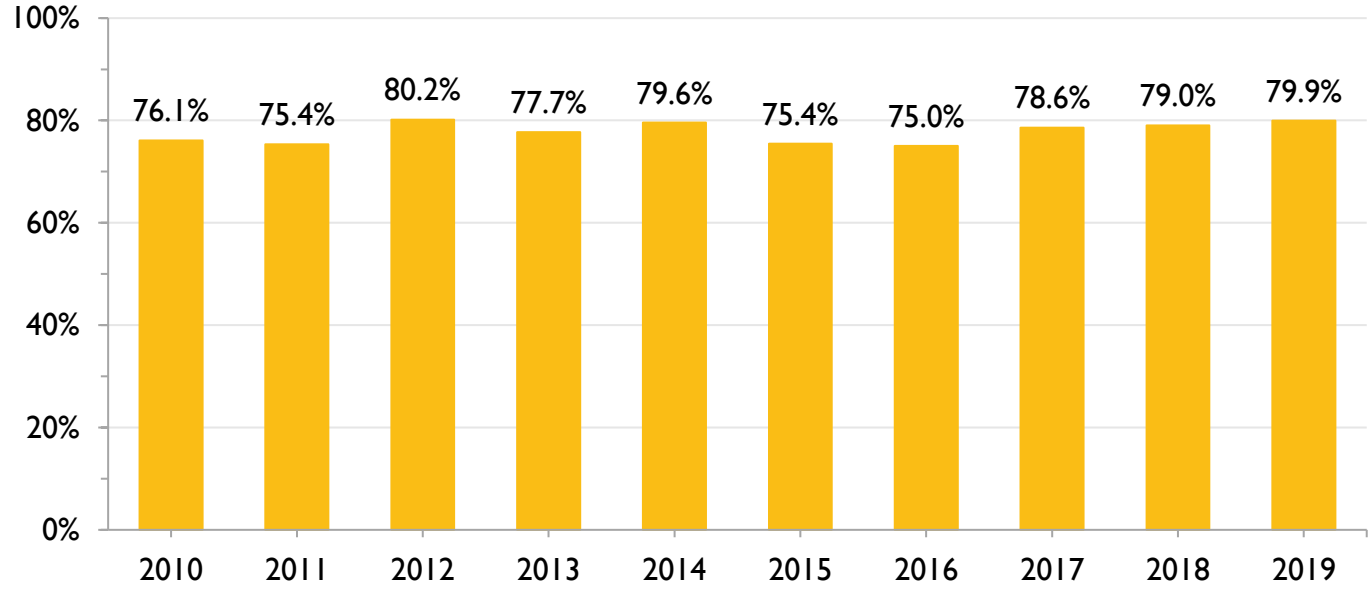
Figure 8.2 Percent of all first-time HIV diagnoses attributed to GBMSM (where GBMSM status reported), Ontario, 2010 to 2019



Snapshot

Between 2010 and 2019, the proportion of first-time HIV diagnoses attributed to GBMSM was fairly stable, averaging 63.8%, and was 64.0% in 2019.

Figure 8.3 Percent of first-time HIV diagnoses among males attributed to GBMSM (where GBMSM status reported), Ontario, 2010 to 2019



Snapshot

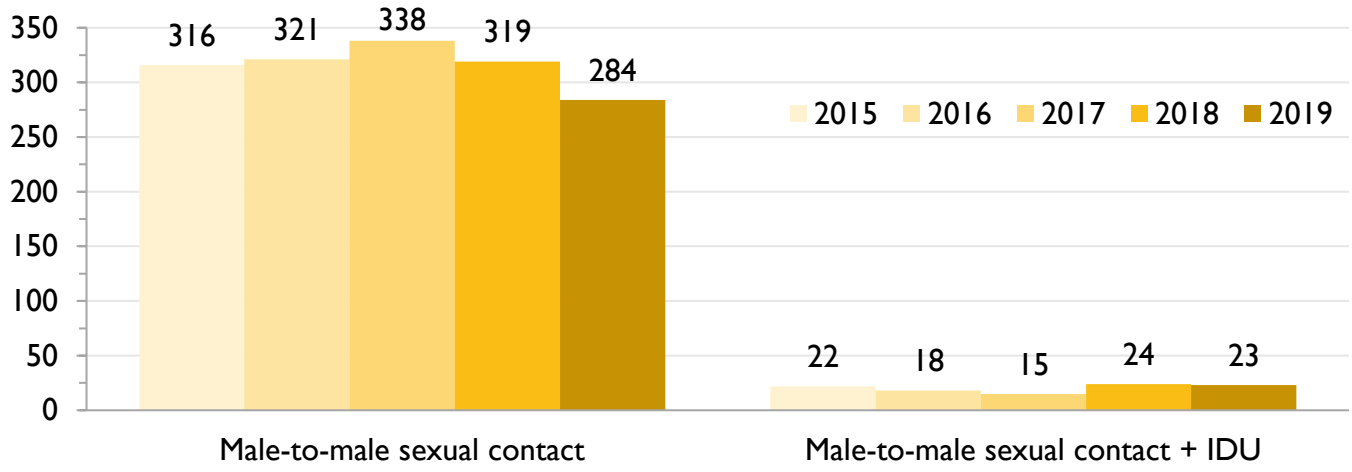
Between 2010 and 2019, the proportion of first-time HIV diagnoses among males attributed to GBMSM was fairly stable, averaging 77.7%, and was 79.9% in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where HIV exposure category was not reported were excluded (yearly average of 26.4% of diagnoses overall and 22.5% of diagnoses among males). See Appendices for more information. See Tables Supplement for underlying data.

8.b. GBMSM by HIV exposure category

GBMSM include two HIV exposure categories: male-to-male sexual contact, and male-to-male sexual contact + IDU.

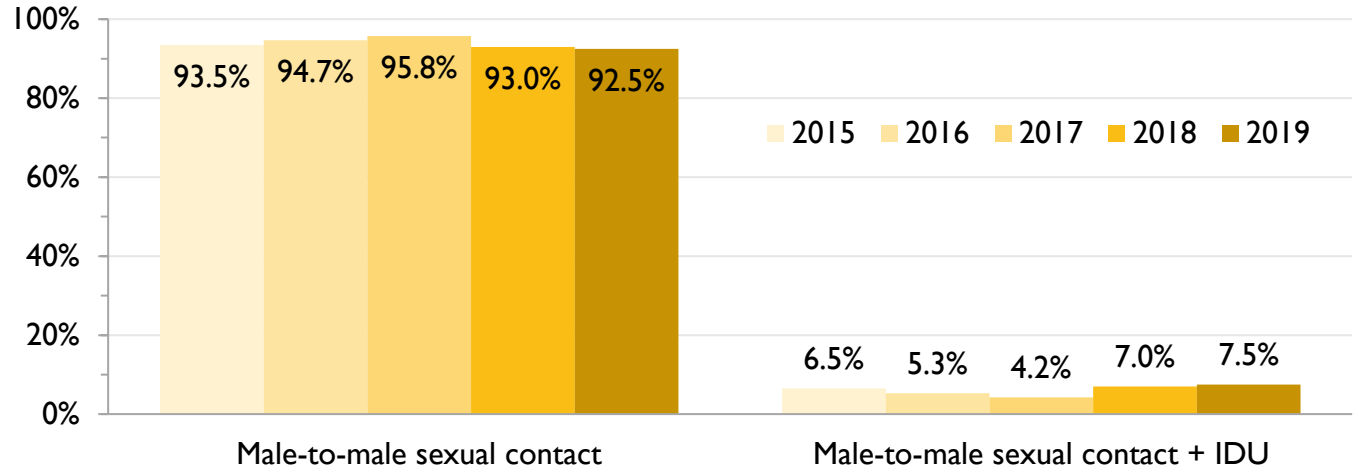
Figure 8.4 Number of first-time HIV diagnoses among GBMSM by HIV exposure category, Ontario, 2015 to 2019



Snapshot

Between 2015 and 2019, male-to-male sexual contact accounted for the largest number of first-time HIV diagnoses among GBMSM. In 2019, male-to-male sexual contact was reported for 284 first-time HIV diagnoses among GBMSM and 23 reported male-to-male sexual contact + IDU.

Figure 8.5 Percent of first-time HIV diagnoses among GBMSM by HIV exposure category (where reported), Ontario, 2015 to 2019



Snapshot

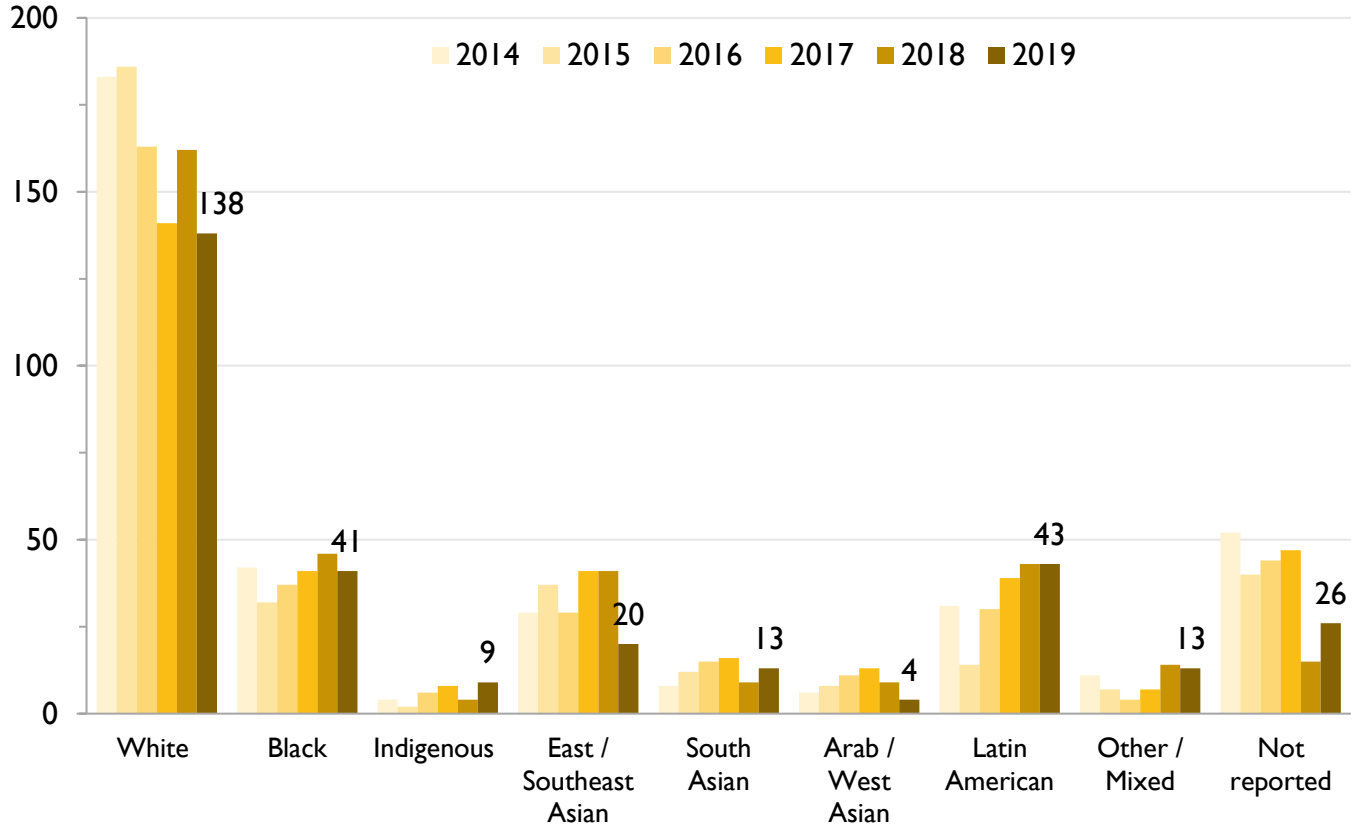
Between 2015 and 2019, the most frequently reported exposure category among first-time HIV diagnoses in GBMSM was male-to-male sexual contact (92.5% in 2019) and this trend was stable over time. Over that same time period, between 4.2% and 7.5% of first-time HIV diagnoses in GBMSM reported their exposure category as male-to-male sexual contact + IDU.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where GBMSM status was not reported were excluded (average of 15.2% of diagnoses per year). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information.See Table 5.3 for underlying data.

8.c. GBMSM by race/ethnicity

In 2019, the largest proportion of first-time HIV diagnoses among GBMSM was in white GBMSM (49.1%), followed by Latin American (15.3%) and Black (14.6%) GBMSM. The number of first-time HIV diagnoses in white GBMSM decreased from 183 in 2014 to 138 in 2019, while the number of GBMSM in other races/ethnicities did not see a similar decrease.

Figure 8.6 Number of first-time HIV diagnoses by race/ethnicity, GBMSM, Ontario, 2014 to 2019



Snapshot

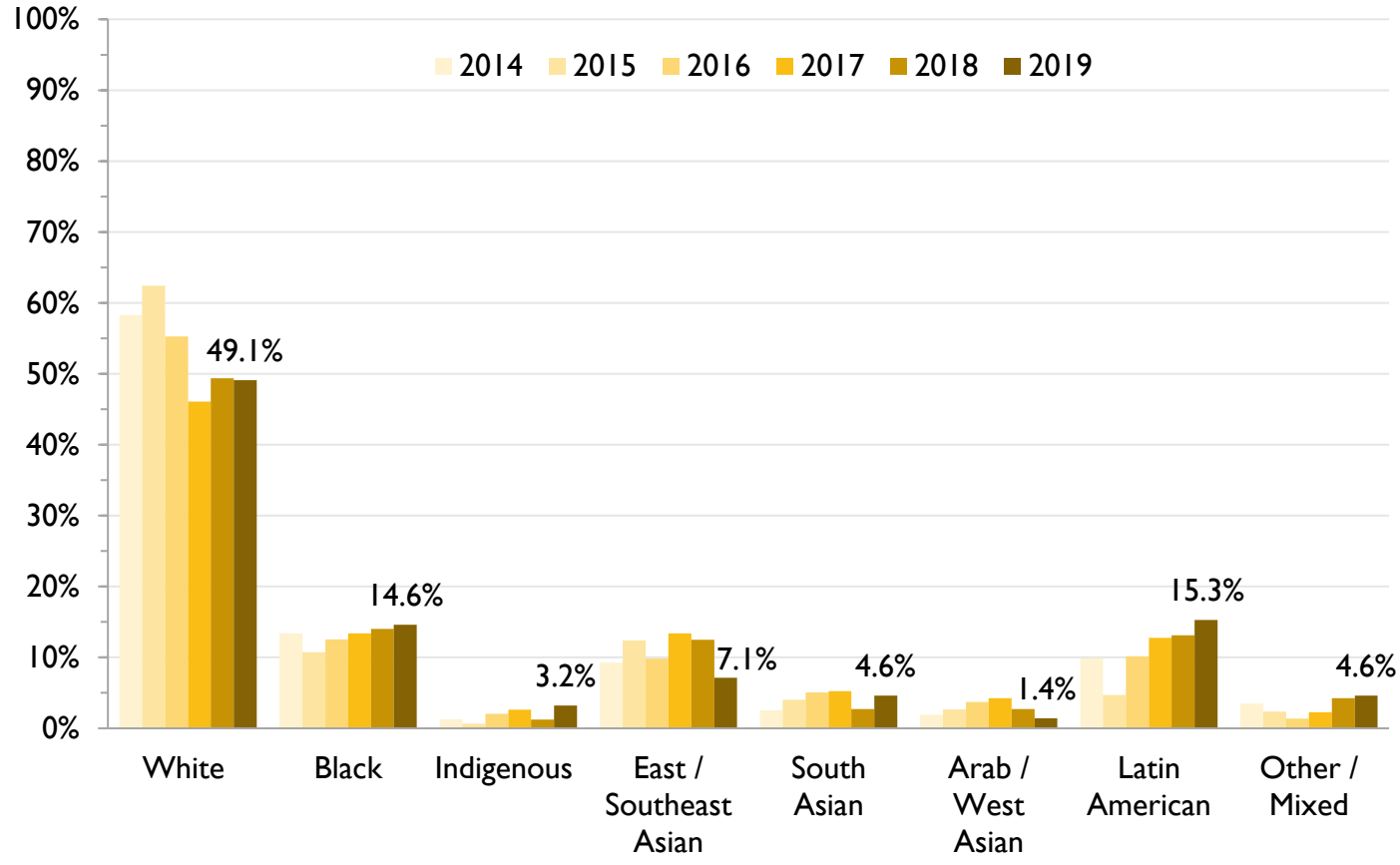
In 2019, 26 (out of 307) first-time HIV diagnoses in GBMSM had no reported race/ethnicity.

Among the 281 first-time HIV diagnoses in GBMSM with a reported race/ethnicity, 138 were white in white GBMSM, 43 in Latin American GBMSM, 41 in Black GBMSM, 20 in East/Southeast Asian GBMSM, 13 in South Asian GBMSM, 13 in GBMSM of other/mixed races/ethnicities, 9 in Indigenous GBMSM, and 4 in Arab/West Asian GBMSM.

Between 2014 and 2019, white GBMSM accounted for the largest number of first-time HIV diagnoses among GBMSM.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where GBMSM status was not reported were excluded (average of 14.7% of diagnoses per year). See Appendices for more information. See Tables Supplement for underlying data.

Figure 8.7 Percent of first-time HIV diagnoses by race/ethnicity (where reported), GBMSM, Ontario, 2014 to 2019



Snapshot

Between 2014 and 2019, white GBMSM accounted for the largest proportion of first-time HIV diagnoses among GBMSM.

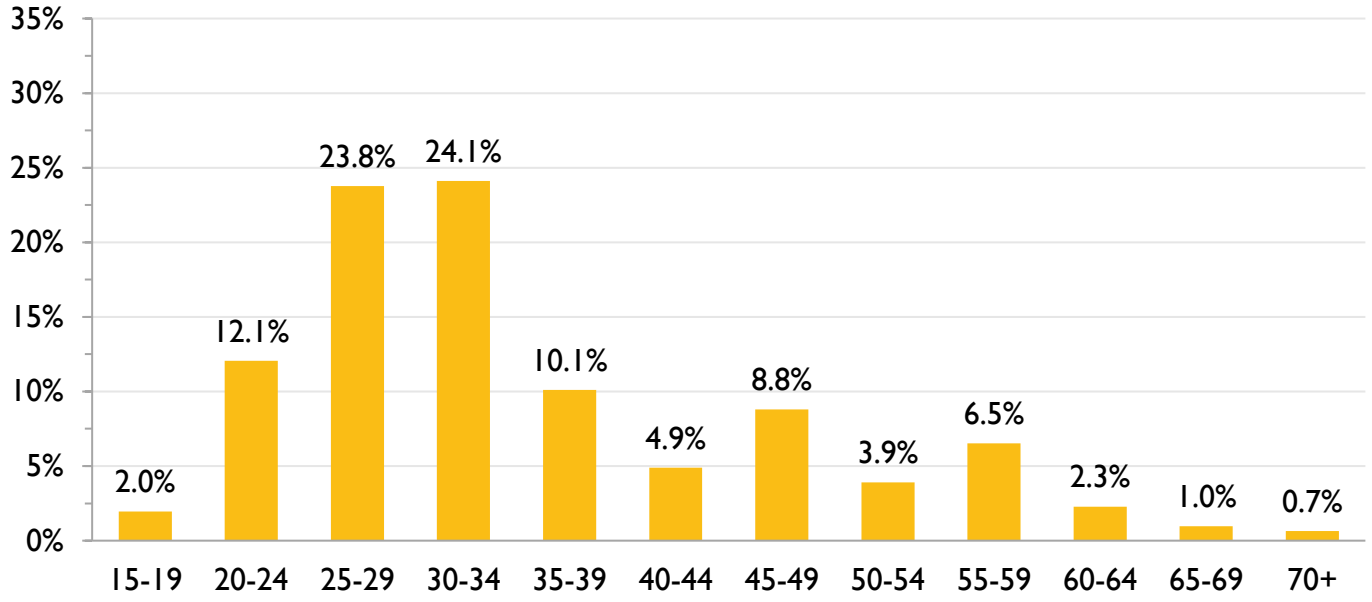
In 2019, among the 281 first-time HIV diagnoses in GBMSM with a reported race/ethnicity, white GBMSM accounted for the largest proportion (49.1%), followed by Latin American (15.3%), Black (14.6%), and East/Southeast Asian GBMSM (7.1%). Indigenous, South Asian, Arab/West Asian and GBMSM of other/mixed races/ethnicities each accounted for less than 5% of first-time HIV diagnoses among GBMSM.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where GBMSM status was not reported were excluded (average of 14.7% of diagnoses per year). Diagnoses where GBMSM status was reported but race/ethnicity was not reported were excluded (average of 10.9% of diagnoses per year, where GBMSM status reported). See Appendices for more information. See Tables Supplement for underlying data.

8.d. GBMSM by age

In 2019, nearly half (47.9%) of first-time HIV diagnoses among GBMSM were among those aged 25-34.

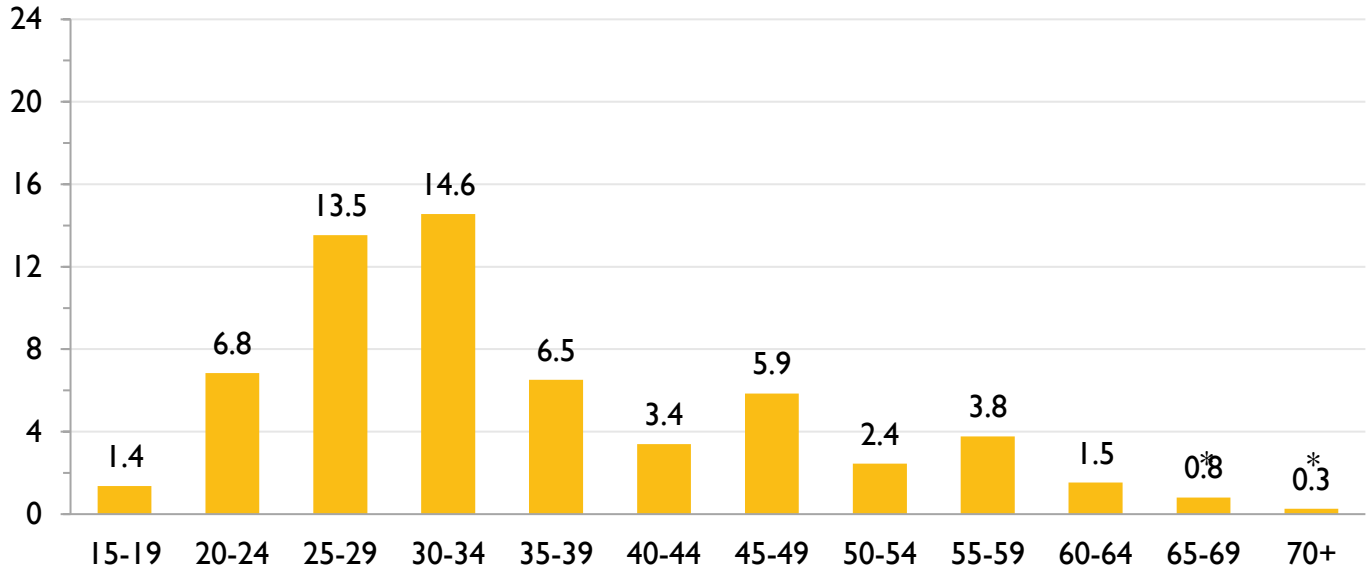
Figure 8.8 Percent of first-time HIV diagnoses by age, GBMSM, Ontario, 2019



Snapshot

In 2019, GBMSM aged 30-34 years accounted for the largest proportion of first-time HIV diagnoses among GBMSM (24.1%), followed by GBMSM aged 25-29 (23.8%).

Figure 8.9 Rate of first-time HIV diagnoses per 100,000 males by age, GBMSM, Ontario, 2019



Snapshot

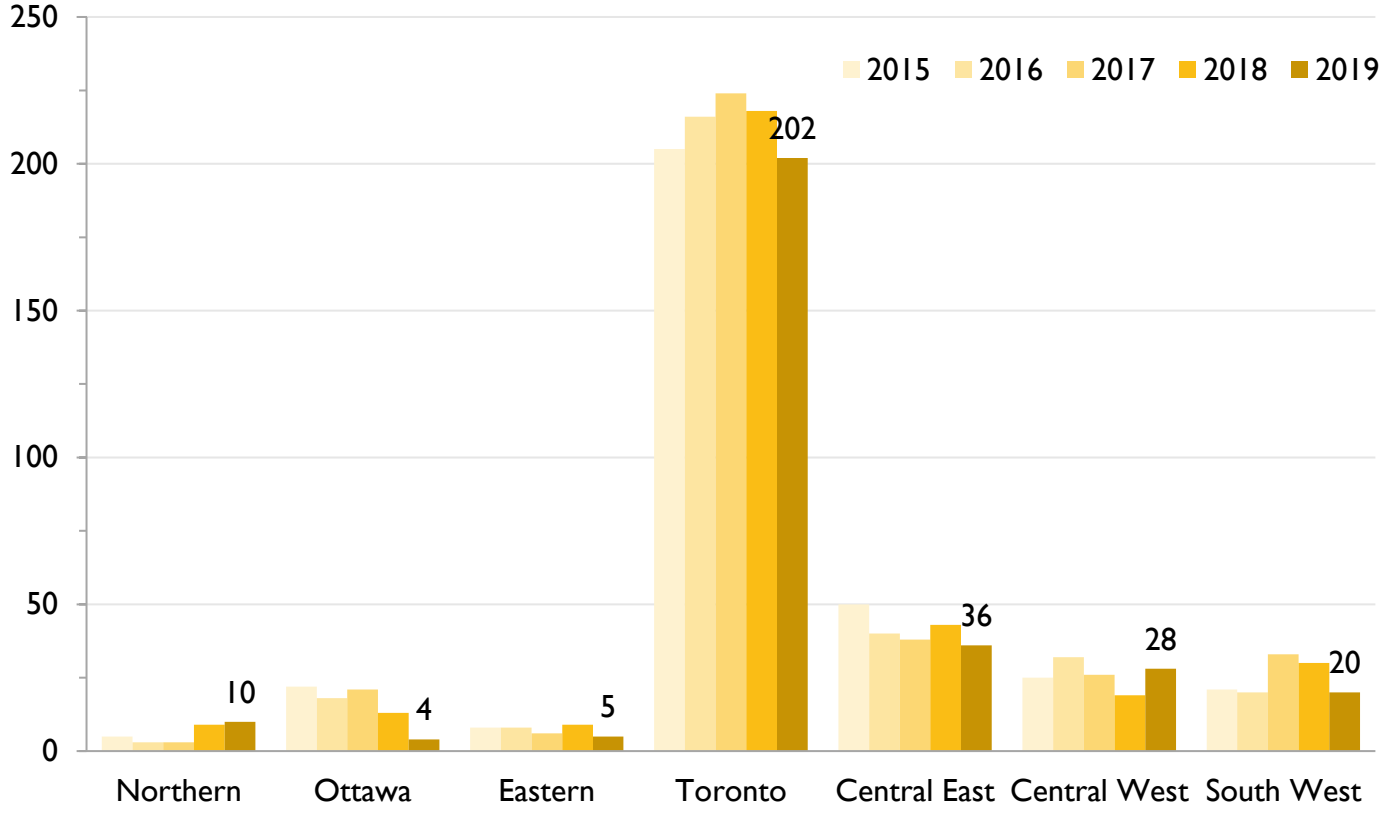
In 2019, the rate of first-time HIV diagnoses per 100,000 males among GBMSM was highest among those aged 30-34 years (14.6) followed by those aged 25-29 years (13.5).

Notes: Data provided by Public Health Ontario Laboratory. Rates calculated using Statistics Canada population estimates for all ages, accessed 06/24/2020. Diagnoses with age not reported were excluded (less than 1%). Diagnoses where GBMSM status was not reported were excluded (16.6% of diagnoses). See Appendices for more information. See Tables Supplement for underlying data.

8.e. GBMSM by health region

In 2019, Toronto region had the largest proportion of first-time HIV diagnoses among GBMSM (66.2%), followed by Central East (11.8%), and Central West (9.2%) regions. Eastern region had the largest proportion of its first-time HIV diagnoses among males attributed to GBMSM (83.3%), followed by Toronto (81.1%), Northern (71.4%), and Central West (66.7%) regions. The number of first-time HIV diagnoses attributed to GBMSM in Ottawa region decreased from 22 in 2015 to 4 in 2019.

Figure 8.10 Number of first-time HIV diagnoses by health region, GBMSM, Ontario, 2015 to 2019



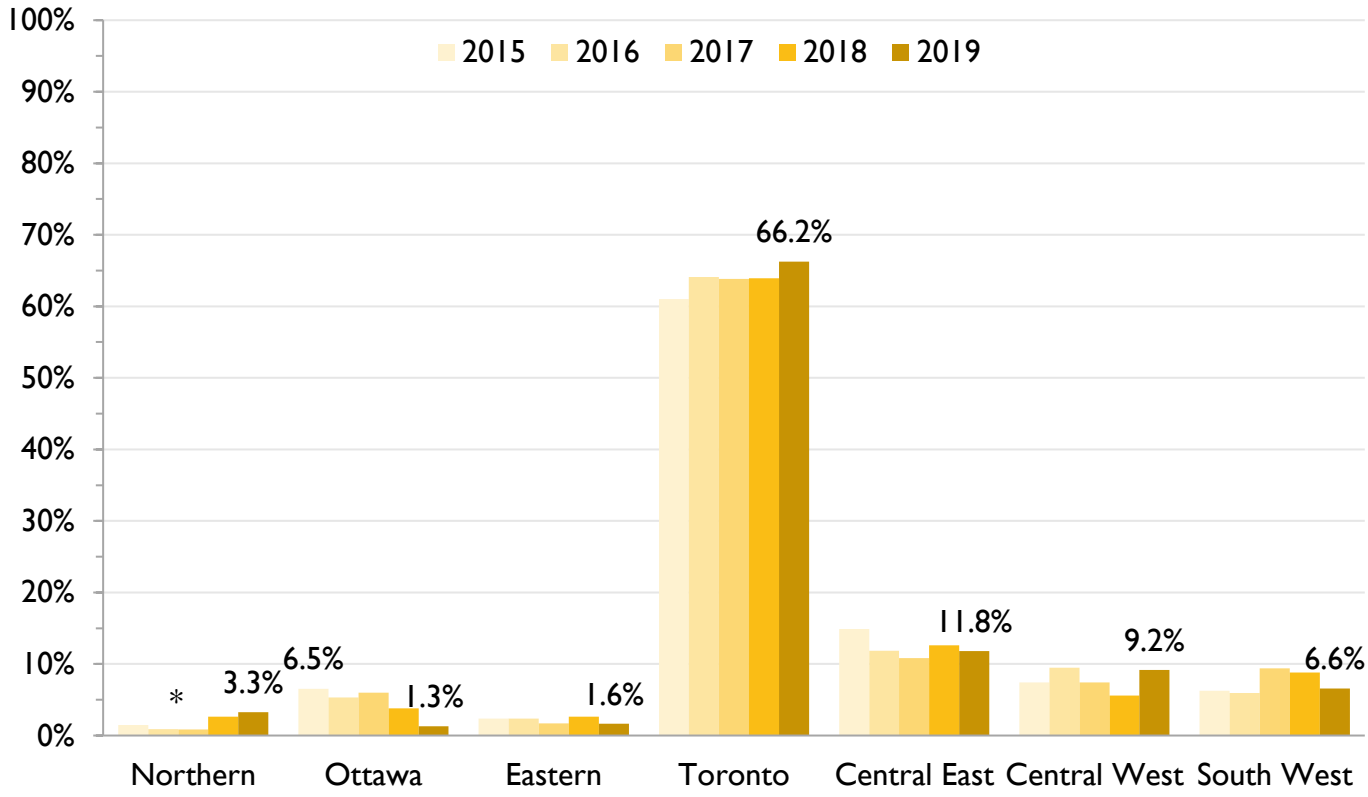
Snapshot

In 2019, Toronto region had the largest number of first-time HIV diagnoses among GBMSM (202), followed by Central East (36), Central West (28), South West (20), Northern (10), and Eastern (5) regions; Ottawa region had 4.

Between 2015 and 2019, Toronto region had the largest number of first-time HIV diagnoses among GBMSM. The number of first-time HIV diagnoses among GBMSM in Ottawa region decreased from 22 in 2015 to 4 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where GBMSM status was not reported were excluded (average of 15.2% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 8.11 Percent of first-time HIV diagnoses across health regions, GBMSM, Ontario, 2015 to 2019



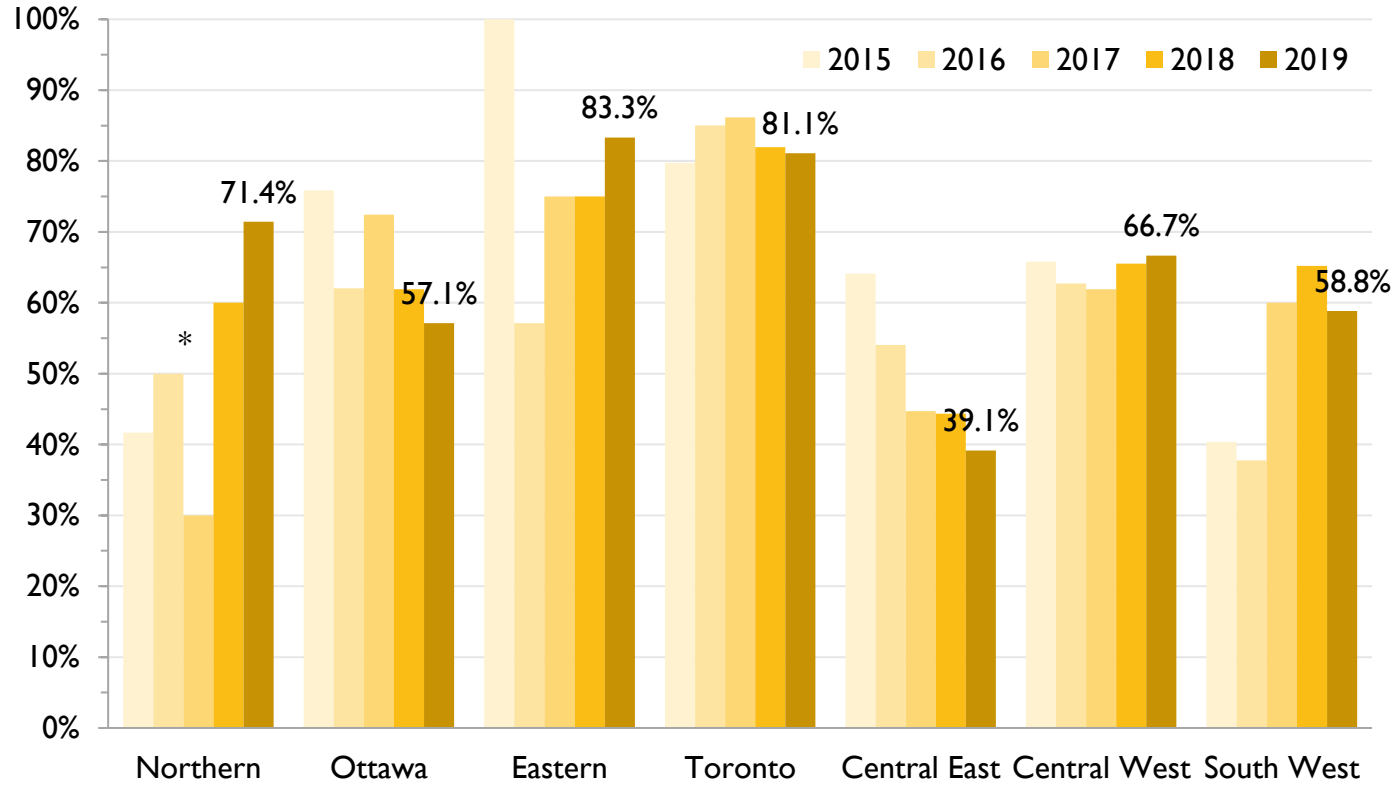
Snapshot

In 2019, Toronto region had the largest proportion of first-time HIV diagnoses among GBMSM (66.2%), followed by Central East (11.8%), Central West (9.2%), and South West (6.6%) regions. Northern, Eastern, and Ottawa regions each had less than 5% of first-time HIV diagnoses among GBMSM.

Between 2015 and 2019, Toronto region had the largest proportion of first-time HIV diagnoses among GBMSM. Ottawa region had 6.5% of first-time HIV diagnoses attributed to GBMSM in 2015; this decreased to 1.3% in 2019.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where GBMSM status was not reported were excluded (average of 15.2% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 8.12 Percent of first-time HIV diagnoses among males within each region attributed to GBMSM (where GBMSM status reported), Ontario, 2015 to 2019



Snapshot

In 2019, looking within each region, Eastern region attributed a larger proportion of its first-time HIV diagnoses among males to GBMSM than any other region (83.3%), followed by Toronto (81.1%), Northern (71.4%), Central West (66.7%), South West (58.8%), Ottawa (57.1%), and Central East (39.1%) regions.

In 2016, 2017, and 2018, Toronto region attributed a larger proportion of its first-time HIV diagnoses among males to GBMSM than any other region. The proportion of first-time HIV diagnoses in Central East region attributed to GBMSM decreased year over year from 64.1% in 2015 to 39.1% in 2019.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where GBMSM status was not reported were excluded (average of 15.2% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

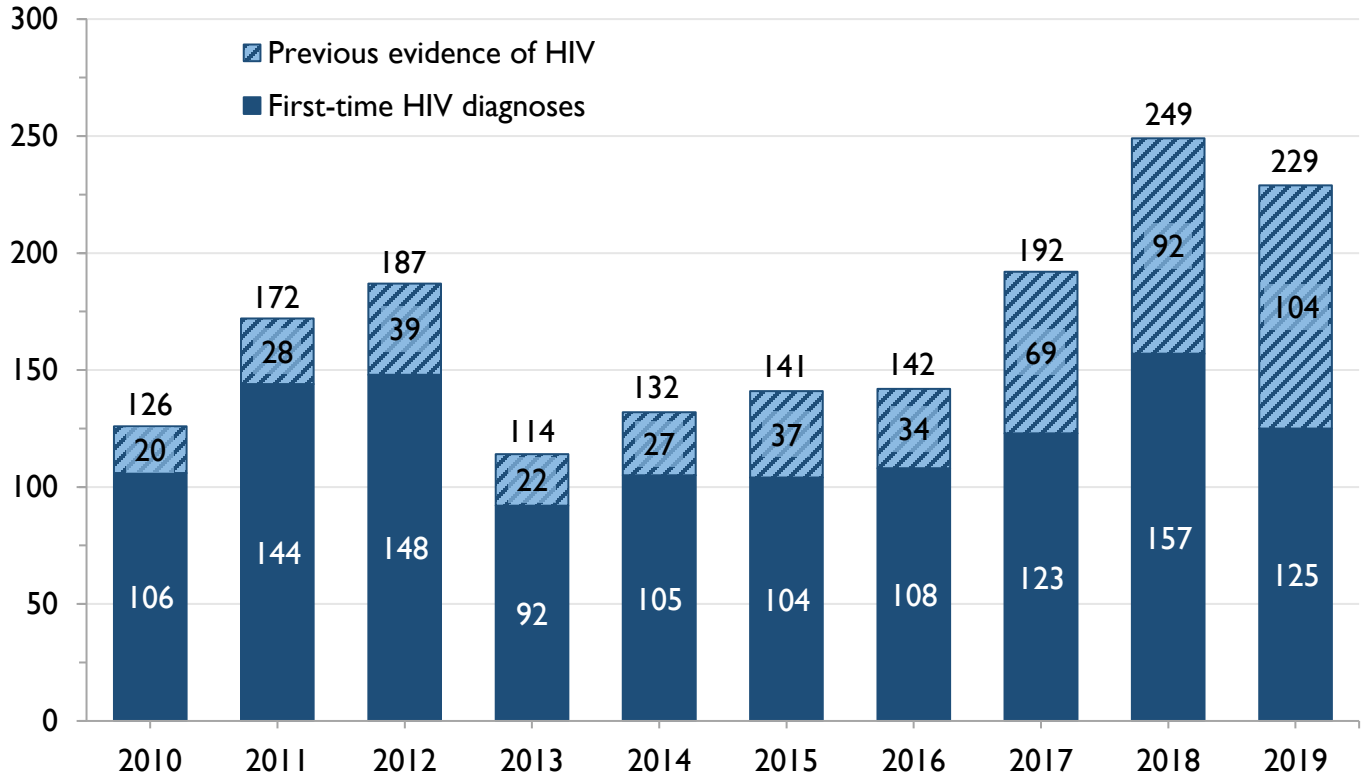
9. People who are African, Caribbean or Black (ACB)

9.a. ACB overview

Diagnoses attributed to ACB are defined by having indication of being born in an African or Caribbean country and/or Black race/ethnicity. In 2019, of the 229 positive HIV tests among ACB in Ontario: 125 were first-time HIV diagnoses and 104 had previous evidence of HIV. Between 2010 and 2019, the proportion of positive HIV tests with previous evidence of HIV increased from 15.9% to 45.4%.

Note: *Counts of positive HIV tests and first-time HIV diagnoses among ACB may be underestimated, as between 2010 and 2019, the information required to assign ACB status was not reported for an average of 29.7% of positive HIV tests, and we estimate between 8.3% and 11.2% of first-time HIV diagnoses among Black people to have an uncaptured previous HIV diagnosis. Data shown are where ACB status was reported.*

Figure 9.1 Number of positive HIV tests, by first-time HIV diagnoses and previous evidence of HIV, ACB, Ontario, 2010 to 2019



Snapshot

The number of first-time HIV diagnoses attributed to ACB ranged from a low of 92 in 2013 to a high of 157 in 2018, and was 125 in 2019. The number of positive HIV tests, which indicates the total number of ACB people entering care in Ontario each year, ranged from a low of 114 in 2013 to a high of 249 in 2018, and was 229 in 2019. The proportion of positive HIV tests with previous evidence of HIV increased between 2016 (23.9%) and 2019 (45.4%).

Note: *Counts of positive HIV tests and first-time HIV diagnoses among ACB may be underestimated, as between 2010 and 2019, the information required to assign ACB status was not reported for an average of 29.7% of positive HIV tests, and we estimate between 8.3% and 11.2% of first-time HIV diagnoses among Black people to have an uncaptured previous HIV diagnosis.*

Notes: Data provided by Public Health Ontario Laboratory. Positive HIV tests where ACB status was not reported were excluded (average of 29.7% of tests per year). See Appendices for more information. See Tables Supplement for underlying data.

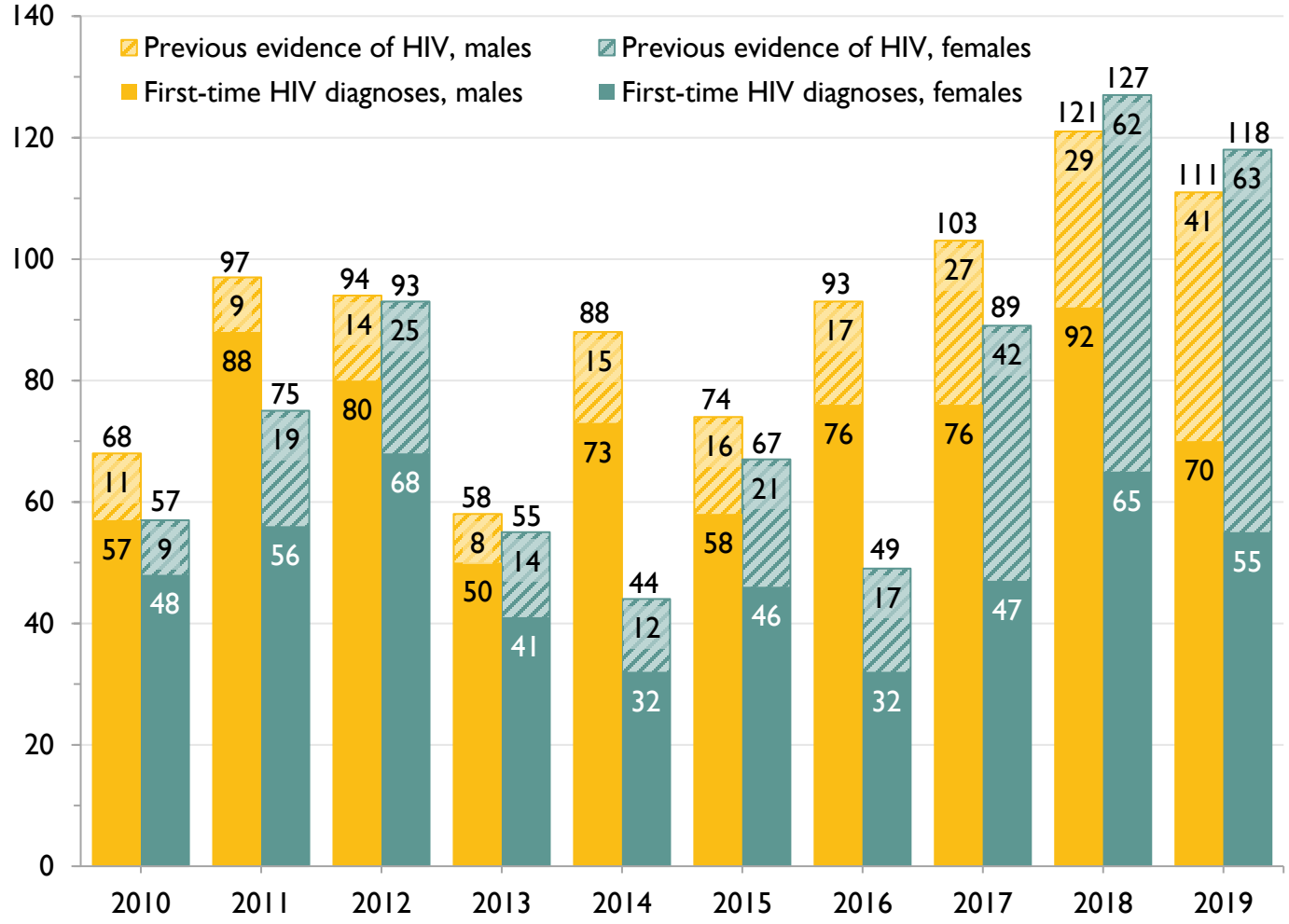
9.b. ACB by sex

In 2019, of the 111 positive HIV tests among ACB males: 70 were first-time HIV diagnoses and 40 had previous evidence of HIV. Of the 118 positive HIV tests among ACB females: 55 were first-time HIV diagnoses and 63 had previous evidence of HIV.

In 2019, 27.0% of first-time HIV diagnoses were attributed to the ACB priority population, with ACB males accounting for 15.1% of first-time HIV diagnoses (18.8% of first-time HIV diagnoses among males), and ACB females accounting for 11.9% of first-time HIV diagnoses (61.1% of first-time HIV diagnoses among females). Within the ACB population, males consistently accounted for the majority of first-time HIV diagnoses among ACB between 2010 and 2019, while females accounted for an average of 40.4% (44.0% in 2019).

Note: *Counts of positive HIV tests and first-time HIV diagnoses among ACB may be underestimated, as 2010 and 2019, the information required to assign ACB status was not reported for an average of 28.4% of positive HIV tests among males and 32.4% among females, and we estimate between 5.7% and 7.8% of first-time HIV diagnoses among Black males and between 12.1% and 16.5% of first-time HIV diagnoses among Black females to have an uncaptured previous HIV diagnosis. Data shown are where ACB status was reported.*

Figure 9.2 Number of positive HIV tests, by first-time HIV diagnoses and previous evidence of HIV, males and females, ACB, Ontario, 2010 to 2019



Snapshot

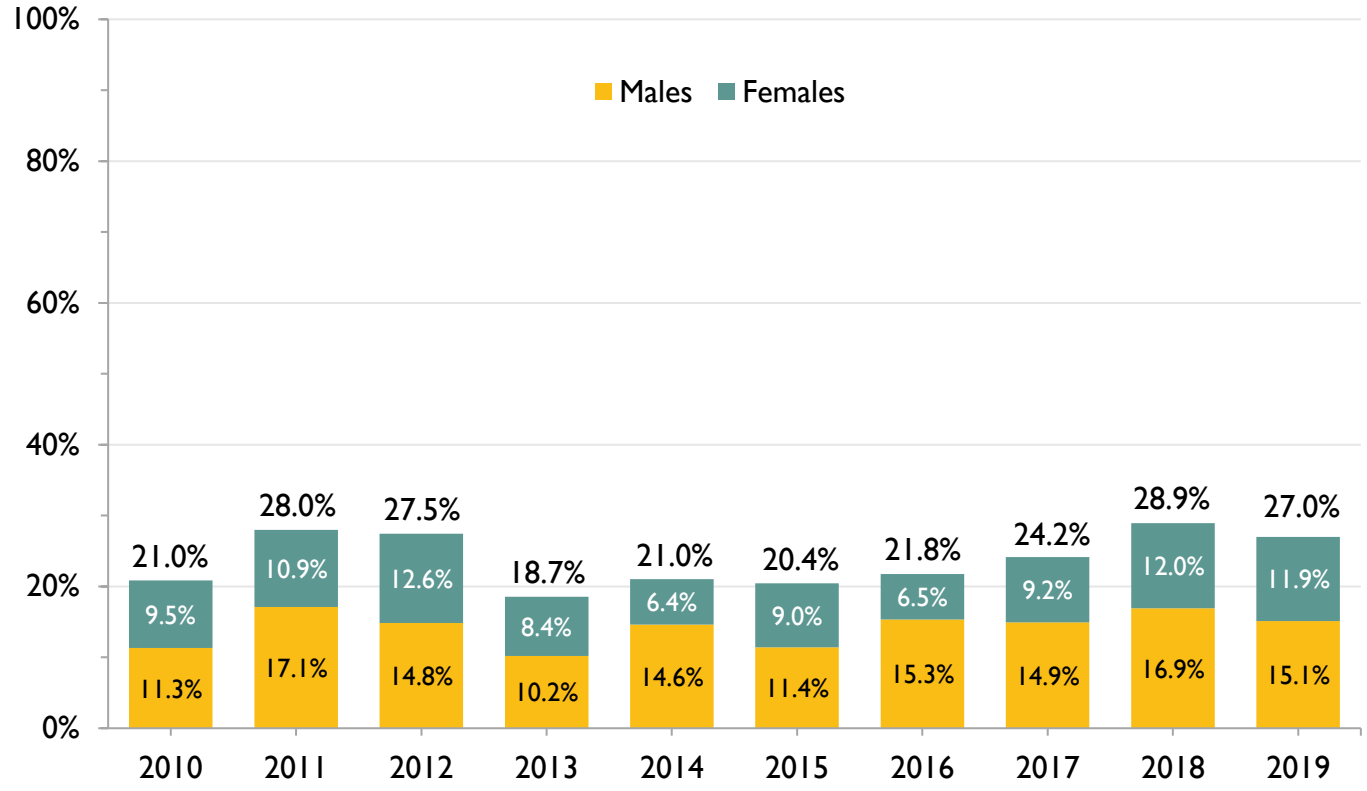
Between 2010 and 2019, the number of first-time HIV diagnoses among ACB males ranged between 50 and 92, and was 70 in 2019. The number of ACB males with previous evidence of HIV was fairly stable between 2010 and 2016 (average of 13, 15.9% of positive HIV tests among ACB males), before increasing to 41 by 2019 (36.9% of positive HIV tests among ACB males).

Between 2010 and 2019, the number of first-time HIV diagnoses among ACB females ranged between 32 and 68, and was 63 in 2019. The number of ACB females with previous evidence of HIV was fairly stable between 2010 and 2016 (average of 17, 26.7% of positive HIV tests among ACB females), before increasing to 63 by 2019 (53.4% of positive HIV tests among ACB females).

Note: *Counts of positive HIV tests and first-time HIV diagnoses among ACB may be underestimated, as 2010 and 2019, the information required to assign ACB status was not reported for an average of 28.4% of positive HIV tests among males and 32.4% among females, and we estimate between 5.7% and 7.8% of first-time HIV diagnoses among Black males and between 12.1% and 16.5% of first-time HIV diagnoses among Black females to have an uncaptured previous HIV diagnosis.*

Notes: Data provided by Public Health Ontario Laboratory. Positive HIV tests where ACB status was not reported were excluded (average of 28.4% of tests per year among males, 32.4% among females). See Appendices for more information. See Tables Supplement for underlying data.

Figure 9.3 Percent of first-time HIV diagnoses attributed to ACB (where ACB status reported) by sex, Ontario, 2010 to 2019



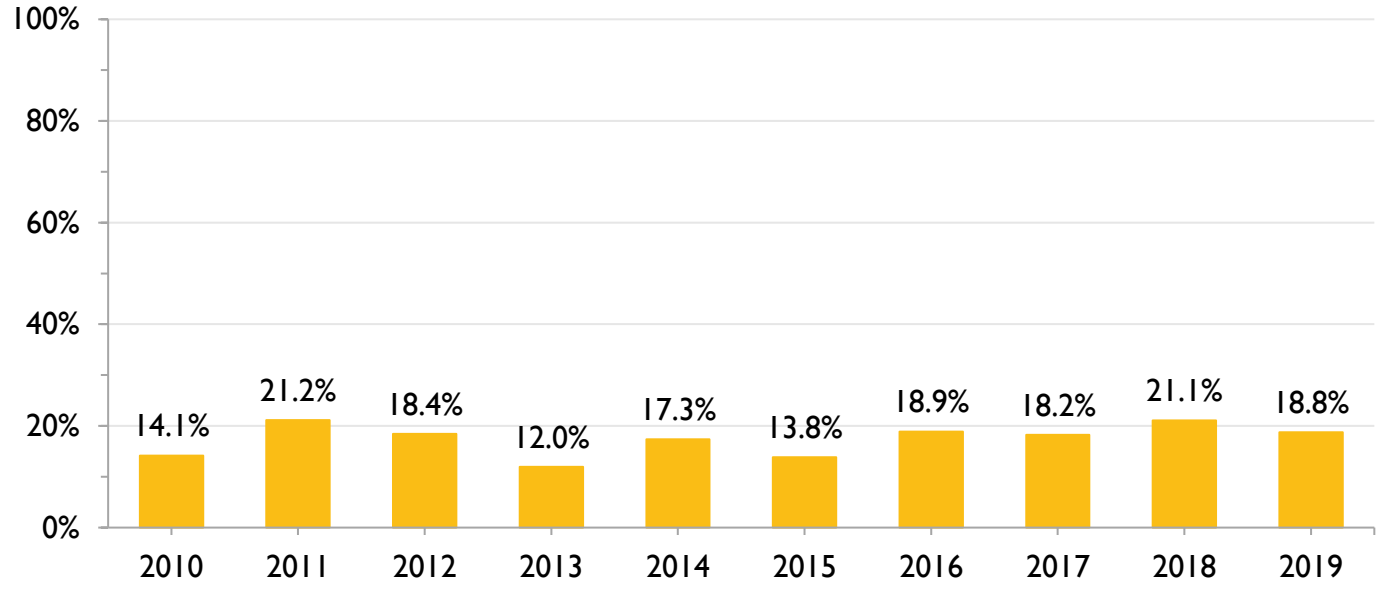
Snapshot

In 2019, ACB males accounted for 15.1% and ACB females 11.9% of all first-time HIV diagnoses, for a total of 27.0% of first-time HIV diagnoses being attributed to ACB people.

Between 2010 and 2019, ACB people accounted for between 18.6% (2013) and 28.9% (2018) of first-time HIV diagnoses, with ACB males accounting for between 10.2% (2013) and 17.1% (2011), and ACB females for between 6.5% (2016) and 12.6% (2012).

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where ACB status was not reported were excluded (average of 28.1% of diagnoses per year among males, 34.9% among females). See Appendices for more information. See Tables Supplement for underlying data.

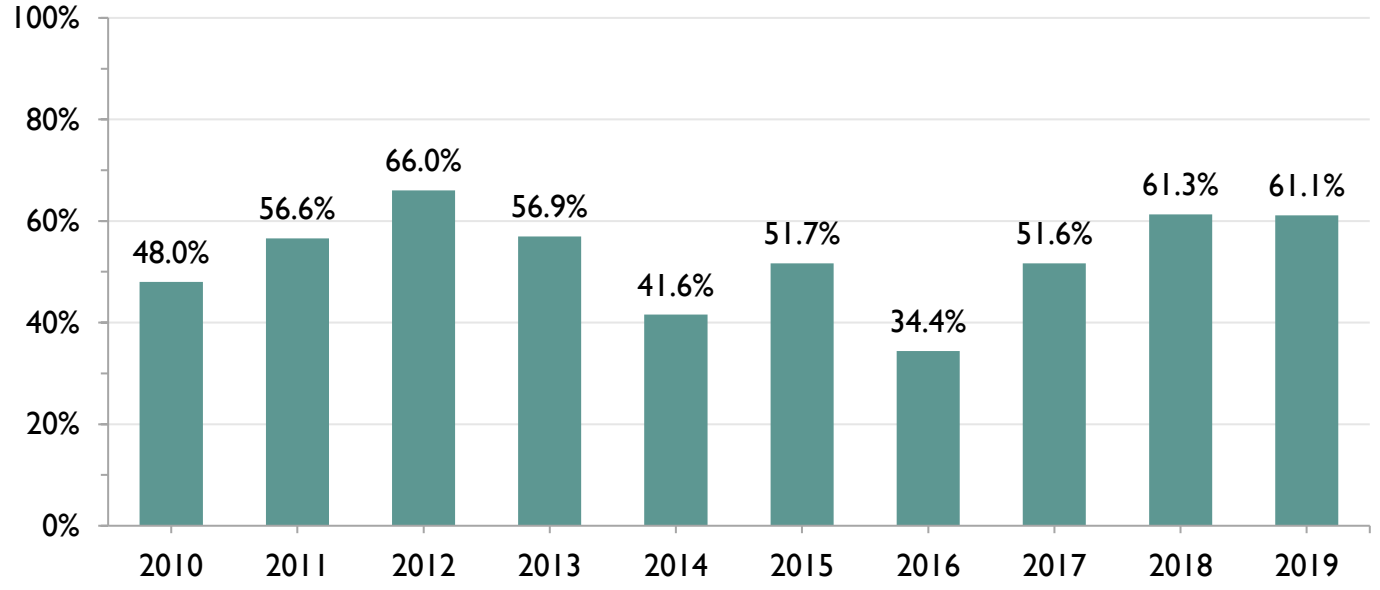
Figure 9.4 Percent of first-time HIV diagnoses among males attributed to ACB (where ACB status reported), Ontario, 2010 to 2019



Snapshot

In 2019, ACB males accounted for 18.8% of first-time HIV diagnoses among males. Between 2010 and 2019, ACB males accounted for between 12.0% (2013) and 21.2% (2011) of first-time HIV diagnoses among males.

Figure 9.5 Percent of first-time HIV diagnoses among females attributed to ACB (where ACB status reported), Ontario, 2010 to 2019

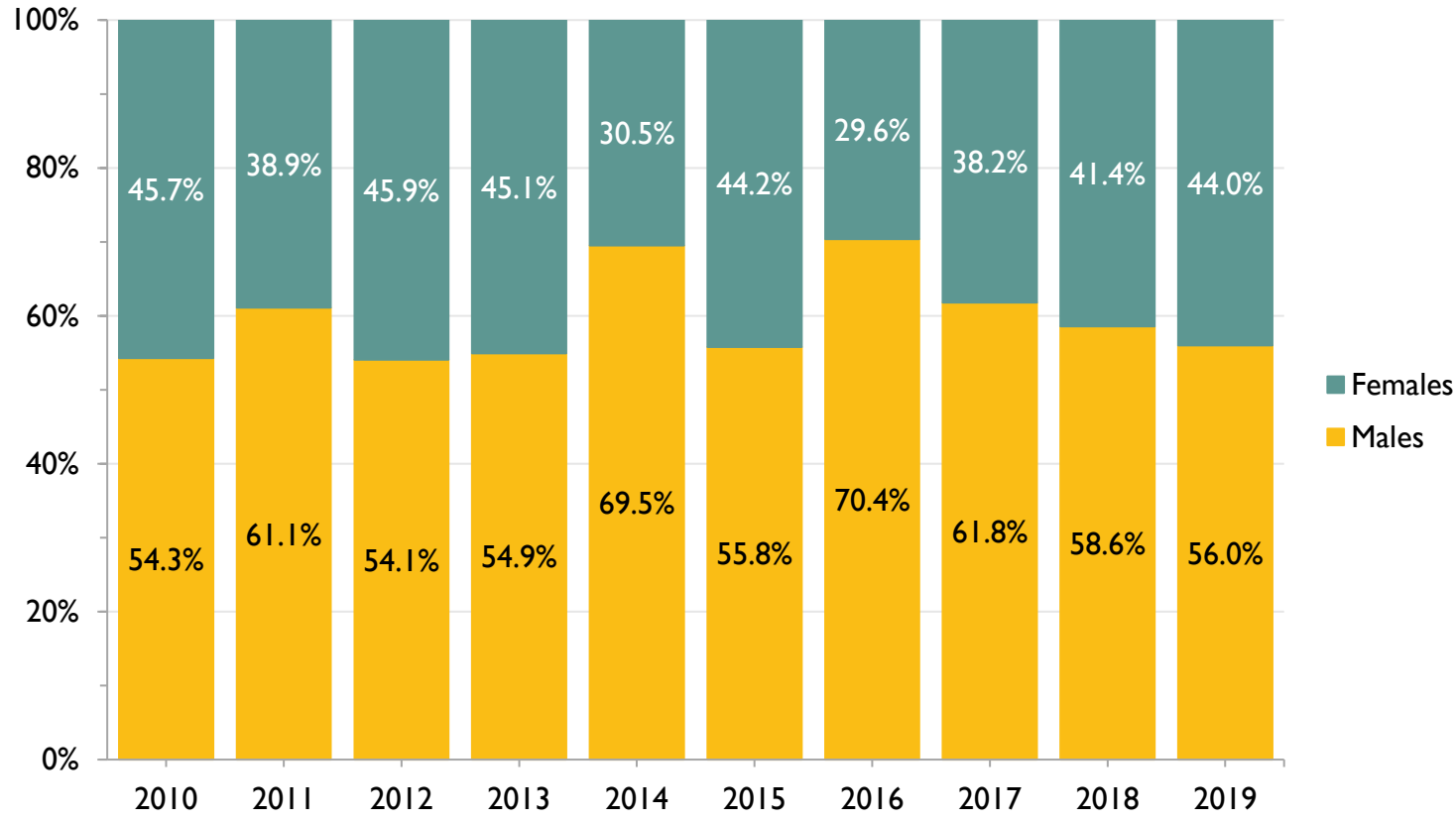


Snapshot

In 2019, ACB females accounted for 61.1% of first-time HIV diagnoses among females. Between 2010 and 2019, ACB females accounted for between 34.4% (2016) and 66.0% (2012) of first-time HIV diagnoses among females.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where ACB status was not reported were excluded (average of 28.1% of diagnoses per year among males, 34.9% among females). See Appendices for more information. See Tables Supplement for underlying data.

Figure 9.6 Percent of first-time HIV diagnoses by sex, ACB, Ontario, 2010 to 2019



Snapshot

In 2019, females accounted for 44.0% of first-time HIV diagnoses among ACB. Between 2010 and 2019, males accounted for between 54.1% and 70.4% of first-time HIV diagnoses among ACB, while conversely females accounted for between 29.6% and 45.9%.

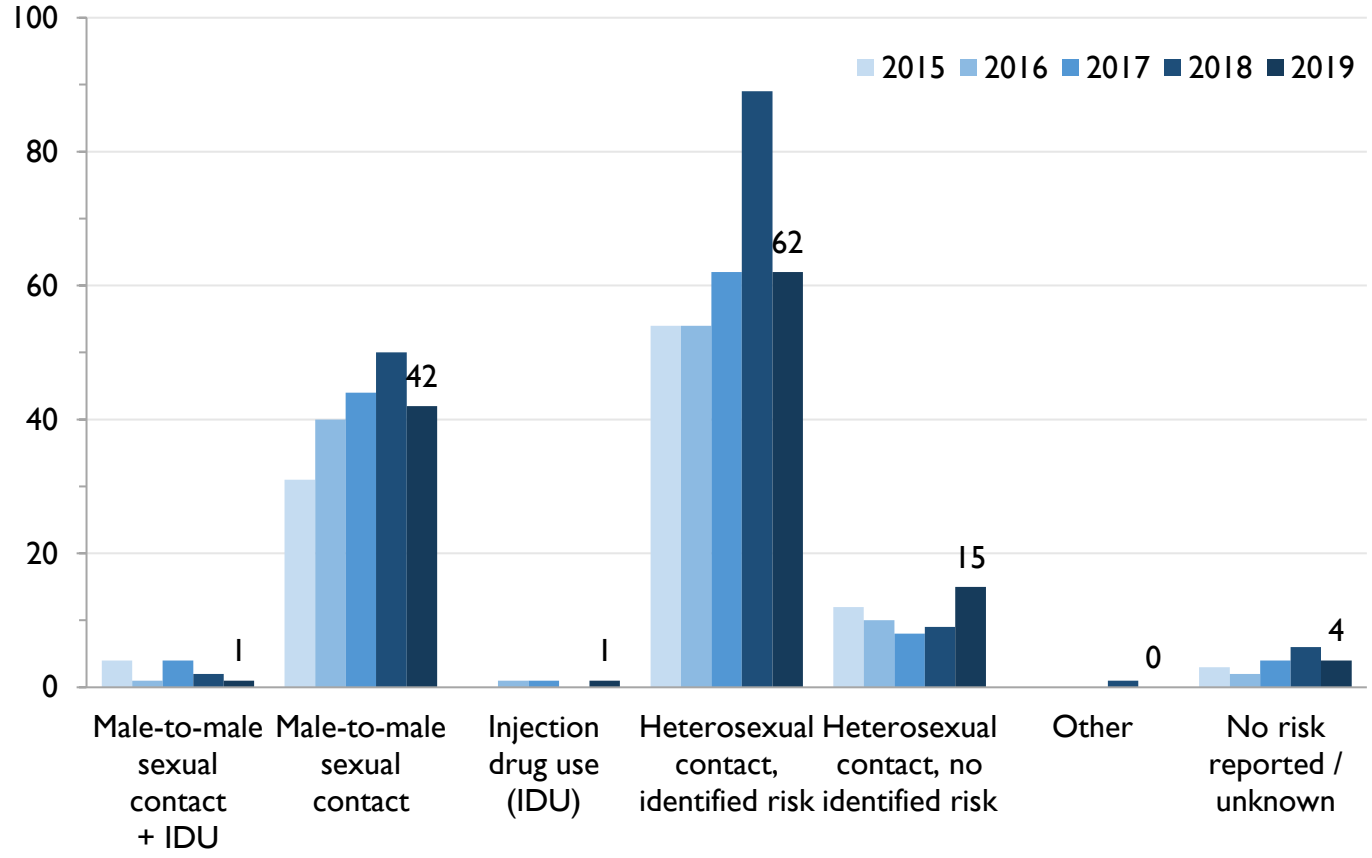
Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where ACB status was not reported were excluded (average of 28.1% of diagnoses per year among males, 34.9% among females). See Appendices for more information. See Tables Supplement for underlying data.

9.c. ACB by HIV exposure category

In 2019, in terms of HIV exposure category, the largest proportions of first-time HIV diagnoses among ACB people were reported as heterosexual contact with identified risk: 51.2% among all ACB people and 85.5% among ACB females. Among ACB males, 63.6% of first-time HIV diagnoses reported male-to-male sexual contact as their HIV exposure category. These proportions were fairly stable over time.

Note: *The "Heterosexual contact, identified risk" category includes diagnoses where sex with a person of the opposite sex/gender is reported and either the individual's country of birth is reported as an HIV-endemic country, or the individual's sex 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 9.7 Number of first-time HIV diagnoses by HIV exposure category, ACB, Ontario, 2015 to 2019



Snapshot

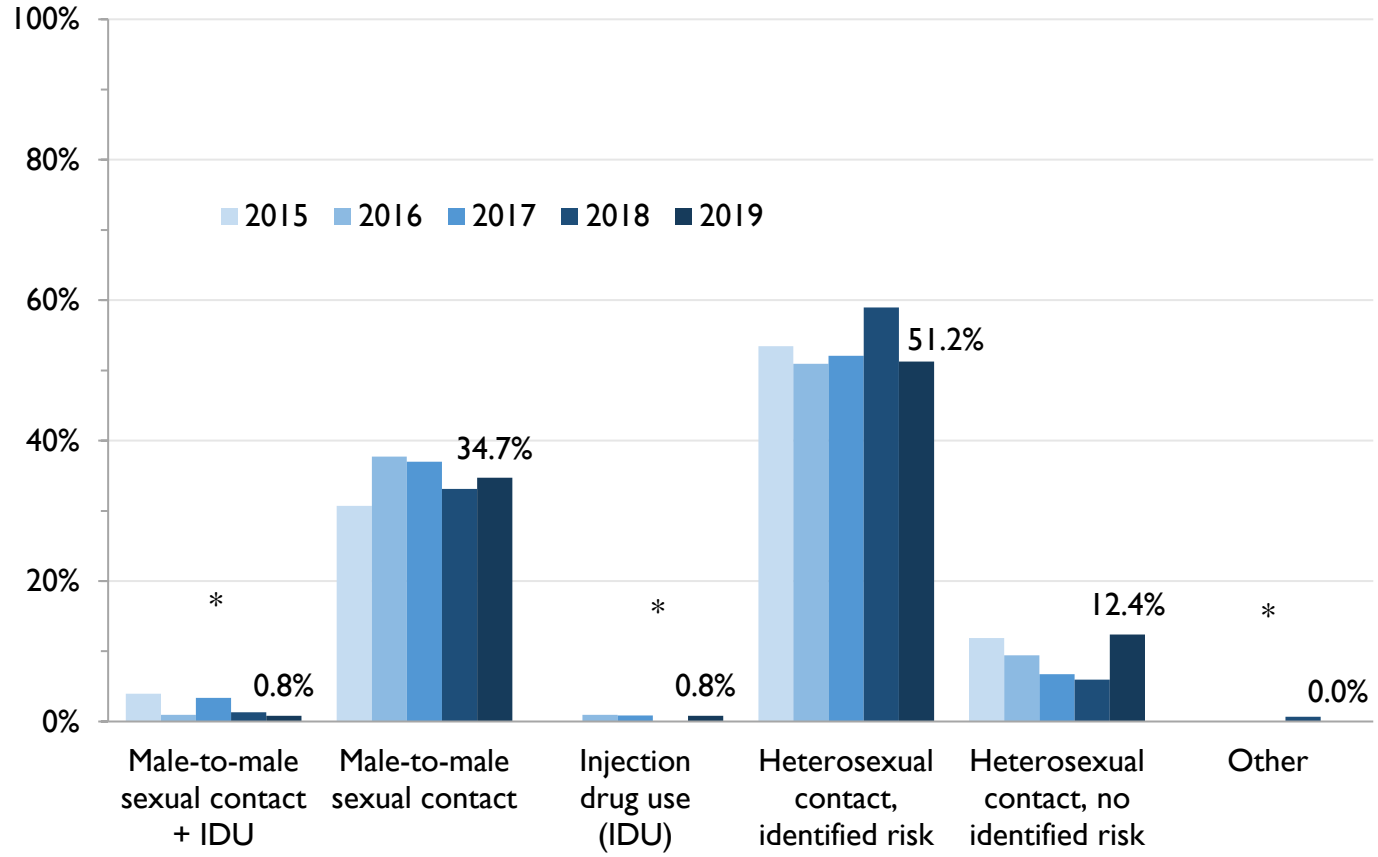
In 2019, fewer than 5 of the 125 first-time HIV diagnoses in ACB people did not report an HIV exposure category.

Among the 121 first-time HIV diagnoses with a reported HIV exposure category, 62 were reported as heterosexual contact with identified risk, 42 as male-to-male sexual contact, and 15 as heterosexual contact with no identified risk.

Between 2015 and 2019, heterosexual contact with identified risk accounted for the largest numbers of first-time HIV diagnoses among ACB, followed by male-to-male sexual contact. Relatively few first-time HIV diagnoses among ACB people had injection drug use reported.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where ACB status was not reported were excluded (average of 28.5% of diagnoses per year). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

Figure 9.8 Percent of first-time HIV diagnoses by HIV exposure category (where reported), ACB, Ontario, 2015 to 2019



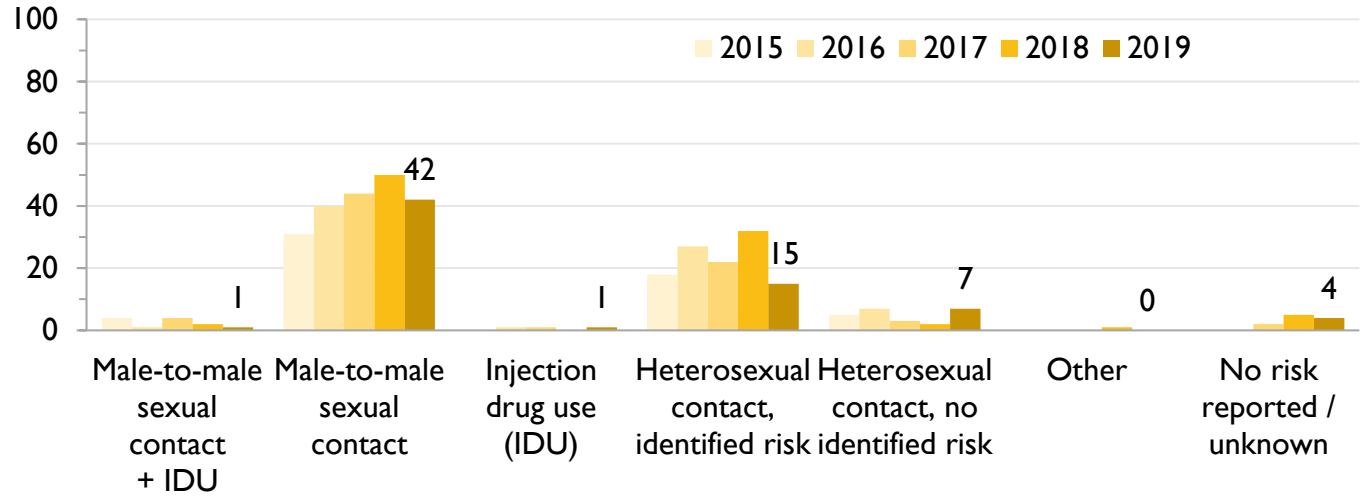
Snapshot

In 2019, among the 121 first-time HIV diagnoses with a reported HIV exposure category, 51.2% were reported as heterosexual contact with identified risk, 34.7% as male-to-male sexual contact, and 12.4% as heterosexual contact with no identified risk.

Between 2015 and 2019, heterosexual contact with identified risk, followed by male-to-male sexual contact, accounted for the largest proportions of first-time HIV diagnoses among ACB.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where ACB status was not reported were excluded (average of 28.5% of diagnoses per year). Diagnoses where ACB status was reported but HIV exposure category was not reported were excluded (average of 3.0% of diagnoses per year where ACB status was reported). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

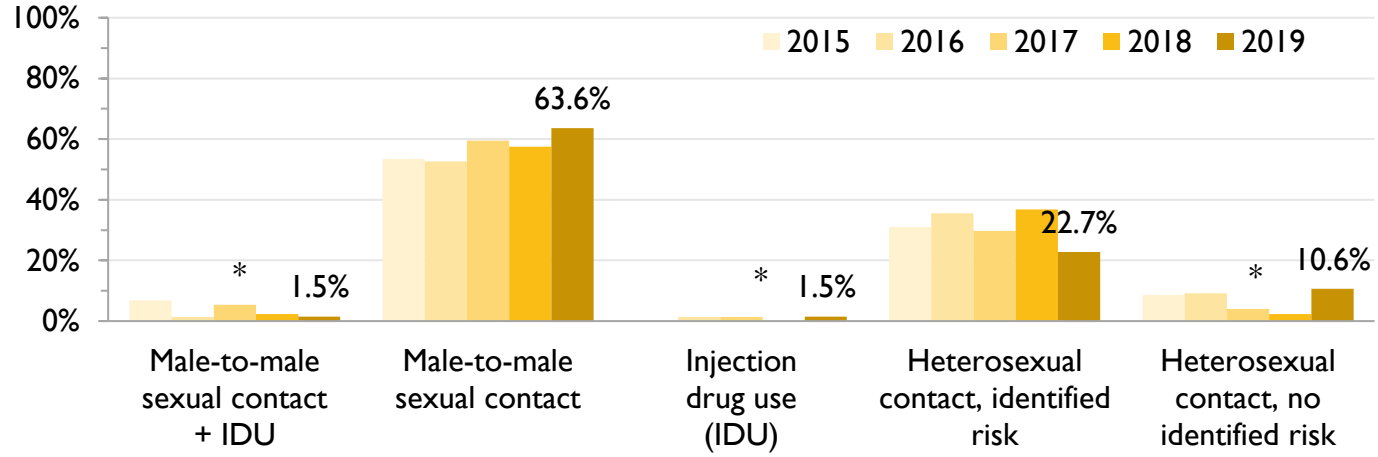
Figure 9.9 Number of first-time HIV diagnoses by HIV exposure category, ACB males, Ontario, 2015 to 2019



Snapshot

Among the 66 first-time HIV diagnoses in ACB males with a reported HIV exposure category, 42 were reported as male-to-male sexual contact, 15 as heterosexual contact with identified risk, and 7 as heterosexual contact with no identified risk. Between 2015 and 2019, the number of first-time HIV diagnoses among ACB males that reported male-to-male sexual contact increased from 31 to 42.

Figure 9.10 Percent of first-time HIV diagnoses by HIV exposure category (where reported), ACB males, Ontario, 2015 to 2019

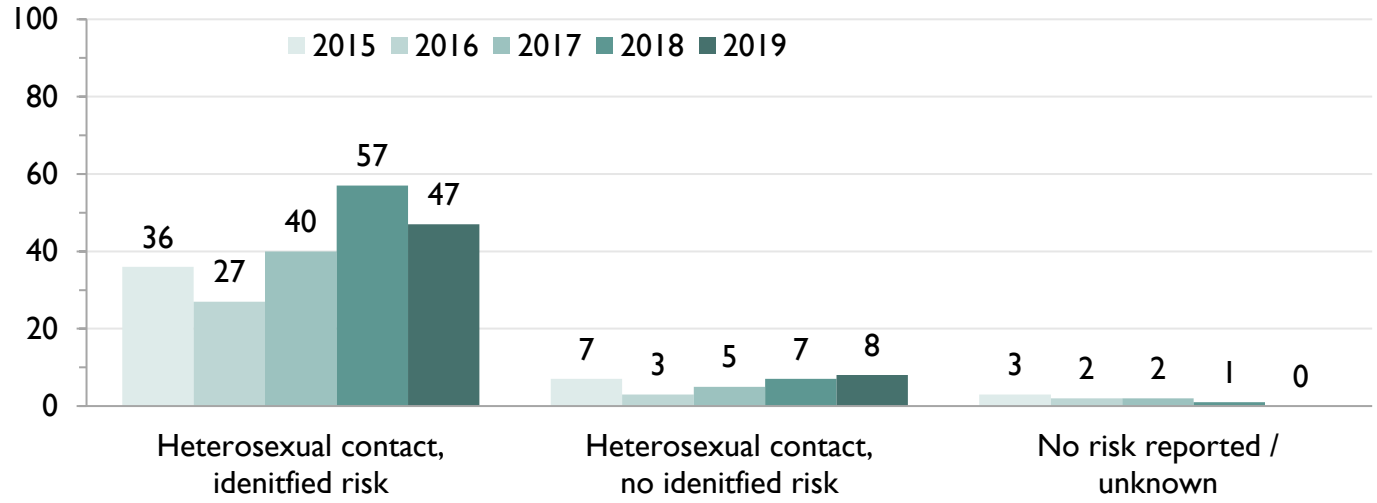


Snapshot

In 2019, among the 66 first-time HIV diagnoses in ACB males with a reported HIV exposure category, 63.6% were reported as male-to-male sexual contact, 22.7% as heterosexual contact with identified risk and 10.6% as heterosexual contact with no identified risk. Between 2015 and 2019, male-to-male sexual contact was consistently the most frequently reported HIV exposure category for first-time HIV diagnoses among ACB males.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where ACB status was not reported were excluded (average of 26.4% of diagnoses per year). Diagnoses where ACB status was reported but HIV exposure category was not reported were excluded from Figure 9.10 (average of 2.8% of diagnoses per year where ACB status reported). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

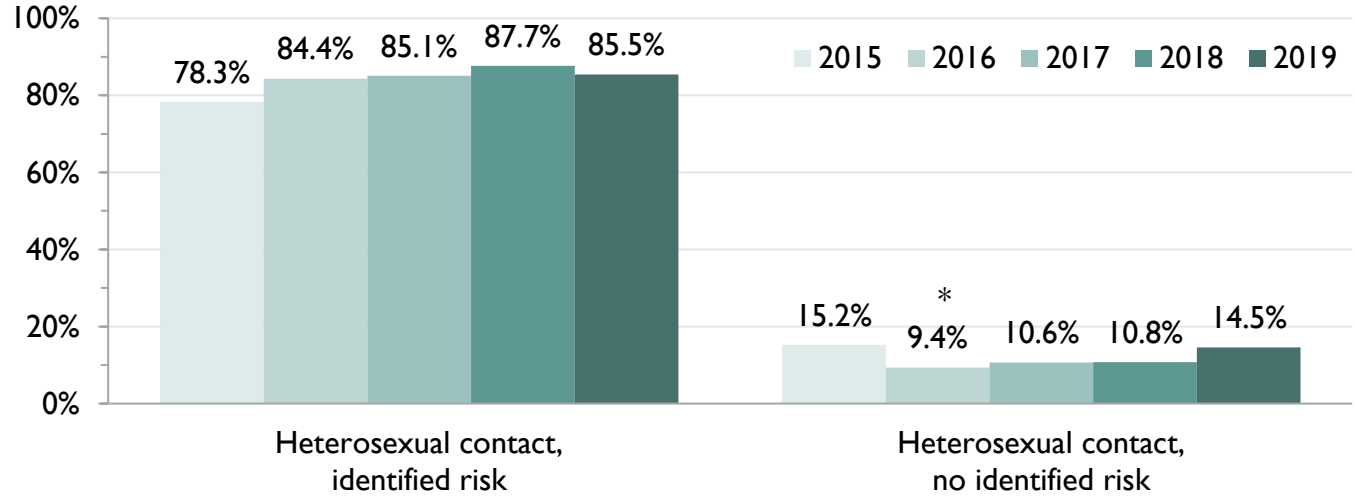
Figure 9.11 Number of first-time HIV diagnoses by HIV exposure category, ACB females, Ontario, 2015 to 2019



Snapshot

In 2019, all of the 55 first-time HIV diagnoses in ACB females reported an HIV exposure category. Among the 55 first-time HIV diagnoses in ACB females with a reported HIV exposure category, 47 were reported as heterosexual contact with identified risk and 8 as heterosexual contact with no identified risk. Between 2015 and 2019, the majority of first-time HIV diagnoses among ACB females were reported as heterosexual contact with identified risk and none were reported as IDU.

Figure 9.12 Percent of first-time HIV diagnoses by HIV exposure category (where reported), ACB females, Ontario, 2015 to 2019



Snapshot

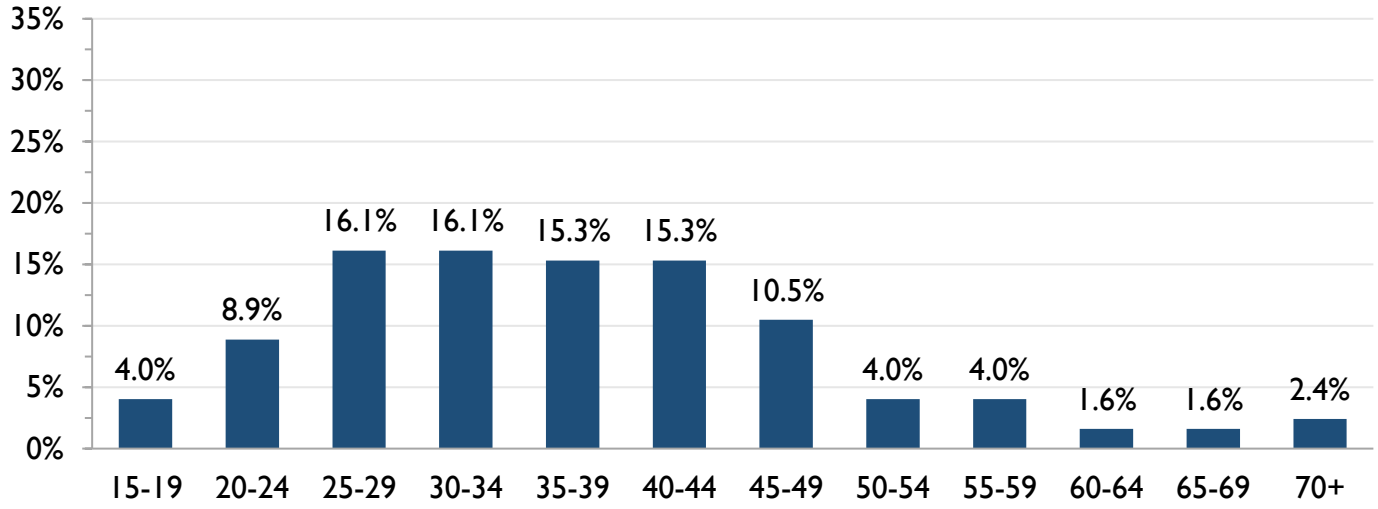
In 2019, among the 55 first-time HIV diagnoses in ACB females with a reported HIV exposure category 85.5% were reported as heterosexual contact with identified risk and 14.5% as heterosexual contact with no identified risk. This was consistent over time.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where ACB status was not reported were excluded (average of 34.3% of diagnoses per year). Diagnoses where ACB status was reported but HIV exposure category was not reported were excluded from Figure 9.12 (average of 3.7% of diagnoses per year where ACB status was reported). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

9.d. ACB by age

In 2019, the largest proportions of first-time HIV diagnoses among ACB people were in those aged 25-29 and 30-34 years (both 16.1%). Over the two-year period 2018-2019, among ACB males, the largest proportion were in those aged 25-29 (19.8%), while among females, it was in those aged 35-39 (19.3%).

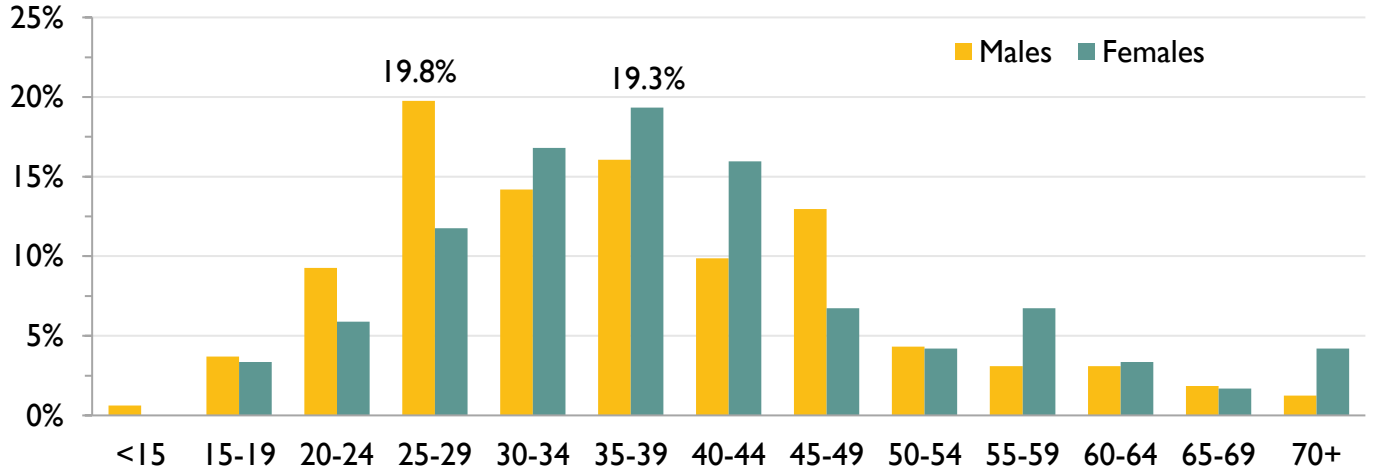
Figure 9.13 Percent of first-time HIV diagnoses by age, ACB, Ontario, 2019



Snapshot

In 2019, over 6 in 10 (62.8%) of first-time HIV diagnoses among ACB were among those aged 25-44 years with the 25-29 and 30-34 age categories accounting for the largest proportions (both 16.1%).

Figure 9.14 Percent of first-time HIV diagnoses by age, ACB males and ACB females, Ontario, 2018-2019



Snapshot

Over the two-year period 2018-2019, the largest proportion of first-time HIV diagnoses among ACB males was in those aged 25-29 (19.8%) and among ACB females was in those aged 35.39 years (19.3%). These findings are complicated by small numbers, and possible misattribution of females with an uncaptured previous HIV diagnosis.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses with age not reported were excluded (less than 1%). Diagnoses where ACB status was not reported were excluded (32.6% of diagnoses overall, 25.9% among males over the 2-year period 2018-2019 and 40.2% among females). See Appendices for more information. See Tables Supplement for underlying data.

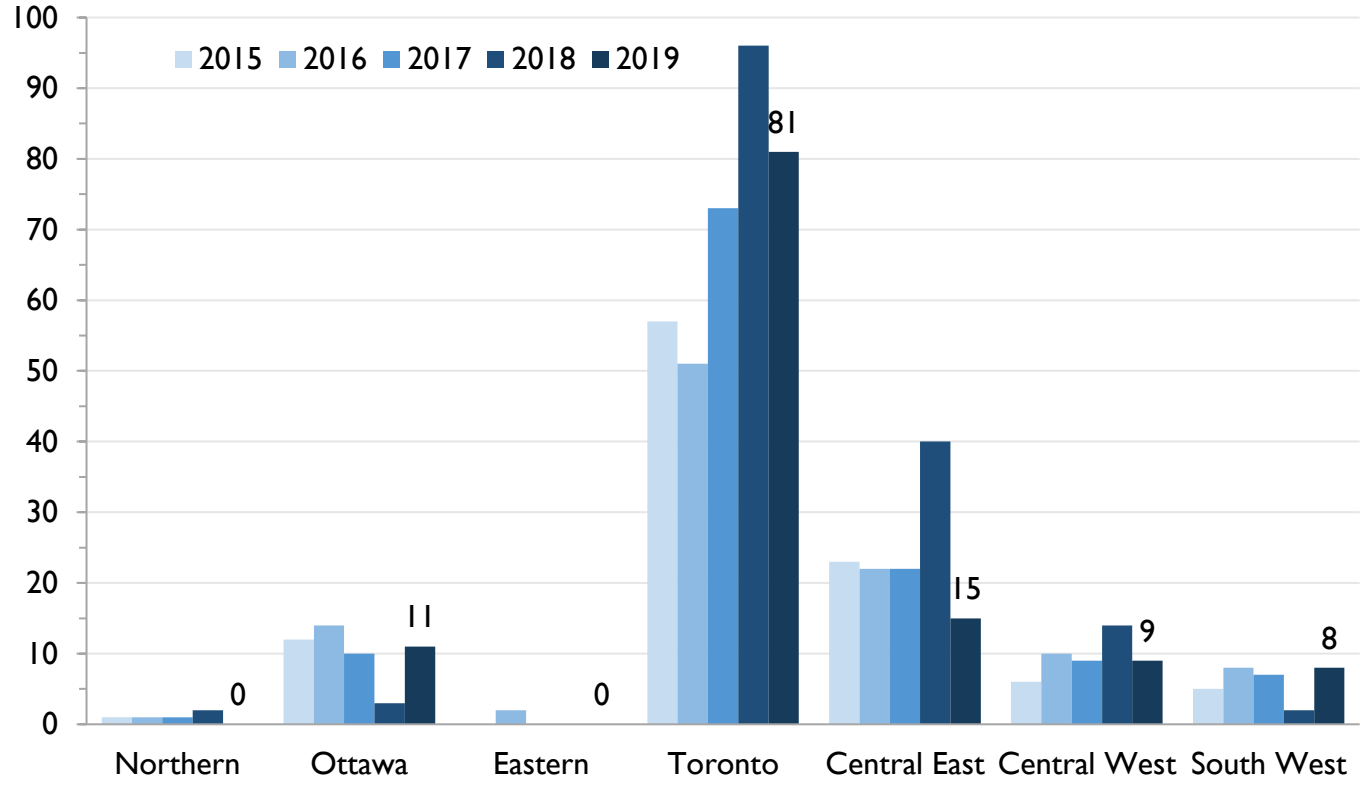
9.e. ACB by health region

In 2019, Toronto region had the largest proportion of first-time HIV diagnoses among ACB overall (65.3%), and among ACB males (68.6%). Toronto region also had the largest proportion among ACB females in 2018-2019 (58.0%).

Between 2015 and 2019, the number of first-time HIV diagnoses among ACB males increased in Toronto region from 32 to 48. Similarly, the number of first-time HIV diagnoses among ACB females also increased in Toronto region from 40 over the two-year period 2014-2015 to 69 over the two-year period 2018-2019.

Looking within each region, the proportion of first-time HIV diagnoses in Toronto region that was attributed to ACB increased from 21.0% in 2015 to 30.6% in 2019, meaning ACB people accounted for an increased proportion of first-time HIV diagnoses in Toronto region.

Figure 9.15 Number of first-time HIV diagnoses by health region, ACB, Ontario, 2015 to 2019



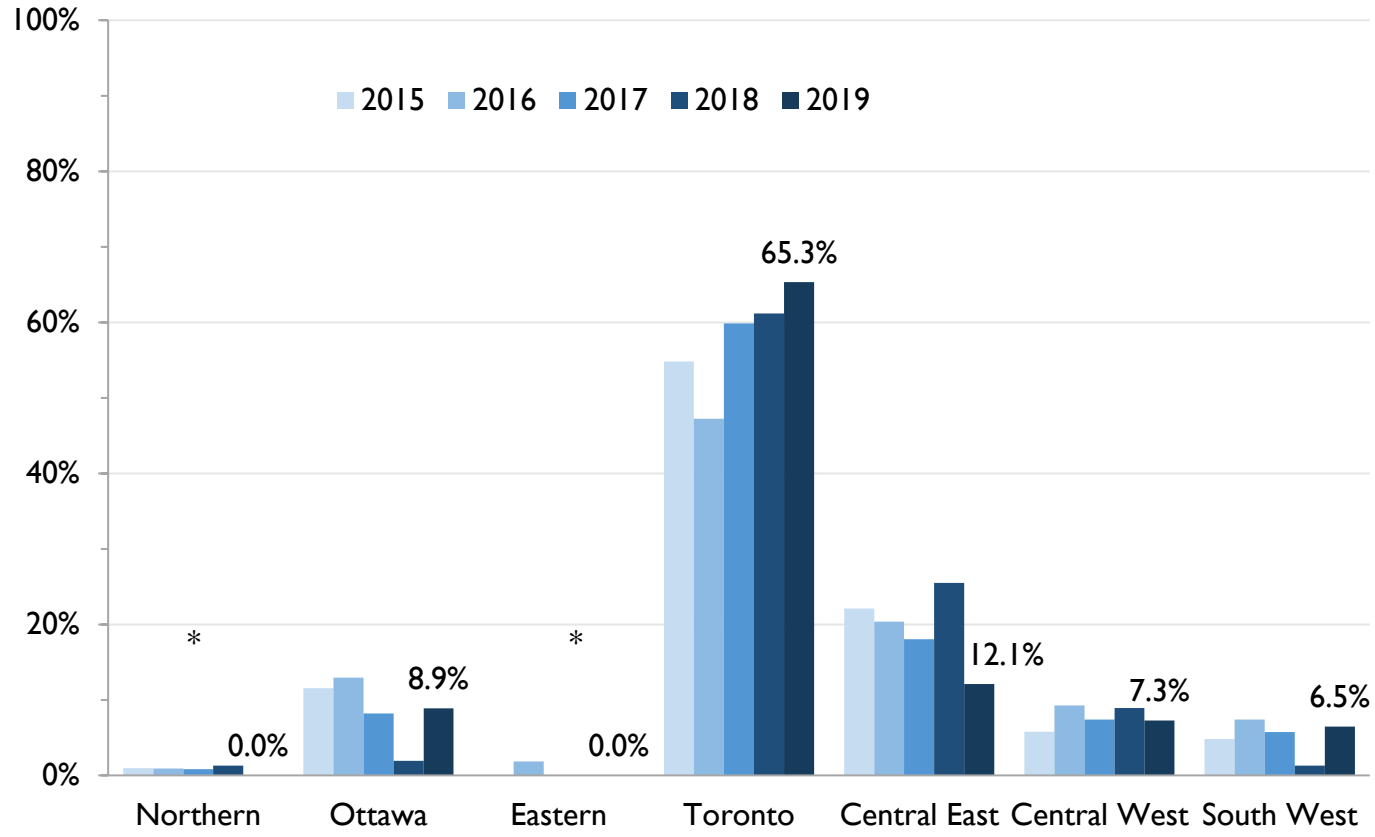
Snapshot

In 2019, comparing across health regions, Toronto region had the largest number of first-time HIV diagnoses among ACB (81), followed by Central East (15), Ottawa (11), Central West (9), and South West (8); the Northern and Eastern regions had 0.

These trends were relatively consistent between 2015 and 2019, however the number of first-time HIV diagnoses attributed to ACB in Toronto region was more variable, ranging from 51 to 96.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where ACB status was not reported were excluded (average of 28.5% of diagnoses per year). See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

Figure 9.16 Percent of first-time HIV diagnoses across health regions, ACB, Ontario, 2015 to 2019



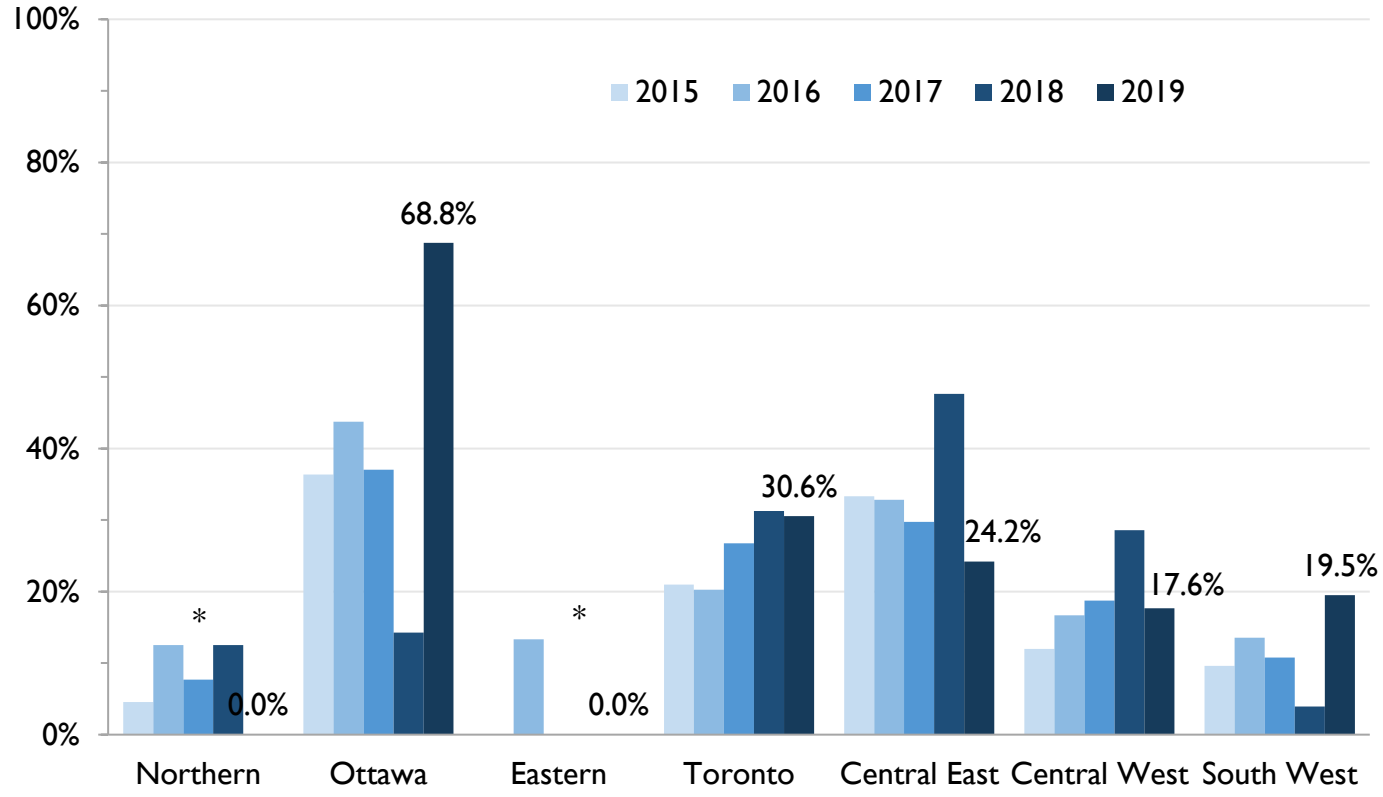
Snapshot

In 2019, Toronto region had the largest proportion of first-time HIV diagnoses among ACB (65.3%), followed by Central East (12.1%), Ottawa (8.9%), Central West (7.3%), and South West (6.5%) regions. Northern and Eastern regions had 0 first-time HIV diagnoses attributed to ACB in 2019.

Between 2015 and 2019, Toronto region had the largest proportion of first-time HIV diagnoses among ACB.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where ACB status was not reported were excluded (average of 28.5% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 9.17 Percent of first-time HIV diagnoses within each health region attributed to ACB (where ACB status reported), Ontario, 2015 to 2019



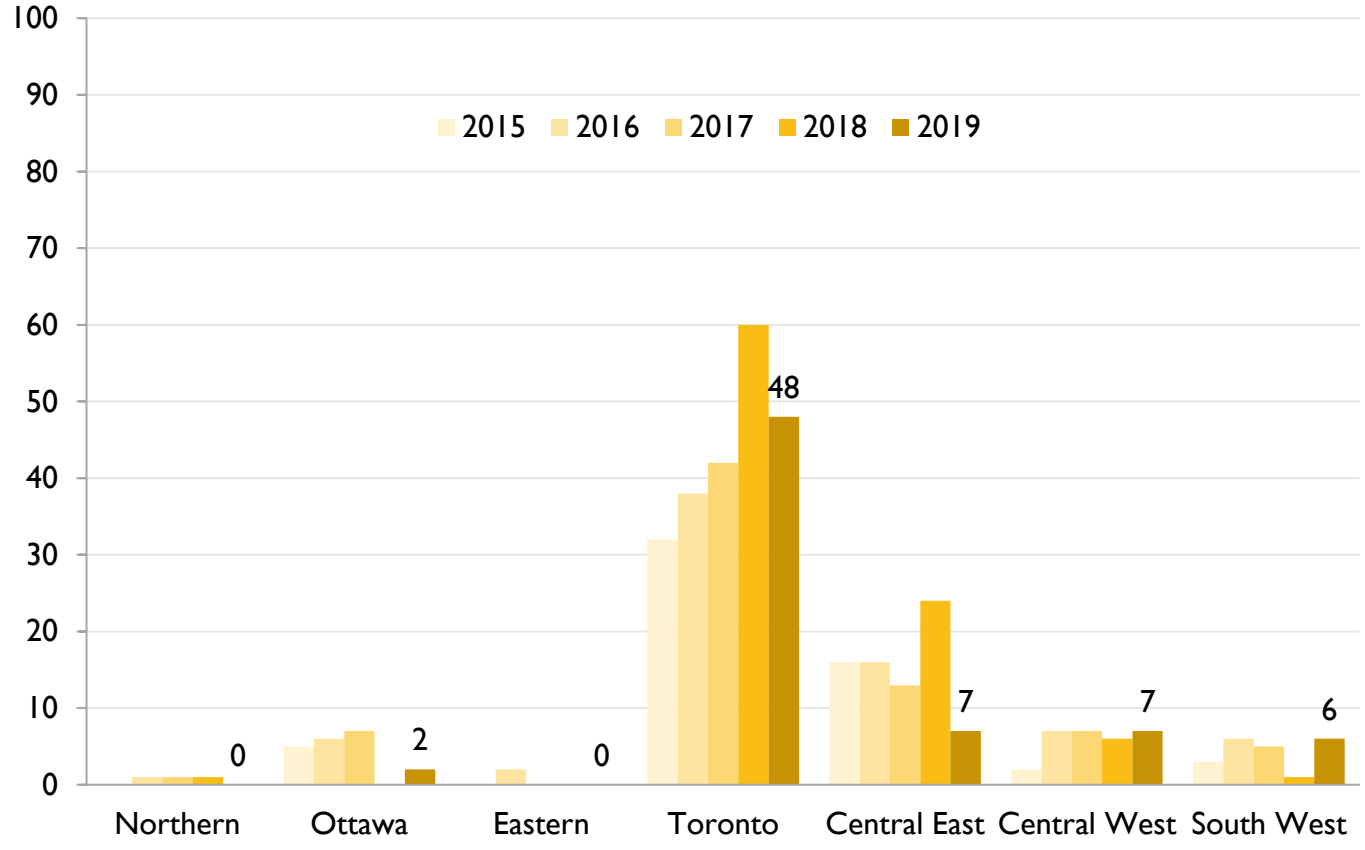
Snapshot

In 2019, looking within each health region, Ottawa region attributed a larger proportion of its first-time HIV diagnoses to ACB than any other region (68.8%, although that it had only 11 diagnoses attributed to ACB), followed by Toronto (30.6%), Central East (24.2%), South West (19.5%), Central West (17.6%) regions.

Between 2015 and 2019, Ottawa region attributed a larger proportion of its first-time HIV diagnoses to ACB than any other region in all years except 2018, when Central East region had the largest proportion. The proportion of first-time HIV diagnoses in Toronto region attributed to ACB increased from 21.0% in 2015 to 30.6% in 2019. This shift was due to both an increase in the number of first-time HIV diagnoses among ACB males and ACB females as well as a decrease in first-time HIV diagnoses in white men.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where ACB status was not reported were excluded (average of 28.5% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 9.18 Number of first-time HIV diagnoses by health region, ACB males, Ontario, 2015 to 2019



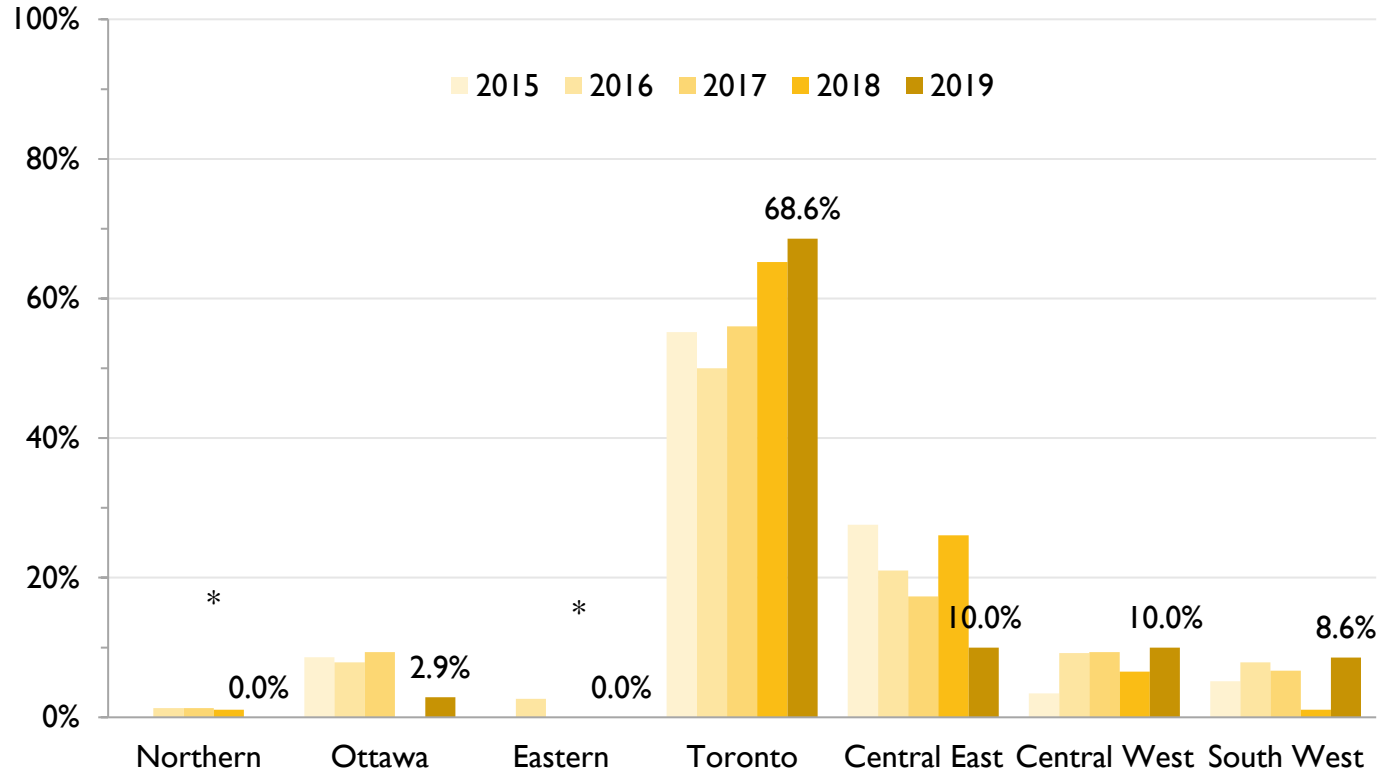
Snapshot

In 2019, Toronto region had the largest number of first-time HIV diagnoses among ACB males (48), followed by Central East and Central West (both 7) and South West (6) regions. Ottawa region had 2 first-time HIV diagnoses and Northern and Eastern regions had 0.

Between 2015 and 2019, Toronto region had the largest number of first-time HIV diagnoses among ACB males. The number of first-time HIV diagnoses among ACB males in Toronto region generally increased over time: from 32 in 2015 to 60 in 2018 and 48 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where ACB status was not reported were excluded (average of 26.4% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 9.19 Percent of first-time HIV diagnoses across health regions, ACB males, Ontario, 2015 to 2019

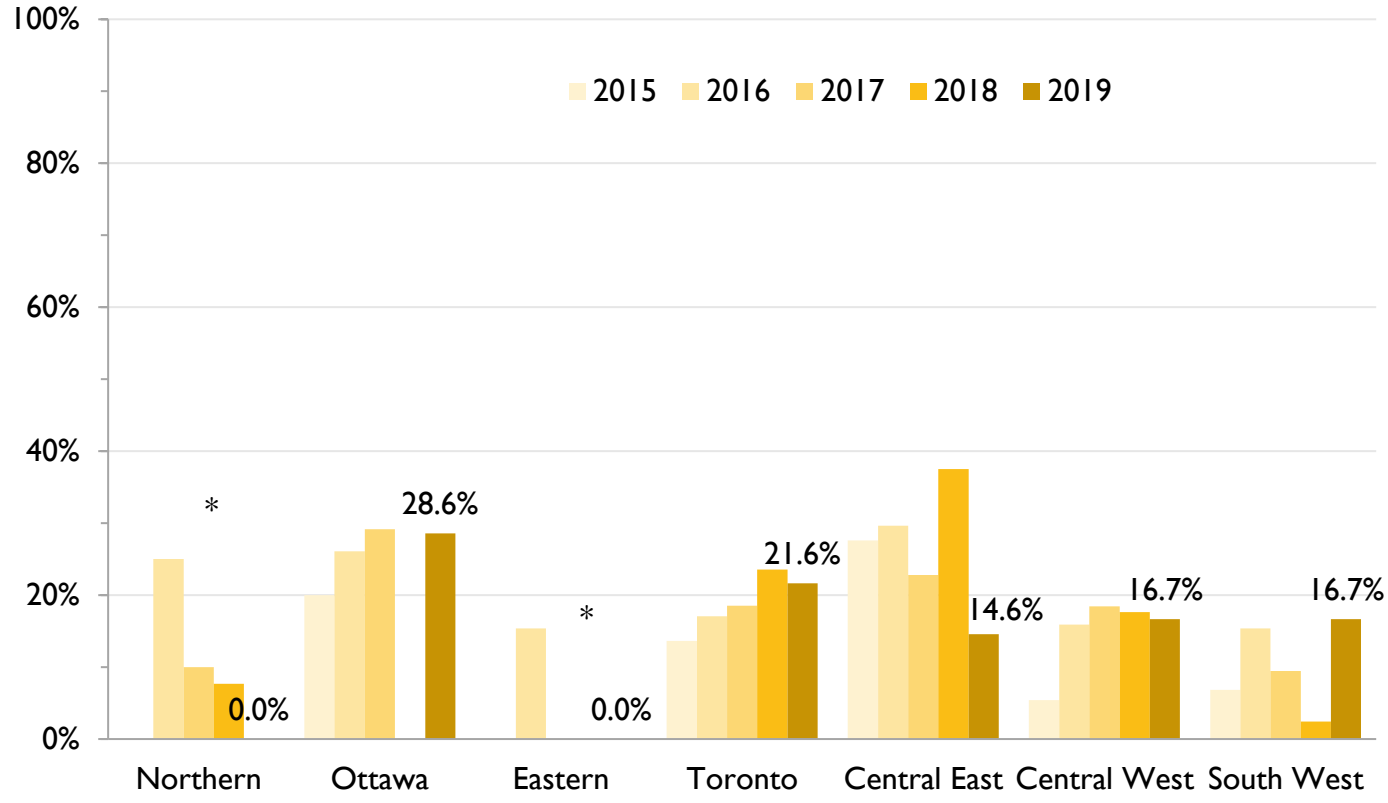


Snapshot

In 2019, Toronto region had the largest proportion of first-time HIV diagnoses among ACB males (68.6%), followed by Central East and Central West regions (both 10.0%), South West (8.6%) and Ottawa (2.9%) regions. This trend has been consistent over time: between 2015 and 2019, the proportion of first-time HIV diagnoses among ACB males in Toronto region increased from 55.2% in 2015 to 68.6%.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where ACB status was not reported were excluded (average of 26.4% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 9.20 Percent of first-time HIV diagnoses among males within each health region attributed to ACB (where ACB status reported), Ontario, 2015 to 2019



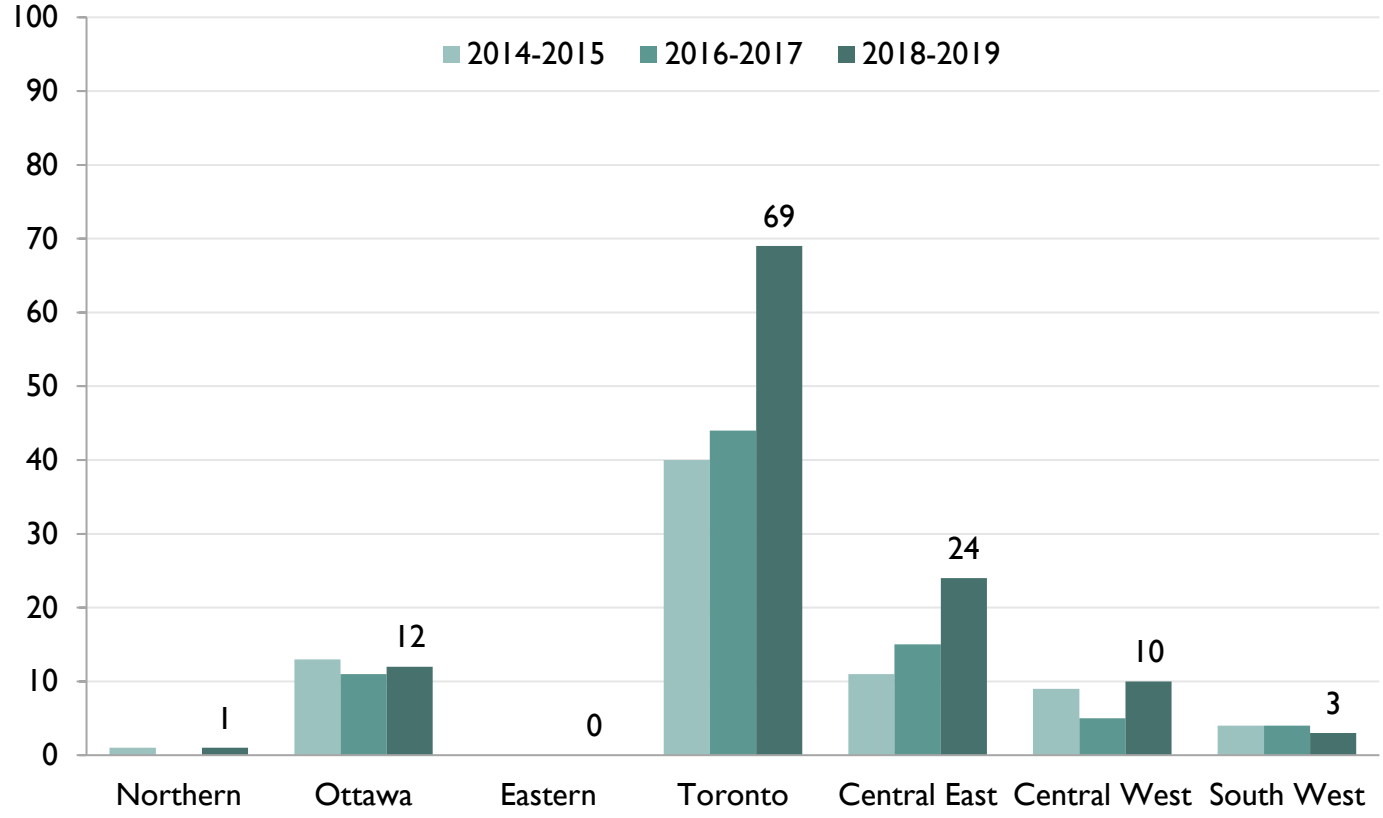
Snapshot

In 2019, looking within each region, Ottawa region attributed a larger proportion of its first-time HIV diagnoses among males to ACB than any other region (28.6%, although this represents only 2 diagnoses), followed by Toronto (21.6%), Central West and South West (both 16.7%), and Central East (14.6%) regions.

Between 2015 and 2019, Toronto region attributed a larger proportion of its first-time HIV diagnoses among males to ACB than any other region, increasing from 13.6% in 2015 to 21.6% in 2019.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where ACB status was not reported were excluded (average of 26.4% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 9.21 Number of first-time HIV diagnoses by health region, ACB females, Ontario, 2014-2015 to 2018-2019



Snapshot

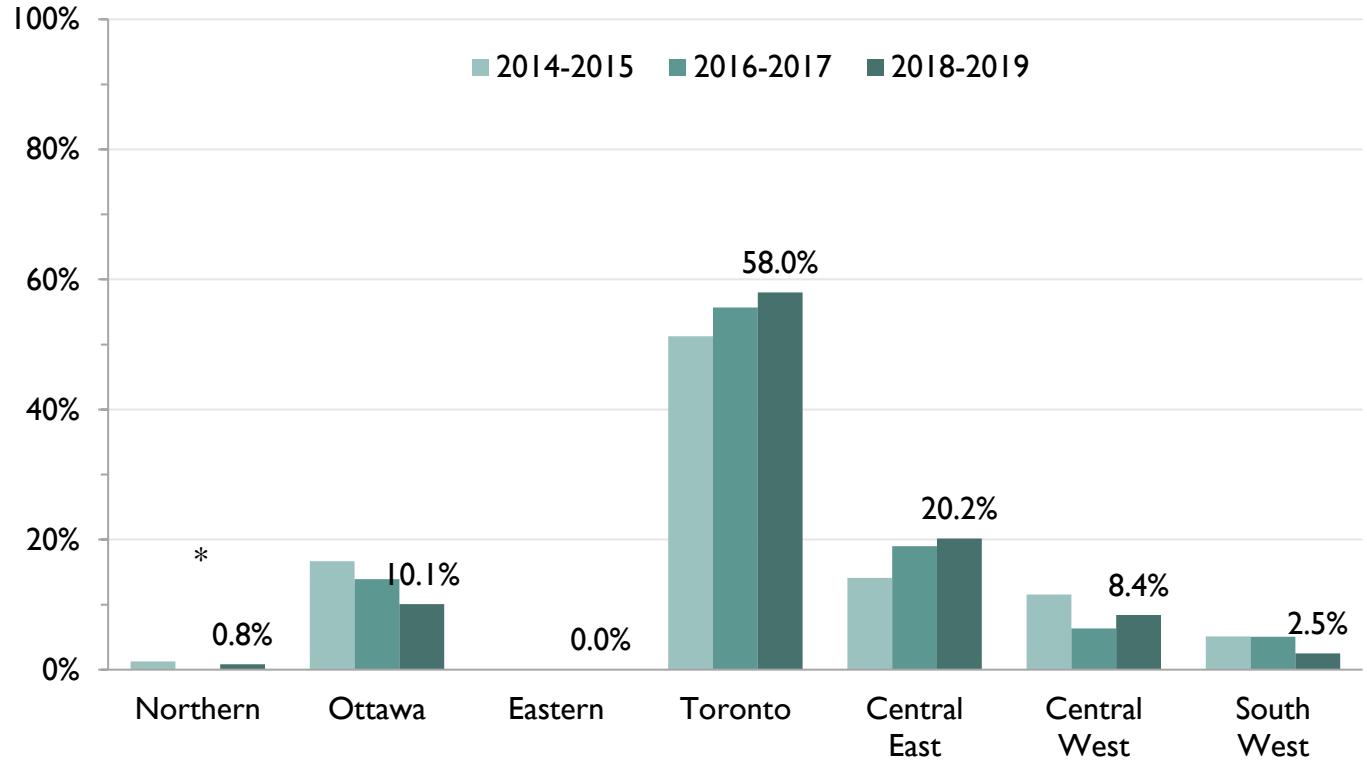
Over the two-year period 2018-2019, Toronto region had the largest number of first-time HIV diagnoses among ACB females (69), followed by Central East (24), Ottawa (12), Central West (10), South West (3) and Northern (1) regions. Eastern region had 0 diagnoses.

Between the two-year periods 2014-2015 and 2018-2019, Toronto region had the largest number of first-time HIV diagnoses among ACB females. The number of first-time HIV diagnoses among ACB females in Toronto region increased from 40 in 2014-2015 to 69 in 2018-2019. The number of first-time HIV diagnoses among ACB females in Central East region increased from 11 in 2014-2015 to 24 in 2018-2019.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where ACB status was not reported were excluded (average of 34.3% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 9.22 Percent of first-time HIV diagnoses across health regions, ACB females, Ontario, 2014-2015 to 2018-2019



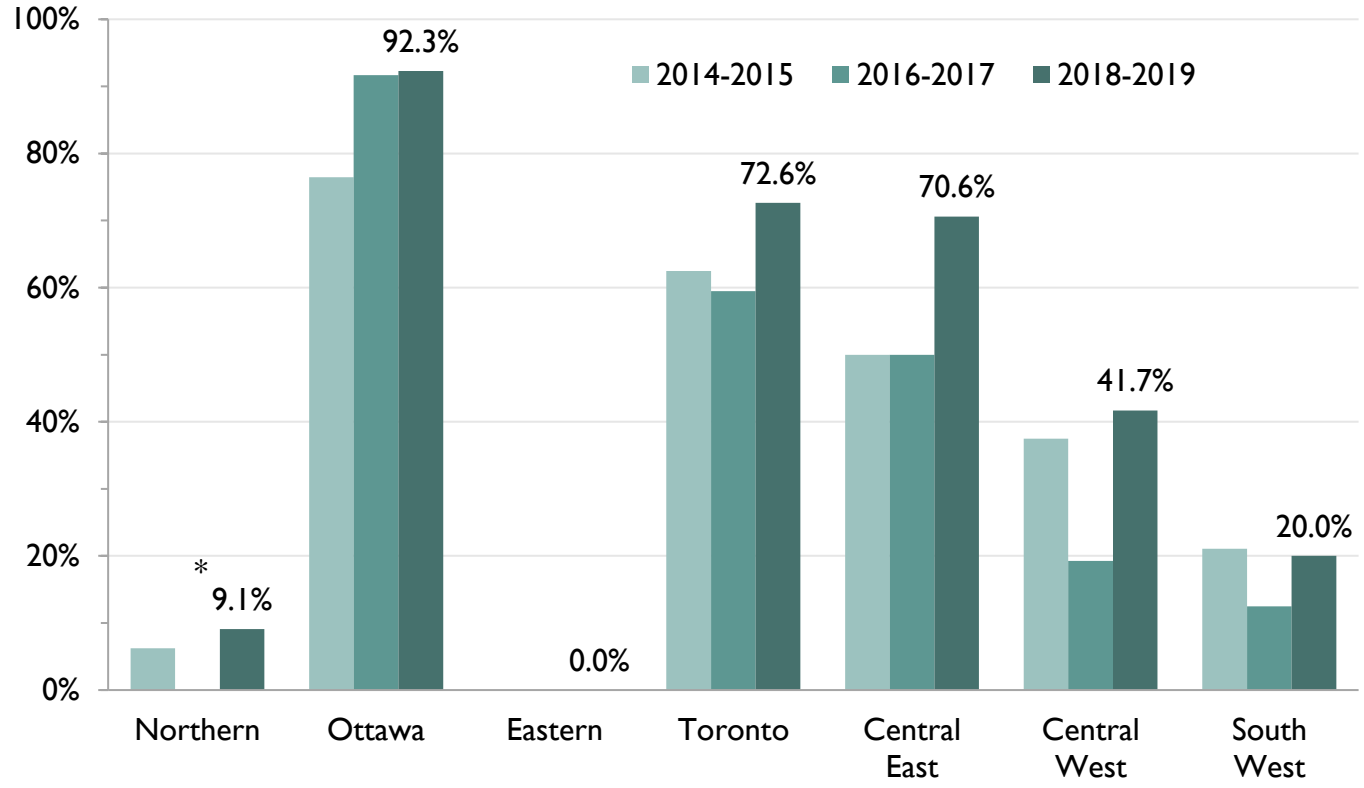
Snapshot

Over the two-year period 2018-2019, Toronto region had the largest proportion of first-time HIV diagnoses among ACB females (58.0%), followed by Central East (20.2%), Ottawa (10.1%), Central West (8.4%), South West (2.5%), and Northern (0.8%) regions. Eastern region had 0 first-time HIV diagnoses among ACB females in 2018-2019. This trend has been consistent over time: between the two-year periods 2014-2015 and 2018-2019, Toronto region had the largest proportion of first-time HIV diagnoses among ACB females.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where ACB status was not reported were excluded (average of 34.3% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 9.23 Percent of first-time HIV diagnoses among females within each health region attributed to ACB (where ACB status reported), Ontario, 2014-2015 to 2018-2019



Snapshot

Over the two-year period 2018-2019, looking within each region, Ottawa region attributed a larger proportion of its first-time HIV diagnoses among females to ACB than any other region (92.3%), followed by Toronto (72.6%), Central East (70.6%), Central West (41.7%) South West (20.0%) and Northern (9.1%) regions. These trends have been consistent over time.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where ACB status was not reported were excluded (average of 34.3% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

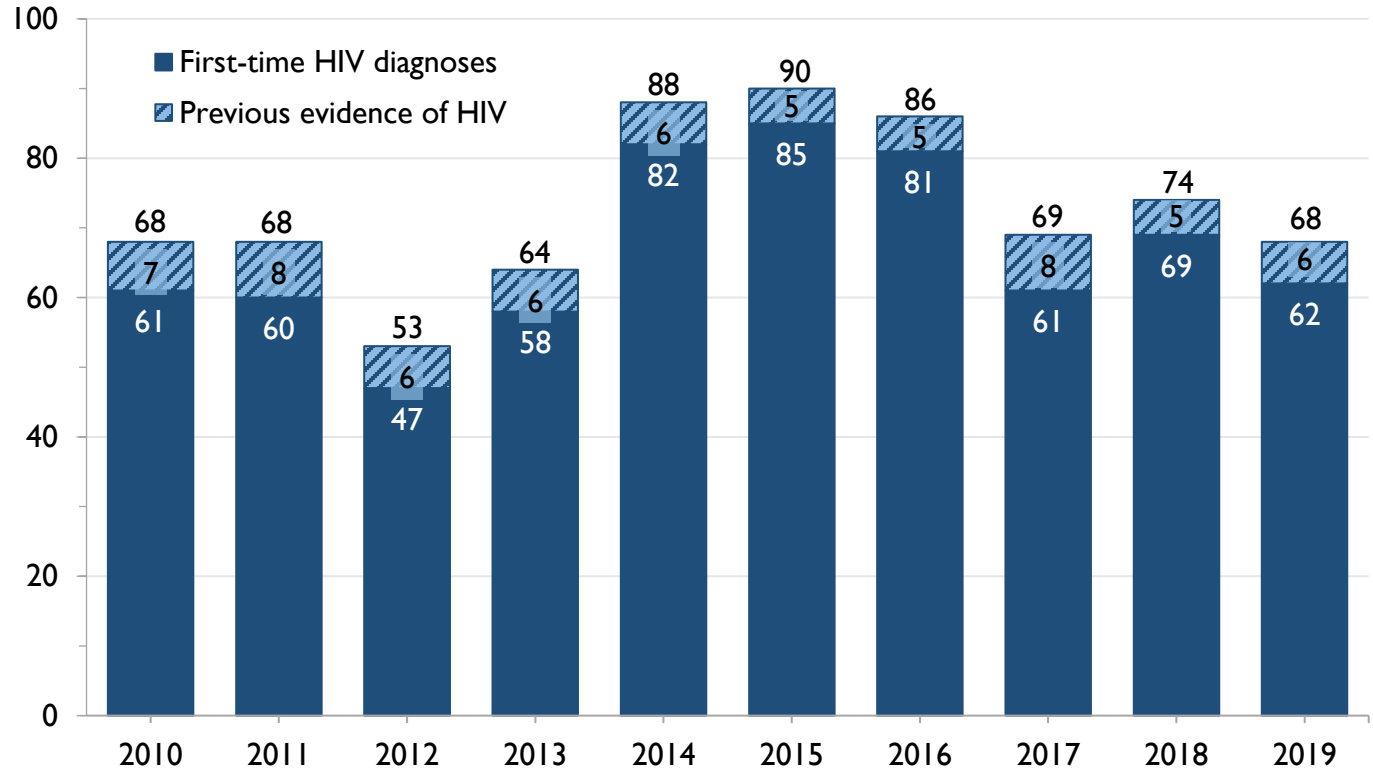
10. People who use injection drugs (PWID)

10.a. PWID overview

Diagnoses attributed to PWID are defined by having reported injection drug use as an HIV risk factor. In 2019, 62 of the 68 positive HIV tests attributed to PWID in Ontario were first-time HIV diagnoses and 6 had previous evidence of HIV.

Note: *Counts of positive HIV tests and first-time HIV diagnoses among PWID may be underestimated, as between 2010 and 2019, the information required to assign PWID status was not reported for an average of 19.4% of positive HIV tests, and we estimate between 6.3% and 7.5% of first-time HIV diagnoses overall to have an uncaptured previous HIV diagnosis. Data shown are where PWID status was reported.*

Figure 10.1 Number of positive HIV tests, by first-time HIV diagnoses and previous evidence of HIV, PWID, Ontario, 2010 to 2019



Snapshot

In 2019, 62 of the 68 positive HIV tests attributed to PWID in Ontario were first-time HIV diagnoses and 6 had previous evidence of HIV. Between 2010 and 2019, the number of first-time HIV diagnoses in PWID ranged from a low of 47 in 2012 to a high of 85 in 2015, and was 62 in 2019.

The number of positive HIV tests ranged from a low of 53 in 2012 to a high of 90 in 2015, and was 68 in 2019. The proportion of positive HIV tests that have previous evidence of HIV ranged from a low of 5.6% in 2015 to a high of 11.8% in 2011.

Note: *Counts of positive HIV tests and first-time HIV diagnoses among PWID may be underestimated, as between 2010 and 2019, the information required to assign PWID status was not reported for an average of 19.4% of positive HIV tests, and we estimate between 6.3% and 7.5% of first-time HIV diagnoses overall to have an uncaptured previous HIV diagnosis.*

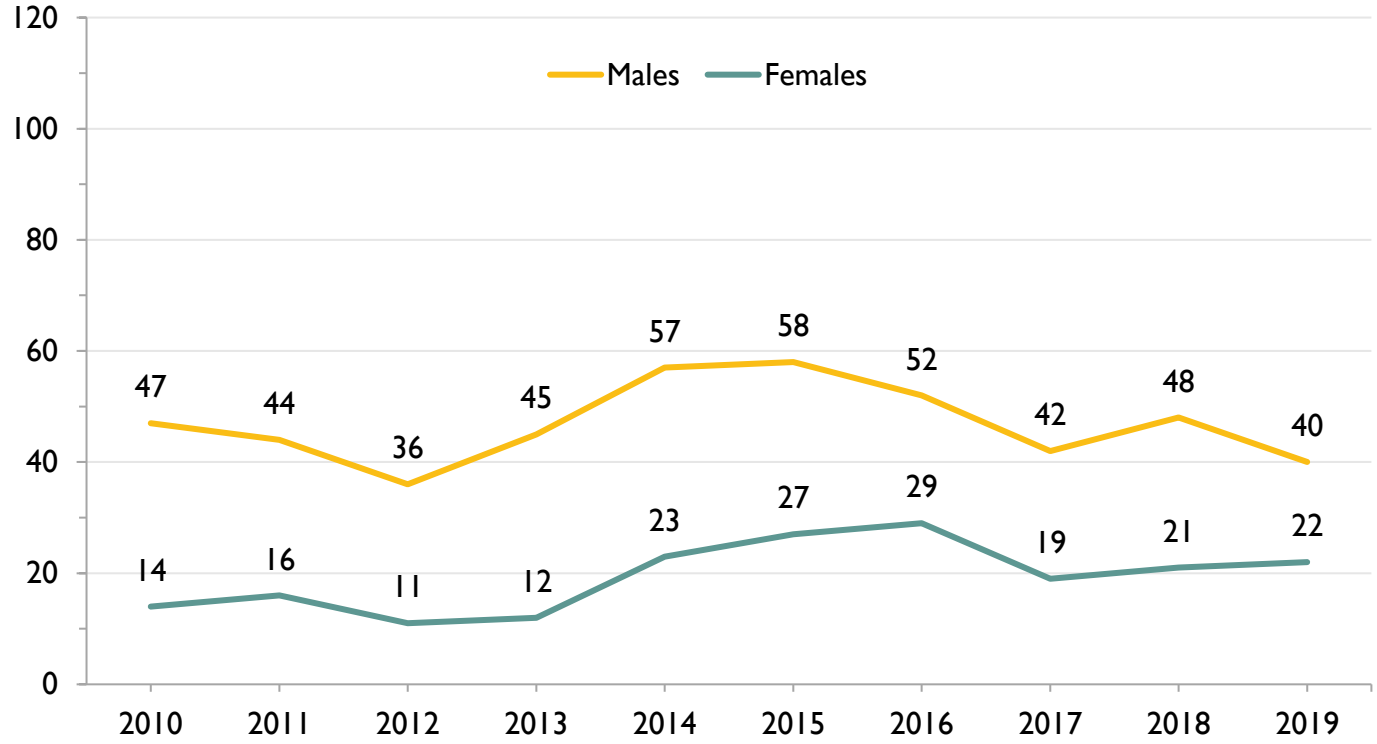
Notes: Data provided by Public Health Ontario Laboratory. Positive HIV tests where PWID status was not reported were excluded (average of 19.4% of tests per year). See Appendices for more information. See Tables Supplement for underlying data.

10.b. PWID by sex

In 2019, there were 40 first-time HIV diagnoses among male PWID and 22 first-time HIV diagnoses among female PWID. PWID accounted for 12.2% of first-time HIV diagnoses with males accounting for 7.9% and females 4.3% of first-time HIV diagnoses. Male PWID accounted for 9.9% of first-time HIV diagnoses among all males, while female PWID accounted for 21.4% of first-time HIV diagnoses among females. Females accounted for 35.5% of first-time HIV diagnoses among PWID in 2019; this ranged from 21.1% to 35.8% between 2010 and 2019.

Note: *Counts of first-time HIV diagnoses among PWID may be underestimated, as 2010 and 2019, the information required to assign PWID status was not reported for an average of 17.6% of first-time HIV diagnoses among males and 23.4% among females, and we estimate between 4.5% and 5.4% among males and between 13.9% and 16.3% among females to have an uncaptured previous HIV diagnosis. Data shown are where PWID status was reported.*

Figure 10.2 Number of first-time HIV diagnoses by sex, PWID, Ontario, 2010 to 2019

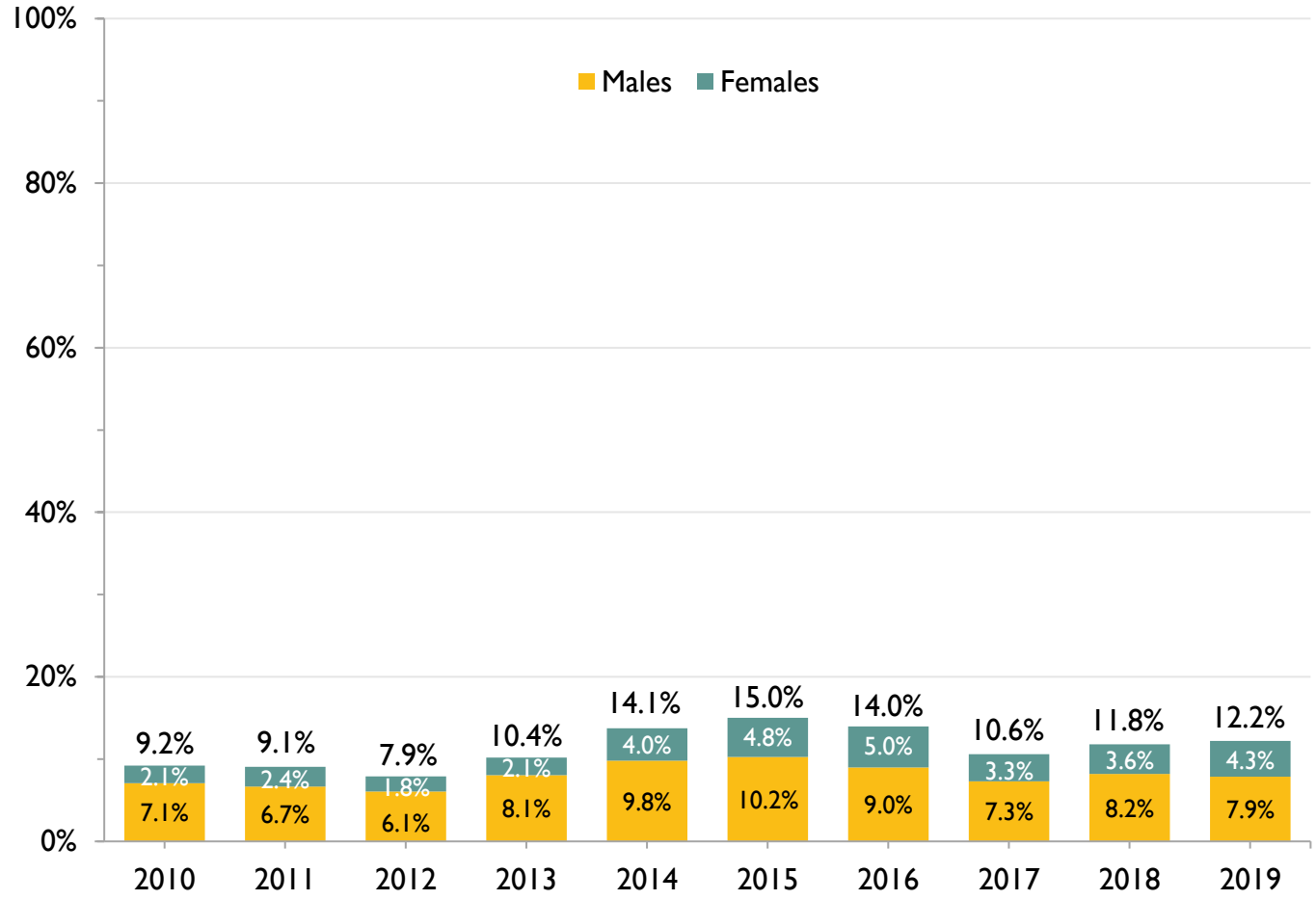


Snapshot

In 2019, there were 40 first-time HIV diagnoses among male PWID and 22 among female PWID. Between 2010 and 2019, the number of first-time HIV diagnoses among male PWID ranged from a low of 36 in 2012 to a high of 58 in 2015, and the number of first-time HIV diagnoses among female PWID ranged from a low of 11 in 2012 and 2016 to a high of 29 in 2016.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where PWID status was not reported were excluded (average of 17.6% of diagnoses per year among males, 23.4% among females). See Appendices for more information. See Tables Supplement for underlying data.

Figure 10.3 Percent of first-time HIV diagnoses attributed to PWID (where PWID status reported) by sex, Ontario, 2010 to 2019



Snapshot

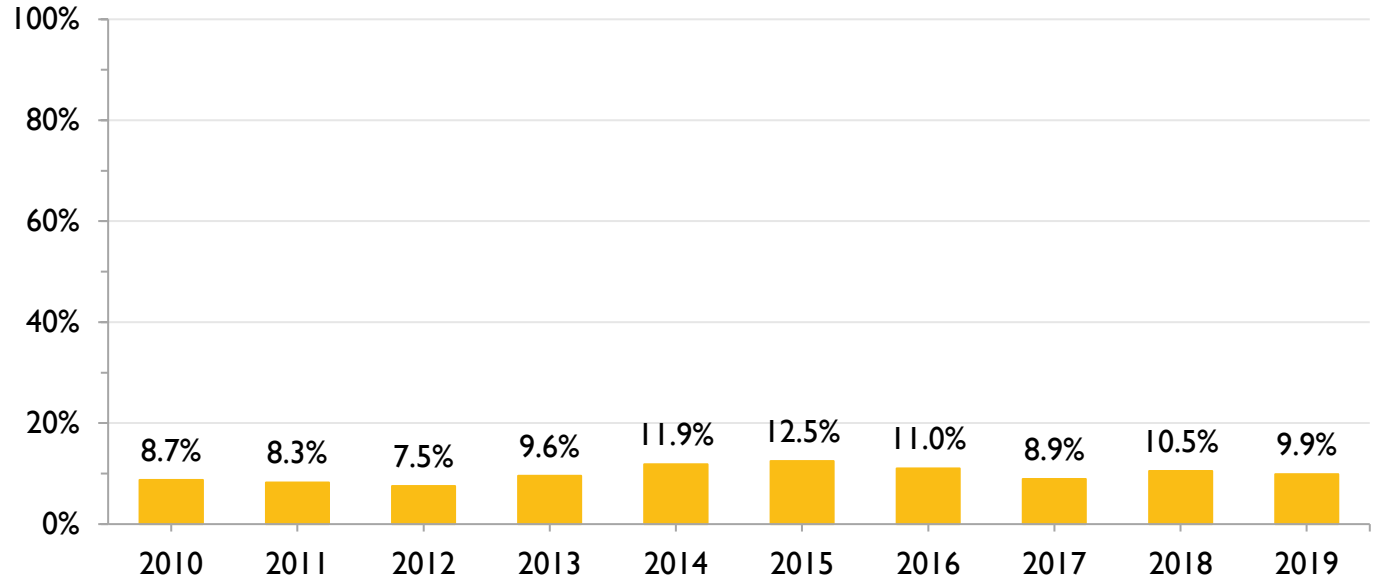
In 2019, male PWID accounted for 7.9% and female PWID accounted for 4.3% of all first-time HIV diagnoses, for a total of 12.2% of first-time HIV diagnoses being attributed to PWID.

Between 2010 and 2019, PWID accounted for between 7.9% (2012) and 15.0% (2015) of all first-time HIV diagnoses, while male PWID accounted for between 6.1% (2012) and 10.2% (2015), and female PWID between 1.8% (2012) and 5.0% (2016).

Note: *Counts of first-time HIV diagnoses among PWID may be underestimated, as 2010 and 2019, the information required to assign PWID status was not reported for an average of 17.6% of first-time HIV diagnoses among males and 23.4% among females, and we estimate between 4.5% and 5.4% among males and between 13.9% and 16.3% among females to have an uncaptured previous HIV diagnosis.*

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where PWID status was not reported were excluded (average of 17.6% of diagnoses per year among males, 23.4% among females). See Appendices for more information. See Tables Supplement for underlying data.

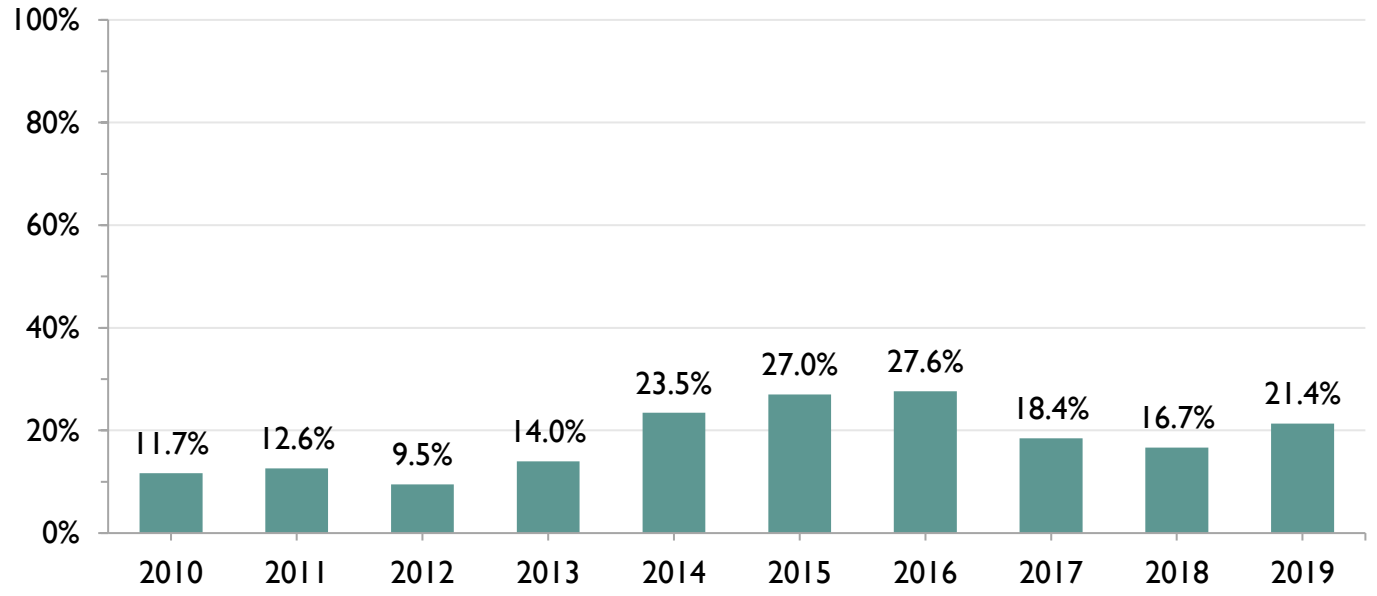
Figure 10.4 Percent of first-time HIV diagnoses among males attributed to PWID (where PWID status reported), Ontario, 2010 to 2019



Snapshot

In 2019, male PWID accounted for 9.9% of first-time HIV diagnoses among males. Between 2010 and 2019, male PWID accounted for between 7.5% (2012) and 12.5% (2015) of first-time HIV diagnoses among males.

Figure 10.5 Percent of first-time HIV diagnoses among females attributed to PWID (where PWID status reported), Ontario, 2010 to 2019

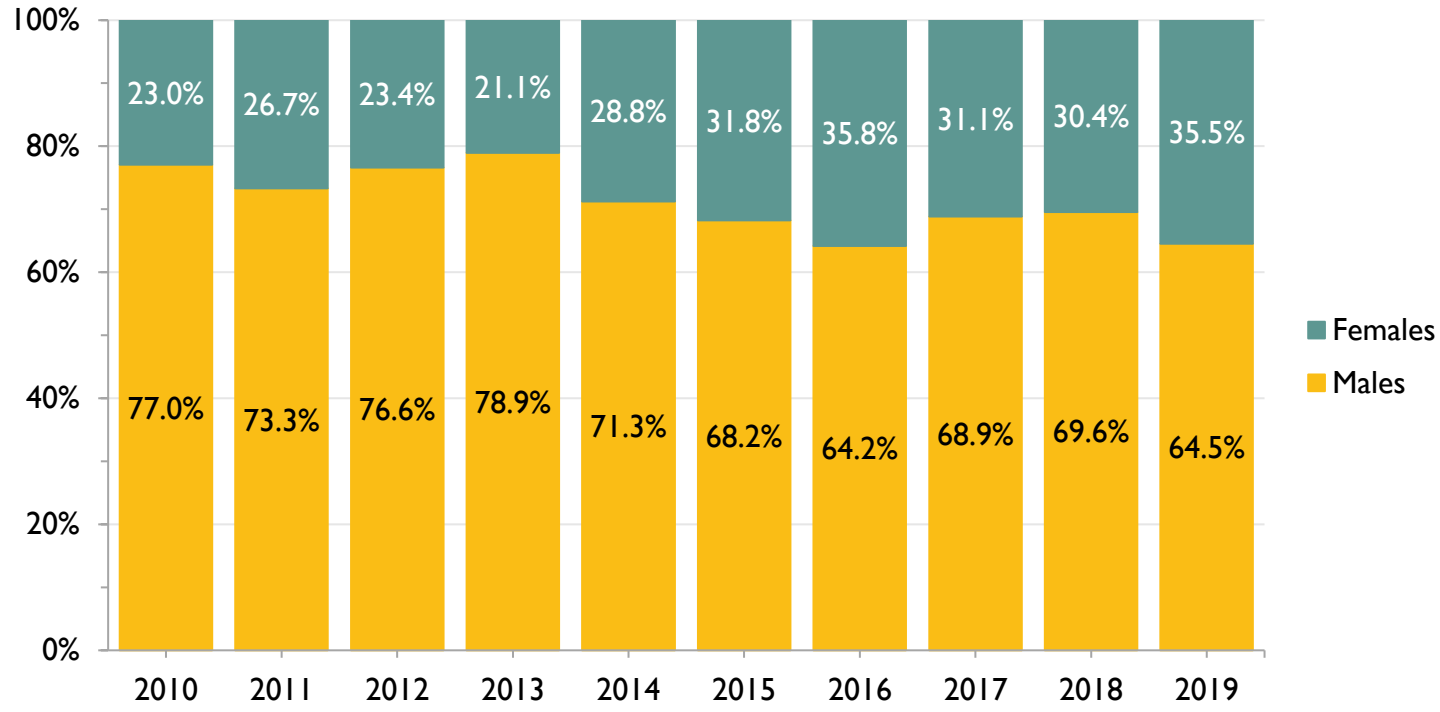


Snapshot

In 2019, female PWID accounted for 21.4% of first-time HIV diagnoses among females. Between 2010 and 2019, female PWID accounted for between 9.5% (2012) and 27.6% (2016) of first-time HIV diagnoses among females.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where PWID status was not reported were excluded (average of 17.6% of diagnoses per year among males, 23.4% among females). See Appendices for more information. See Tables Supplement for underlying data.

Figure 10.6 Percent of first-time HIV diagnoses by sex, PWID, Ontario, 2010 to 2019



Snapshot

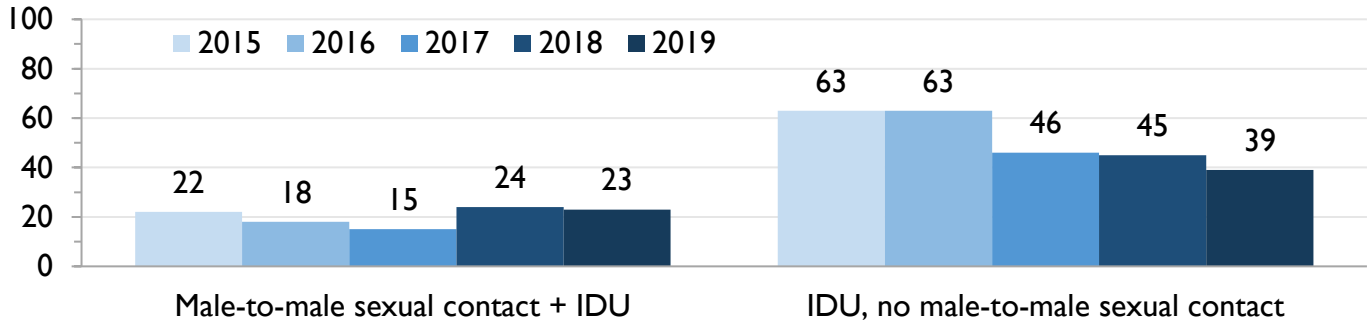
Between 2010 and 2019, males accounted for the majority of first-time HIV diagnoses in PWID; however, the number and proportion of first-time HIV diagnoses have increased among female PWID. In 2019, females accounted for 35.5% of first-time HIV diagnoses among PWID. Between 2010 and 2019, females accounted for between 21.1% (2013) and 35.8% (2016) of first-time HIV diagnoses among PWID.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where PWID status was not reported were excluded (average of 17.6% of diagnoses per year among males, 23.4% among females). See Appendices for more information. See Tables Supplement for underlying data.

10.c. PWID by HIV exposure category

PWID include two exposure categories: male-to-male sexual contact + IDU (males only), and IDU (no male-to-male sexual contact; includes both males and females). As only males can be in both categories, a within-gender breakdown is only provided for males. Between 2015 and 2019, the majority of first-time HIV diagnoses among PWID were reported as IDU (no male-to-male sexual contact). Over this time, this number decreased while the number of diagnoses reported as male-to-male sexual contact + IDU remained relatively stable; therefore, the proportion reported as IDU (no male-to-male sexual contact) decreased while the proportion reported as male-to-male sexual contact + IDU increased. This trend is especially apparent among male PWID.

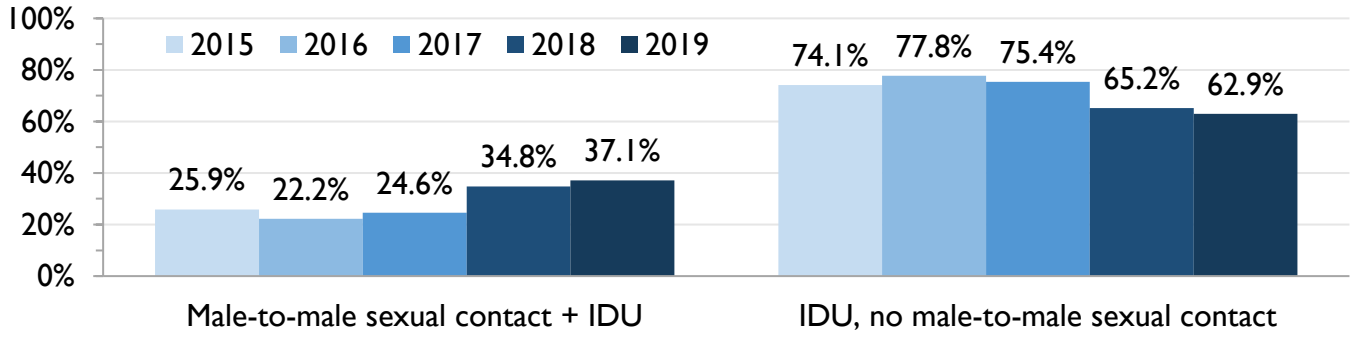
Figure 10.7 Number of first-time HIV diagnoses among PWID by HIV exposure category, Ontario, 2015 to 2019



Snapshot

In 2019, 39 of the 62 first-time HIV diagnoses among PWID were reported as IDU (no male-to-male sexual contact, 39) and 23 were reported as male-to-male sexual contact + IDU. Between 2015 and 2019, diagnoses reported as IDU (no male-to-male sexual contact) accounted for the largest number of first-time HIV diagnoses among PWID; this number decreased from 63 in 2015 and 2016 to 39 in 2019.

Figure 10.8 Percent of first-time HIV diagnoses among PWID by HIV exposure category (where reported), Ontario, 2015 to 2019

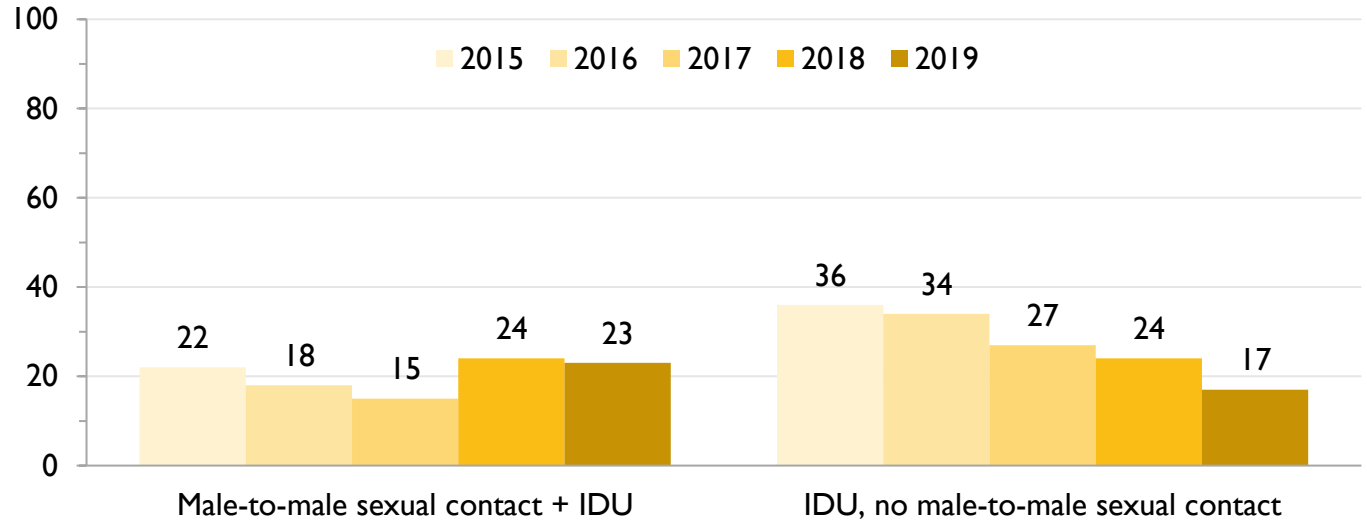


Snapshot

In 2019, 62.9% of first-time HIV diagnoses among PWID were reported as IDU (no male-to-male sexual contact) and 37.1% were reported as male-to-male sexual contact + IDU. Between 2015 and 2019, the proportion attributed to IDU (no male-to-male sexual contact) decreased from 74.1% in 2015 to 62.9% in 2019 while the proportion attributed to male-to-male sexual contact + IDU increased from 25.9% to 37.1%.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where PWID status was not reported were excluded (average of 20.2% of diagnoses per year). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

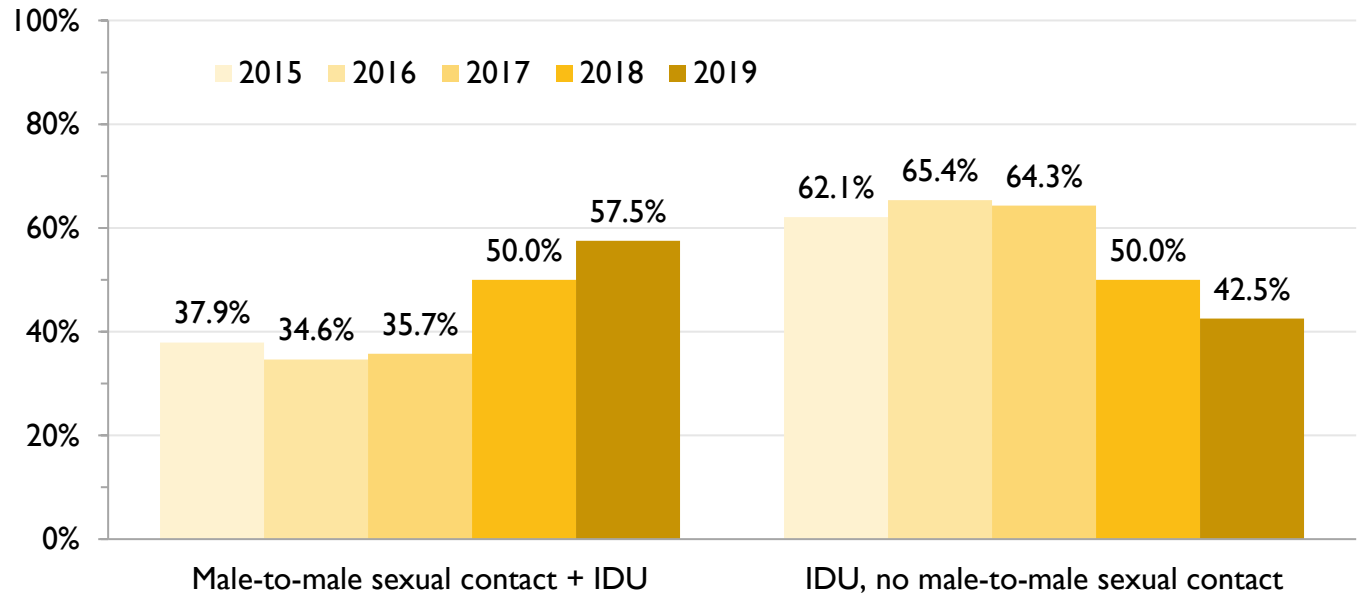
Figure 10.9 Number of first-time HIV diagnoses among male PWID by HIV exposure category, Ontario, 2015 to 2019



Snapshot

In 2019, 23 of the 40 first-time HIV diagnoses among male PWID were reported as male-to-male sexual contact + IDU and 17 as IDU (no male-to-male sexual contact). The number of first-time HIV diagnoses reported as IDU (no male-to-male sexual contact) decreased from 36 in 2015 to 17 in 2019.

Figure 10.10 Percent of first-time HIV diagnoses among male PWID by HIV exposure category (where reported), Ontario, 2015 to 2019



Snapshot

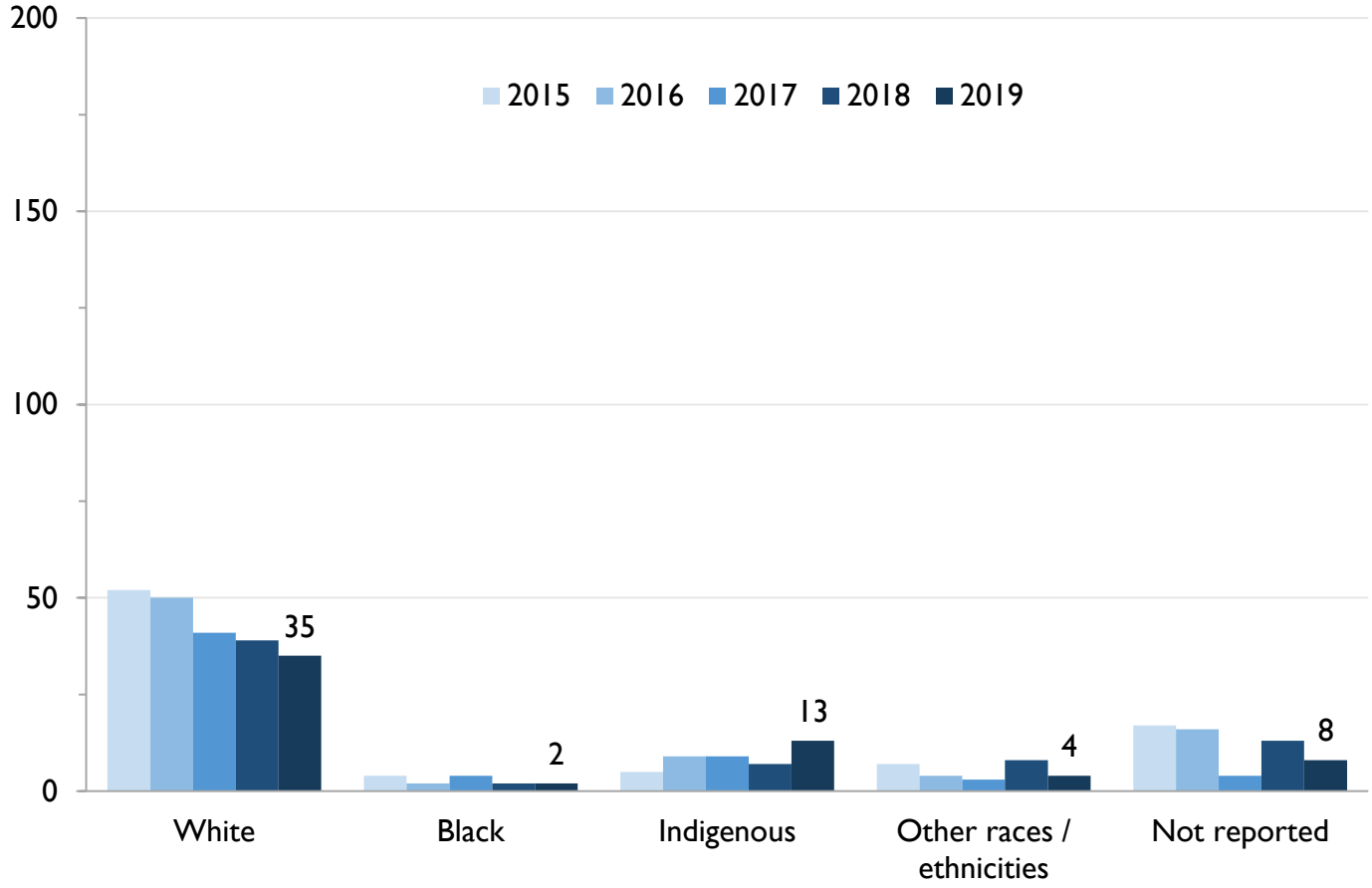
In 2019, 57.5% of first-time HIV diagnoses among male PWID were reported as male-to-male sexual contact + IDU and 42.5% were reported as IDU (no male-to-male sexual contact). The proportion reported as IDU (no male-to-male sexual contact) decreased from 62.1% in 2015 to 42.5% in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where PWID status was not reported were excluded (average of 18.6% of diagnoses per year). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

10.d. PWID by race/ethnicity

In 2019, 64.8% of first-time HIV diagnoses among PWID were in white PWID and 24.1% were in Indigenous PWID. Over the two-year period 2018-2019, white PWID accounted for 68.8% of first-time HIV diagnoses among male PWID and 63.6% among female PWID; while Indigenous PWID accounted for 11.7% among male PWID and 33.3% among female PWID. The number of first-time HIV diagnoses in white PWID decreased among PWID overall between 2015 and 2019 and among male PWID between the two-year periods 2014-2015 and 2018-2019.

Figure 10.11 Number of first-time HIV diagnoses by race/ethnicity, PWID, Ontario, 2015 to 2019



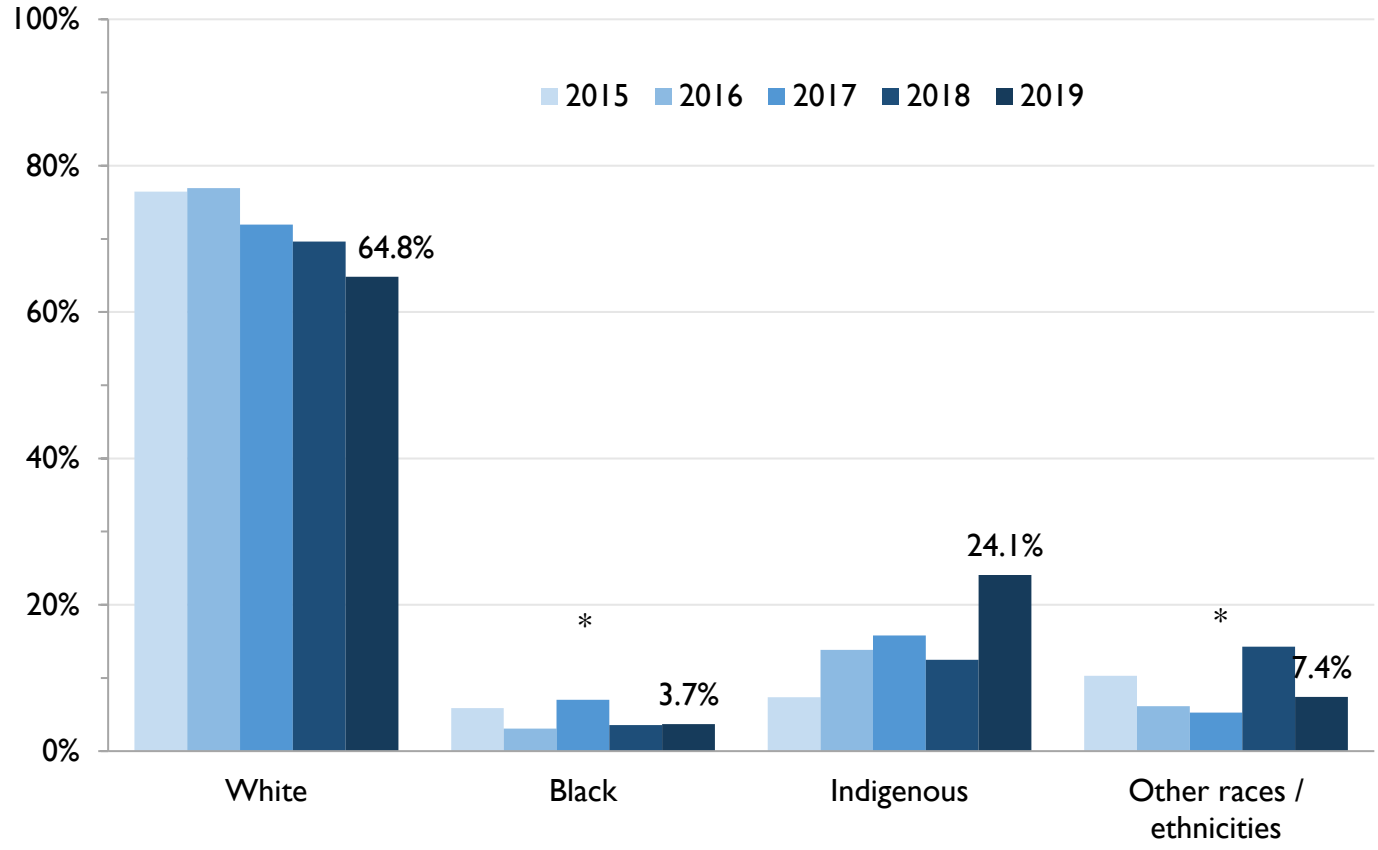
Snapshot

In 2019, 8 of the 62 first-time HIV diagnoses attributed to PWID had no reported race/ethnicity. Among the 54 first-time HIV diagnoses attributed to PWID with a reported race/ethnicity in 2019, 35 were in white PWID, 13 in Indigenous PWID, 4 in PWID of other races/ethnicities, and 2 in Black PWID.

Between 2015 and 2019, white PWID accounted for the largest number of first-time HIV diagnoses among PWID, although this number decreased from 52 in 2015 to 35 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where PWID status was not reported were excluded (average of 20.2% of diagnoses per year). See Appendices for more information. See Tables Supplement for underlying data.

Figure 10.12 Percent of first-time HIV diagnoses by race/ethnicity (where reported), PWID, Ontario, 2015 to 2019



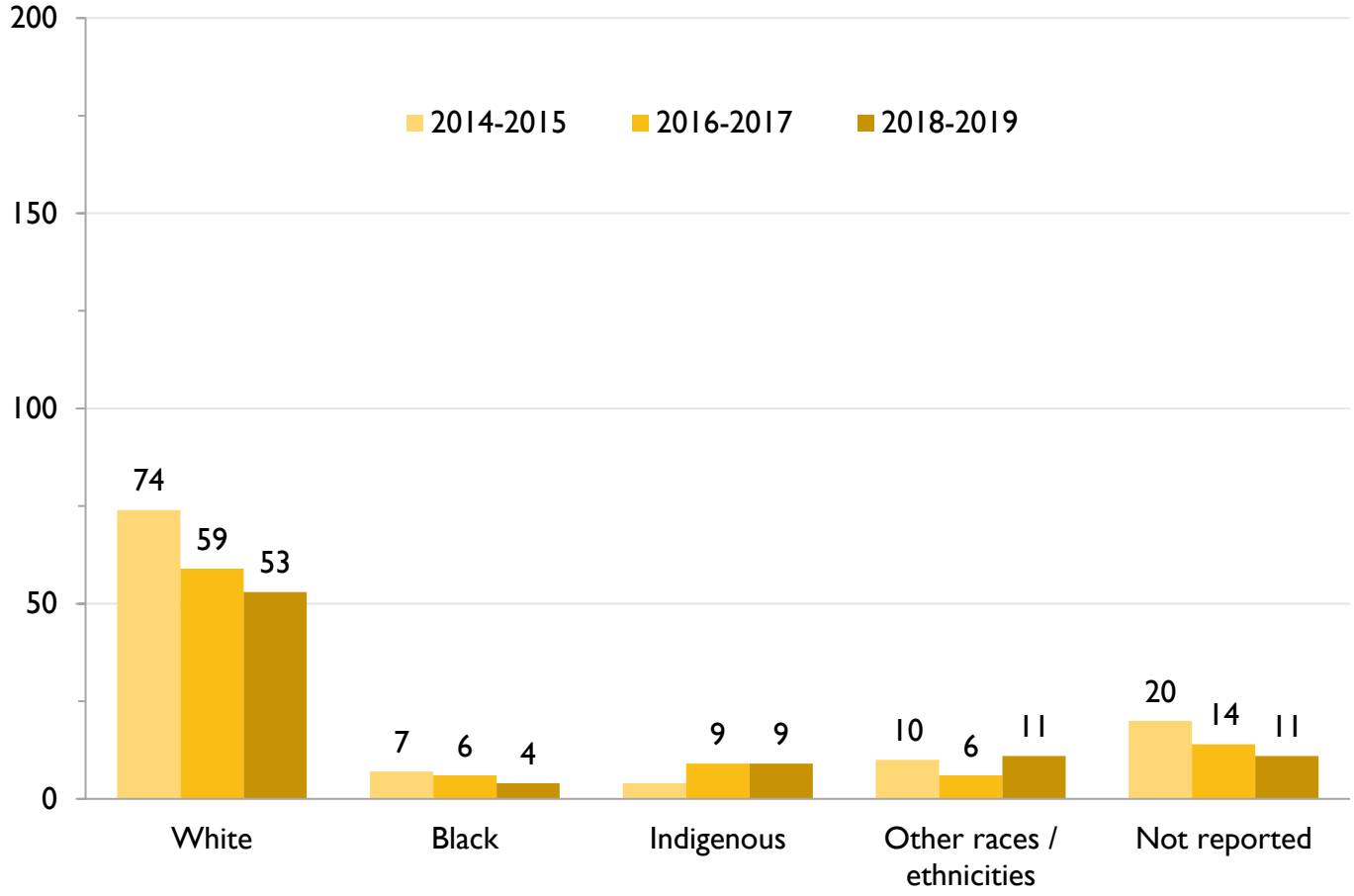
Snapshot

In 2019, among the 54 first-time HIV diagnoses attributed to PWID with a reported race/ethnicity, white PWID accounted for the largest proportion (64.8%), followed by Indigenous (24.1%) PWID, PWID of other/mixed races/ethnicities (7.4%) and Black PWID (3.7%).

Between 2015 and 2019, white PWID accounted for the largest proportion of first-time HIV diagnoses among PWID; however, this proportion decreased from 76.5% in 2015 to 64.8% in 2019 while the proportion attributed to Indigenous PWID increased from 7.4% to 24.1%.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where PWID status was not reported were excluded (average of 20.2% of diagnoses per year). Diagnoses where PWID status was reported but race/ethnicity was not reported were excluded (average of 15.6% of diagnoses per year, where PWID status was reported). See Appendices for more information. See Tables Supplement for underlying data.

Figure 10.13 Number of first-time HIV diagnoses by race/ethnicity, male PWID, Ontario, 2014-2015 to 2018-2019



Snapshot

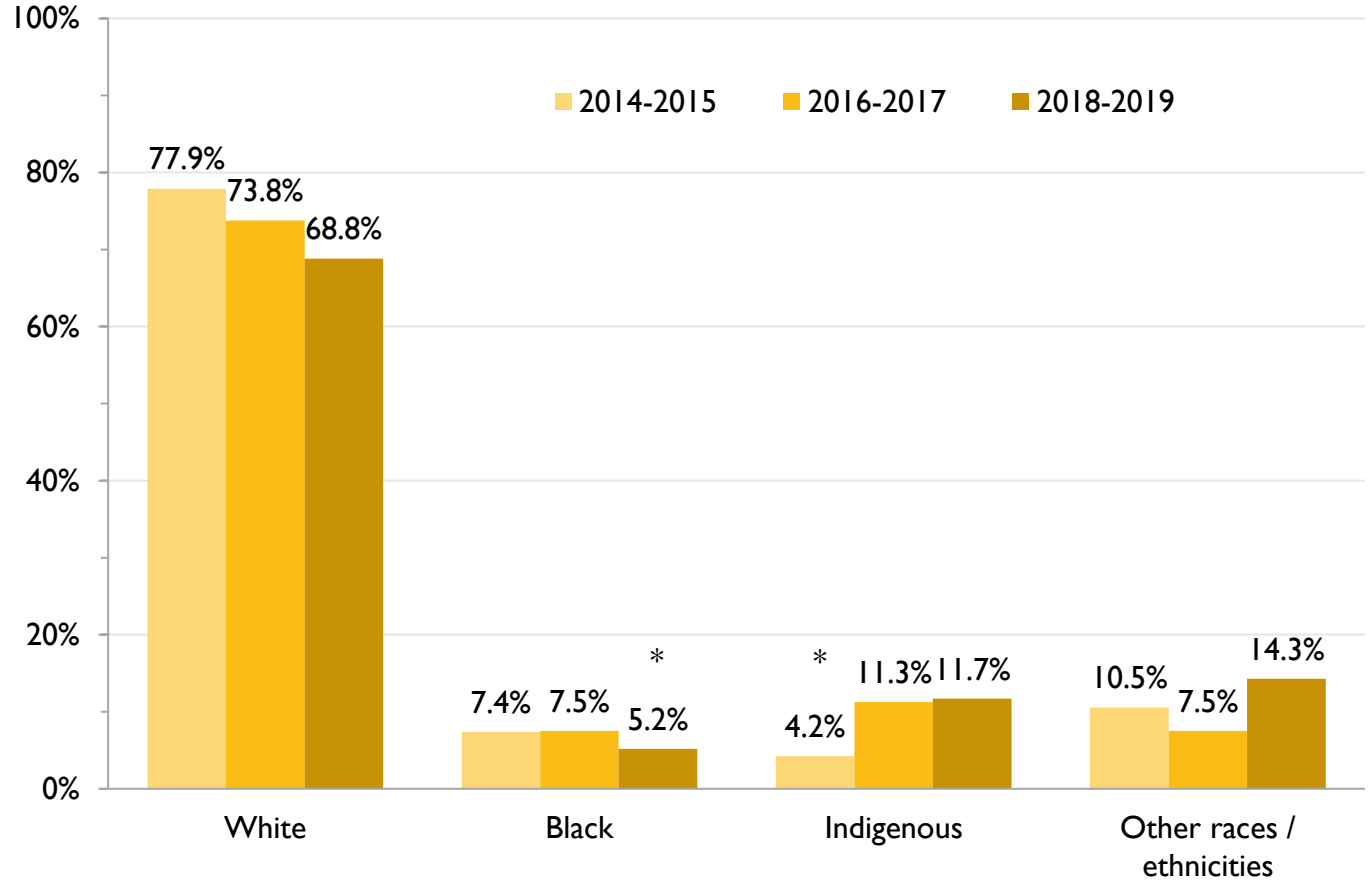
Over the two-year period 2018-2019, 11 out of 88 first-time HIV diagnoses attributed to male PWID did not report race/ethnicity. Among the 77 first-time HIV diagnoses attributed to PWID males with a reported race/ethnicity, 53 were in white males, 11 in males of other races/ethnicities, 9 in Indigenous males and 4 in Black males.

Between the two-year periods 2014-2015 and 2018-2019, white PWID accounted for the largest number of first-time HIV diagnoses among male PWID; however, the number of first-time HIV diagnoses in white male PWID decreased from 74 in 2014-2015 to 53 in 2018-2019 while the number attributed to other races/ethnicities remained relatively stable.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where PWID status was not reported were excluded (average of 17.8% of diagnoses per 2-year period). See Appendices for more information. See Tables Supplement for underlying data.

Figure 10.14 Percent of first-time HIV diagnoses by race/ethnicity (where reported), male PWID, Ontario, 2014-2015 to 2018-2019



Snapshot

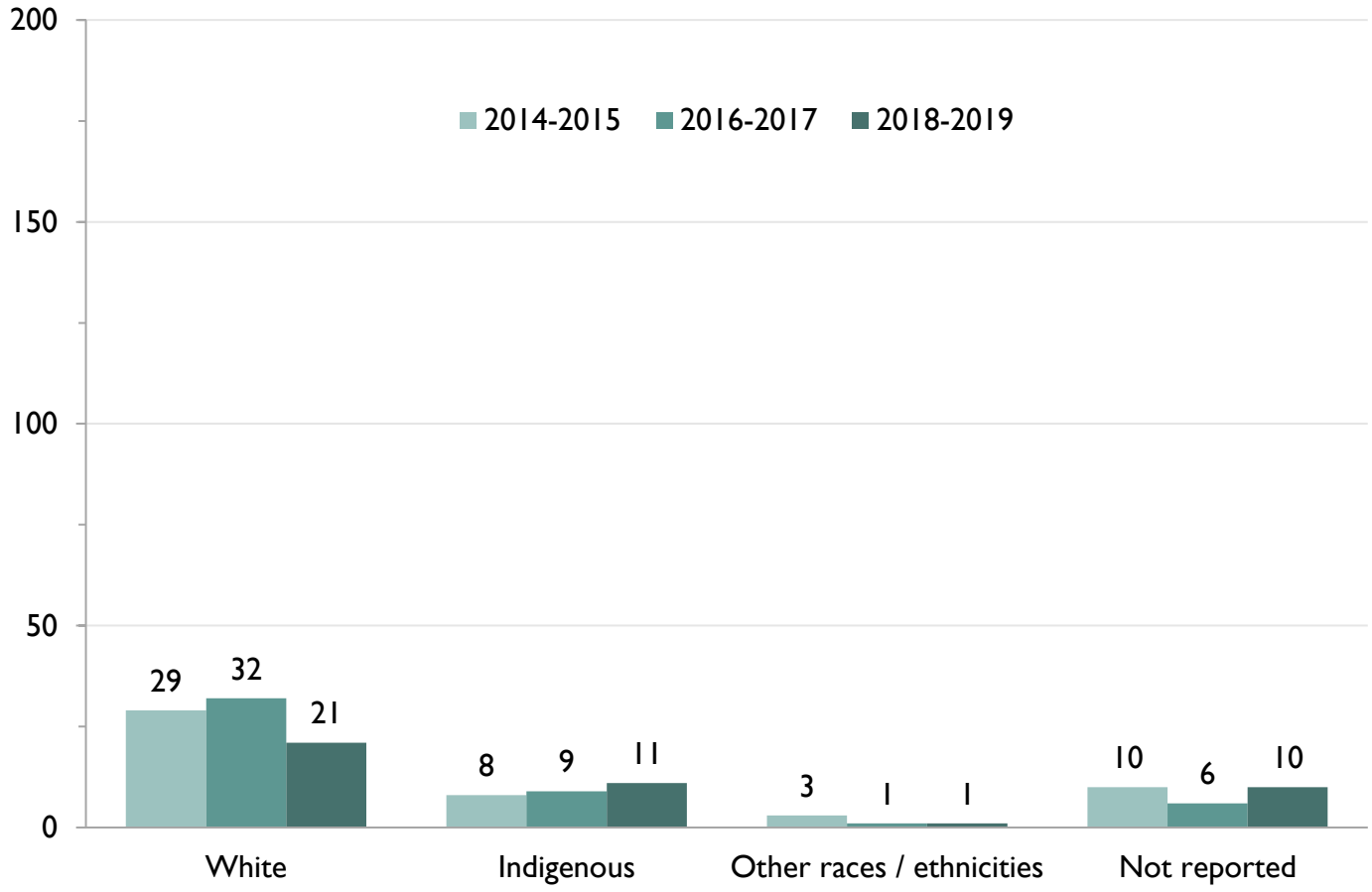
Over the two-year period 2018-2019, among the 77 first-time HIV diagnoses attributed to PWID males with a reported race/ethnicity, white males accounted for the largest proportion (68.6%), followed by males of other/mixed races/ethnicities (14.3%), Indigenous males (11.7%), and Black males (5.2%).

Between the two-year periods 2014-2015 and 2018-2019, white PWID accounted for the largest proportion of first-time HIV diagnoses among male PWID; however, the proportion of first-time HIV diagnoses attributed to white PWID decreased from 77.9% in 2014-2015 to 68.8% in 2018-2019.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where PWID status was not reported were excluded (average of 17.8% of diagnoses per 2-year period). Diagnoses where PWID status was reported but race/ethnicity was not reported were excluded (average of 14.9% of diagnoses per 2-year period, where PWID status was reported). See Appendices for more information. See Tables Supplement for underlying data.

Figure 10.15 Number of first-time HIV diagnoses by race/ethnicity, female PWID, Ontario, 2014-2015 to 2018-2019



Snapshot

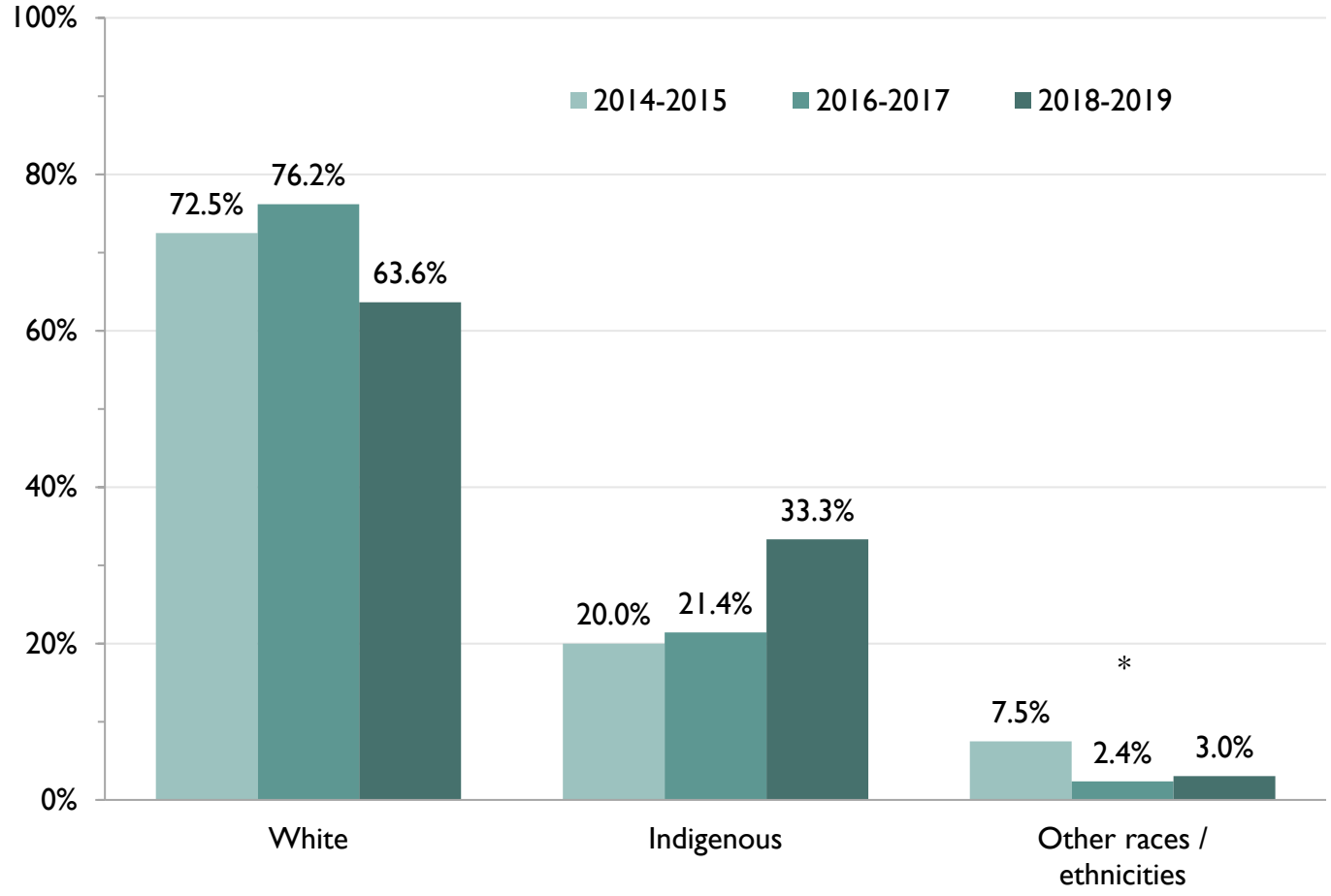
Over the two-year period 2018-2019, 10 of 43 first-time HIV diagnoses in female PWID had no reported race/ethnicity. Among the 33 first-time HIV diagnoses attributed to female PWID with a reported race/ethnicity, 21 were in white females, 11 in Indigenous females, and 1 was in a female of other race/ethnicity.

Between the two-year periods 2014-2015 and 2018-2019, white PWID accounted for the largest number of first-time HIV diagnoses among female PWID.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where PWID status was not reported were excluded (average of 25.1% of diagnoses per 2-year period). See Appendices for more information. See Tables Supplement for underlying data.

Figure 10.16 Percent of first-time HIV diagnoses by race/ethnicity (where reported), female PWID, Ontario, 2014-2015 to 2018-2019



Snapshot

Over the two-year period 2018-2019, among the 33 first-time HIV diagnoses attributed to female PWID with a reported race/ethnicity, white females accounted for the largest proportion (63.6%), followed by Indigenous females (33.3%), and females of other races/ethnicities (3.0%).

Between the two-year periods 2014-2015 and 2018-2019, white PWID accounted for the largest proportion of first-time HIV diagnoses among female PWID.

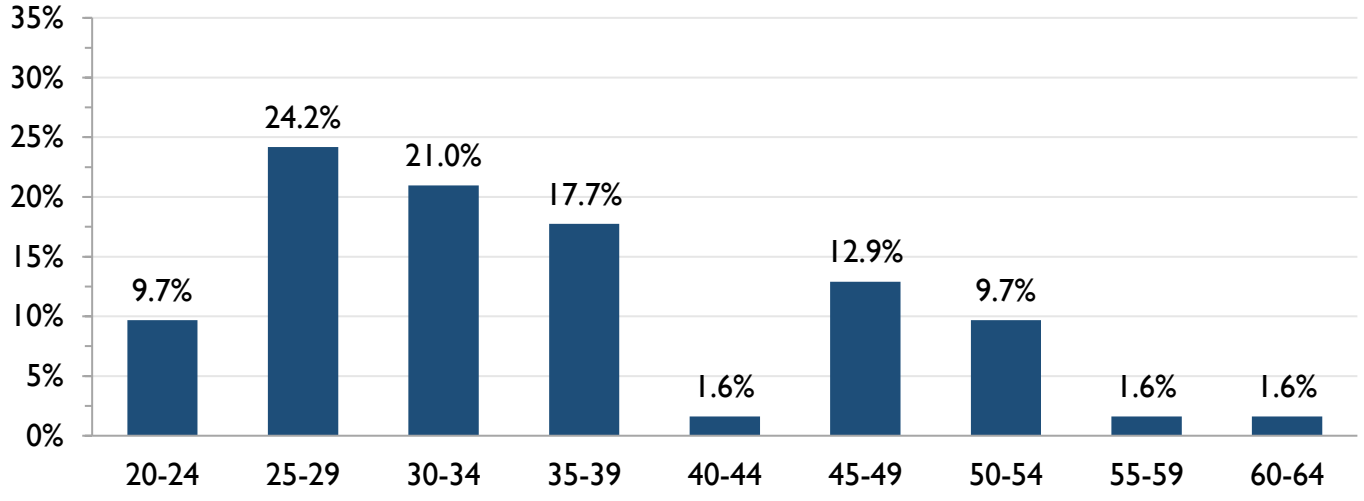
Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where PWID status was not reported were excluded (average of 25.1% of diagnoses per 2-year period). Diagnoses where PWID status was reported but race/ethnicity was not reported were excluded (average of 18.6% of diagnoses per 2-year period, where PWID status was reported). See Appendices for more information. See Tables Supplement for underlying data.

10.e. PWID by age

In 2019, the largest proportions of first-time HIV diagnoses among PWID (24.2%) was in those aged 25-29. In 2017-2019, those aged 30-34 and 35-39 accounted for the largest proportion of first-time HIV diagnoses among PWID males (19.2% each) while those aged 25-29 accounted for the largest proportion among females (32.3%).

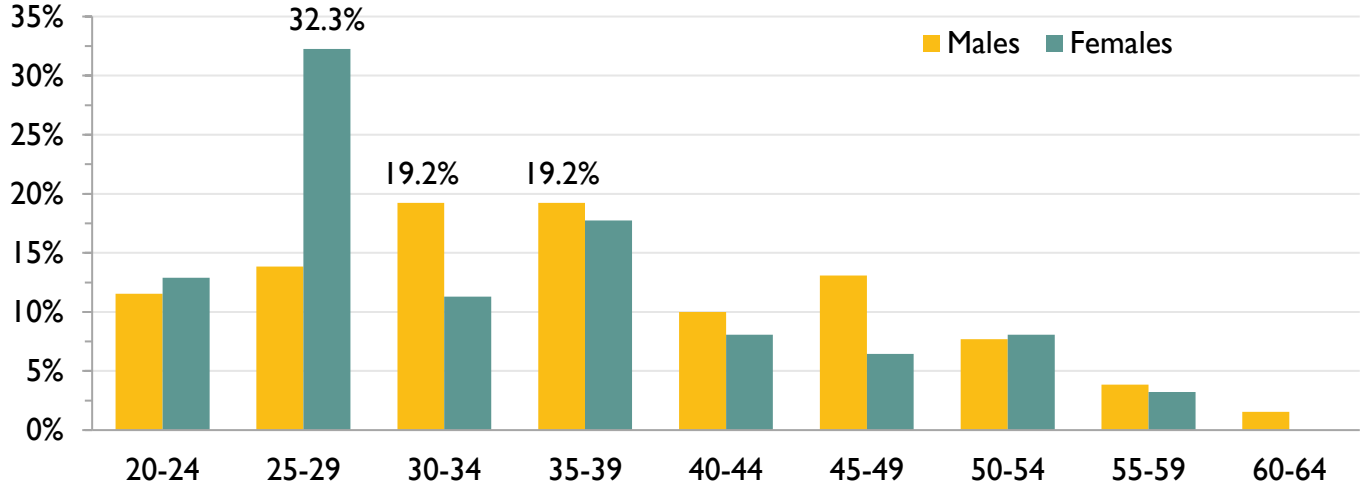
Figure 10.17 Percent of first-time HIV diagnoses by age, PWID, Ontario, 2019



Snapshot

In 2019, over 6 in 10 (62.9%) of first-time HIV diagnoses among PWID were among those aged 25-39 years with those aged 25-29 accounting for the largest proportion (24.2%).

Figure 10.18 Percent of first-time HIV diagnoses by age, male PWID and female PWID, Ontario, 2017-2019



Snapshot

Over the two-year period 2017-2019, males aged 30-34 years and 35-39 years accounted for the largest proportion of first-time HIV diagnoses among male PWID (19.2% each) and females aged 25-29 accounted for the largest proportion of first-time HIV diagnoses among female PWID (32.3%).

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses with age not reported were excluded (less than 1%). Diagnoses where PWID status was not reported were excluded (26.1% of diagnoses overall, 19.8% among males over the 3-year period 2017-2019 and 26.0% among females). See Appendices for more information. See Tables Supplement for underlying data.

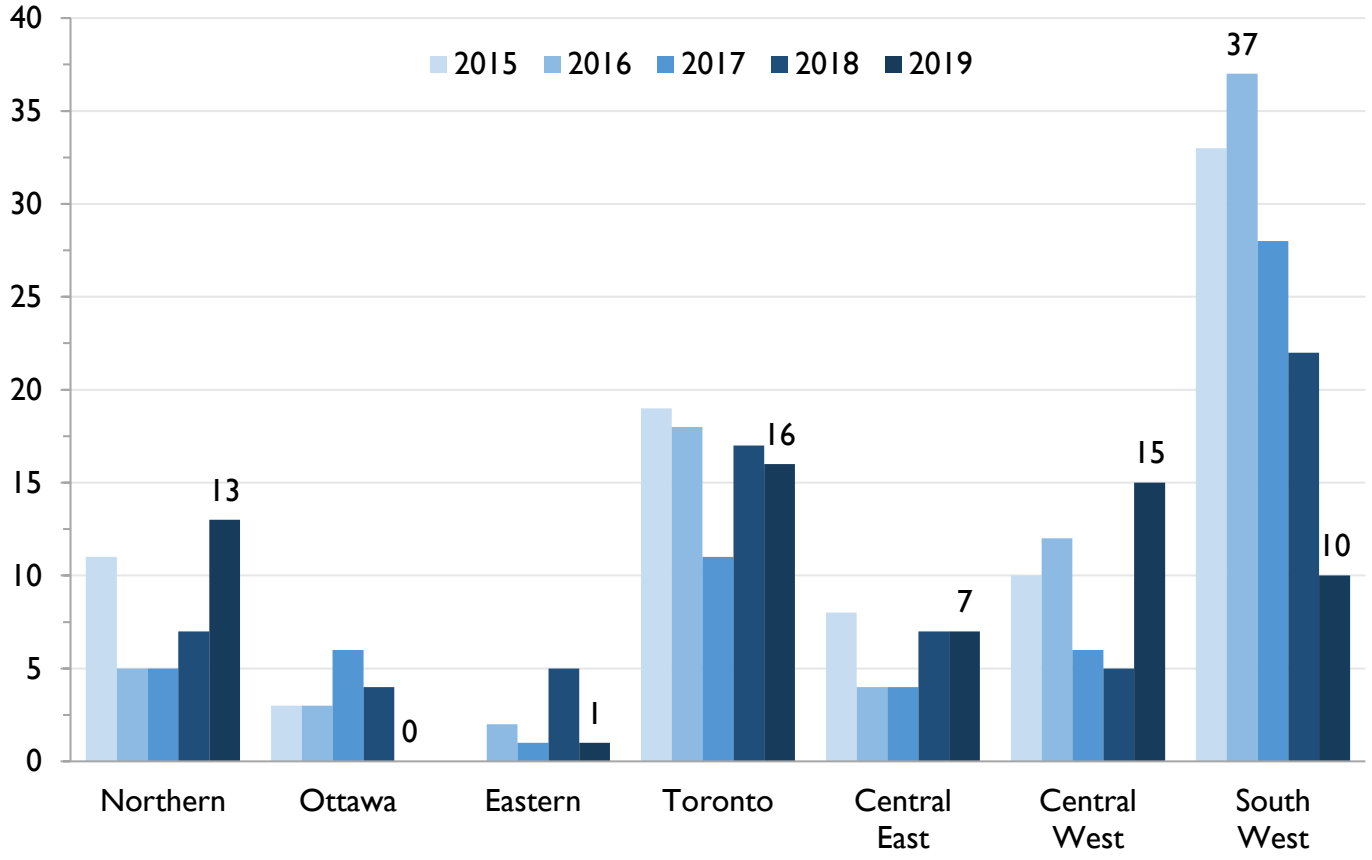
10.f. PWID by health region

In 2019, Northern, Toronto, and South West regions together had the majority of first-time HIV diagnoses among PWID (62.9%).

Looking within each region, Northern region had the largest proportion of its first-time HIV diagnoses overall that was attributed to PWID (48.1%).

The number of first-time HIV diagnoses attributed to PWID in South West region decreased from 37 in 2016 to 10 in 2019.

Figure 10.19 Number of first-time HIV diagnoses by health region, PWID, Ontario, 2015 to 2019



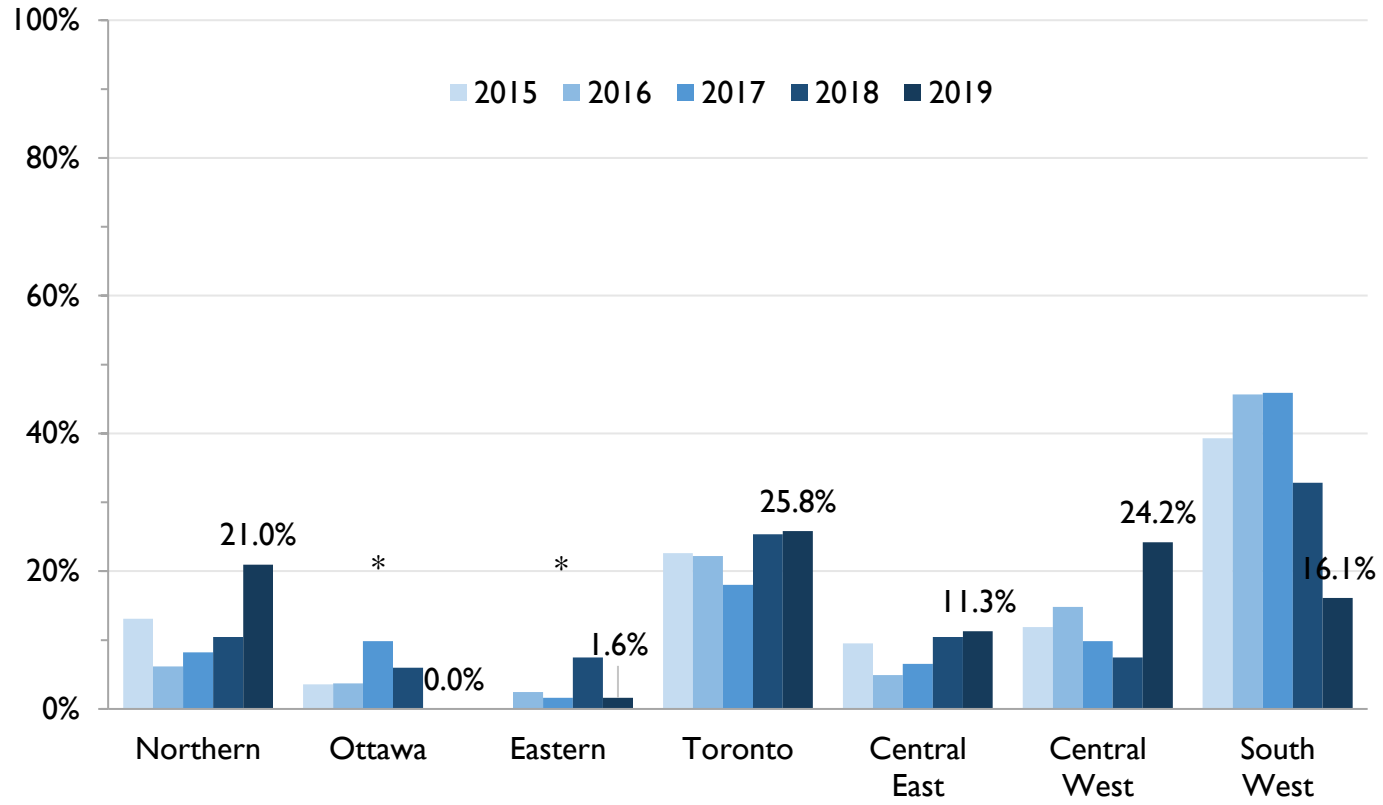
Snapshot

In 2019, Toronto region had the largest number of first-time HIV diagnoses among PWID (16), followed by Central West (15), Northern (13), South West (10), Central East (7) and Eastern (1) regions. Ottawa had 0 first-time HIV diagnoses among PWID in 2019.

Between 2015 and 2018, South West region had the largest number of first-time HIV diagnoses among PWID but the number decreased steadily from 37 in 2016 to 10 in 2019, when Toronto region had the largest number (16).

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where PWID status was not reported were excluded (average of 20.2% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 10.20 Percent of first-time HIV diagnoses across health regions, PWID, Ontario, 2015 to 2019



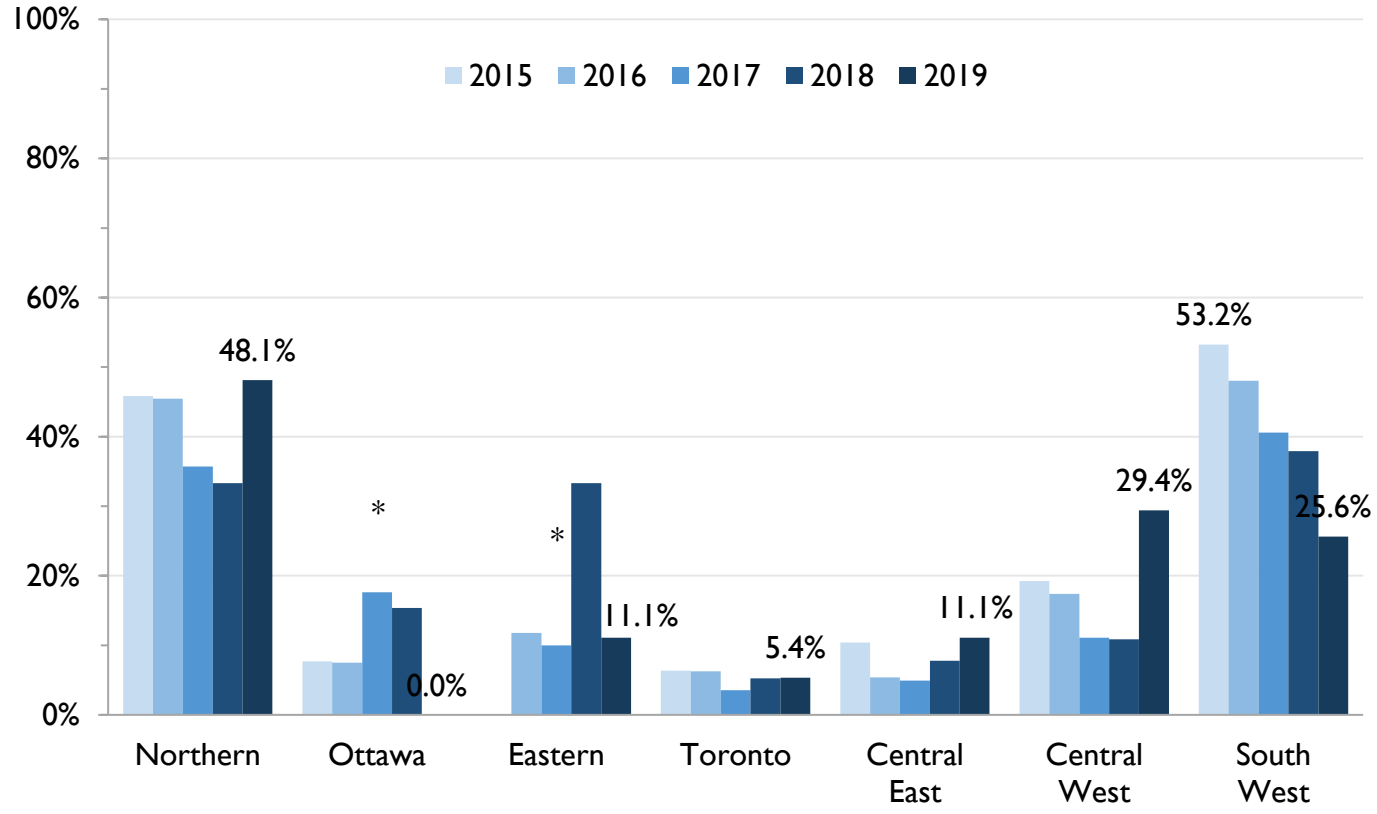
Snapshot

In 2019, the Toronto region had the largest proportion of first-time HIV diagnoses among PWID (25.8%), followed by Central West (24.2%), Northern (21.0%), South West (16.1%), and Central East (11.3%) regions. Eastern region had less than 5% of first-time HIV diagnoses among PWID and Ottawa had 0 first-time HIV diagnoses among PWID.

Between 2015 and 2018, South West region had the largest proportion of first-time HIV diagnoses among PWID; however, in 2019, Toronto region had the largest proportion.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where PWID status was not reported were excluded (average of 20.2% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 10.21 Percent of first-time HIV diagnoses within each health region attributed to PWID (where PWID status reported), Ontario, 2015 to 2019



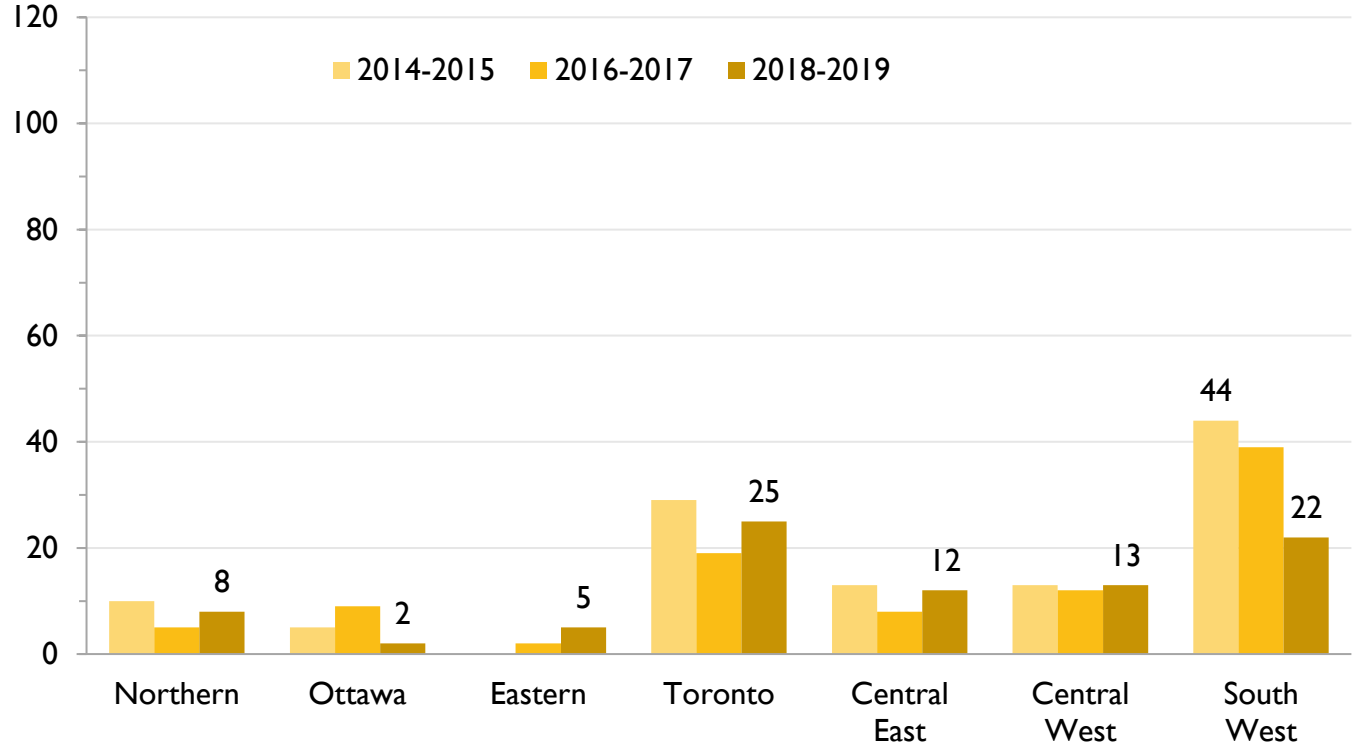
Snapshot

In 2019, looking within each region, Northern region attributed a larger proportion of its first-time HIV diagnoses to PWID than any other region (48.1%), followed by Central West (29.4%), South West (25.6%), Eastern and Central East (both 11.1%), and Toronto (5.4%) regions. Ottawa region had 0 first-time HIV diagnoses attributed to PWID in 2019.

Between 2015 and 2018, South West region attributed a larger proportion of its first-time HIV diagnoses to PWID than any other region. The proportion of first-time HIV diagnoses in South West region attributed to PWID decreased year over year from a high of 53.2% in 2015 to 25.6% in 2019.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where PWID status was not reported were excluded (average of 20.2% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 10.22 Number of first-time HIV diagnoses by health region, male PWID, Ontario, 2014-2015 to 2018-2019



Snapshot

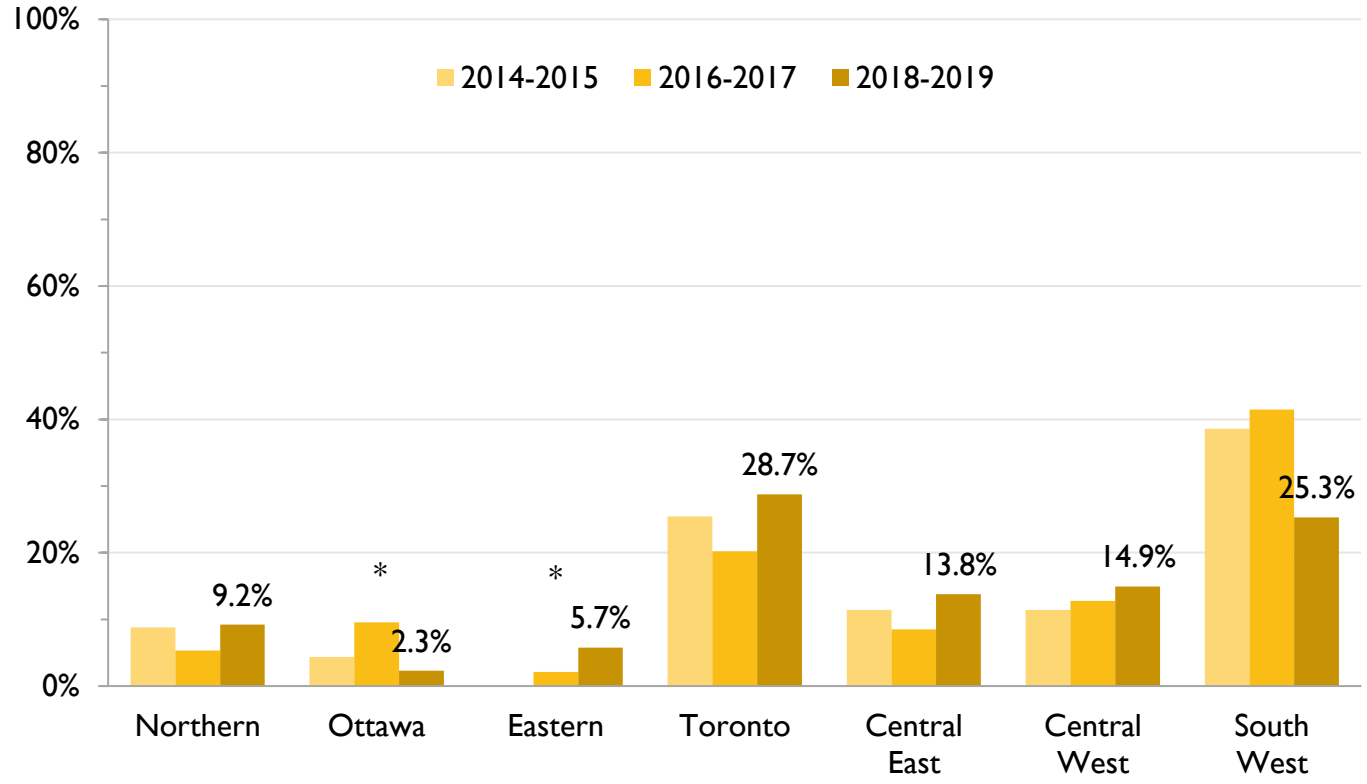
Over the two-year period 2018-2019, Toronto region had the largest number of first-time HIV diagnoses among male PWID (25), followed by South West (22), Central West (13), Central East (12), Northern (8), Eastern (5) and Ottawa (2) regions.

South West region had the largest number of first-time HIV diagnoses among male PWID over the two-year periods 2014-2015 and 2016-2017; while Toronto region had the largest number in 2018-2019. The number of first-time HIV diagnoses among male PWID in South West region decreased from 44 in 2014-2015 to 22 in 2018-2019.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where PWID status was not reported were excluded (average of 17.8% of diagnoses per 2-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 10.23 Percent of first-time HIV diagnoses across health regions, male PWID, Ontario, 2014-2015 to 2018-2019



Snapshot

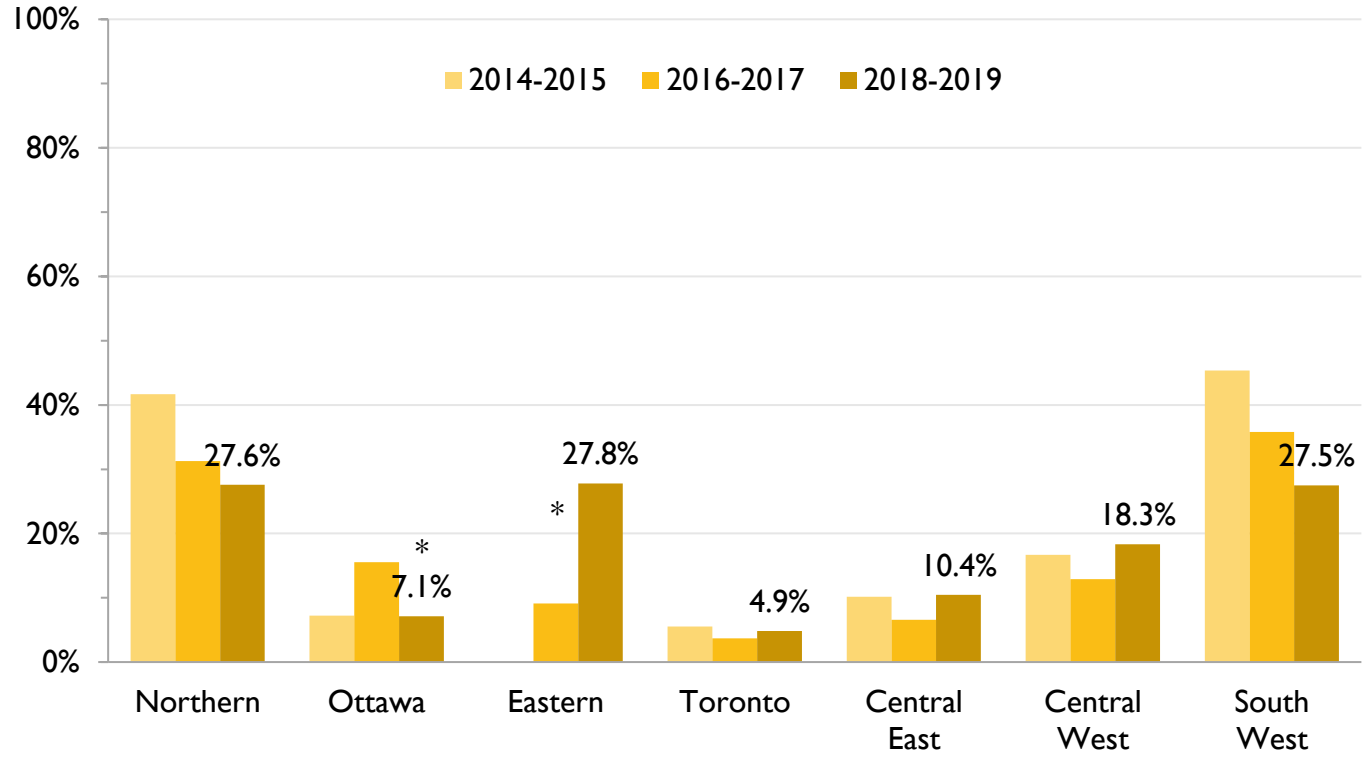
Over the two-year period 2018-2019, the Toronto region had the largest proportion of first-time HIV diagnoses among male PWID (both 28.7%), followed by South West (25.3%), Central West (14.9%), Central East (13.8%), Northern (9.2%), Eastern (5.7%), and Ottawa (2.3%) regions.

South West region had the largest proportion of first-time HIV diagnoses among male PWID over the two-year periods 2014-2015 and 2016-2017; while Toronto region had the largest proportion in 2018-2019.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where PWID status was not reported were excluded (average of 17.8% of diagnoses per 2-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 10.24 Percent of first-time HIV diagnoses among males within each health region attributed to PWID (where PWID status reported), Ontario, 2014-2015 to 2018-2019



Snapshot

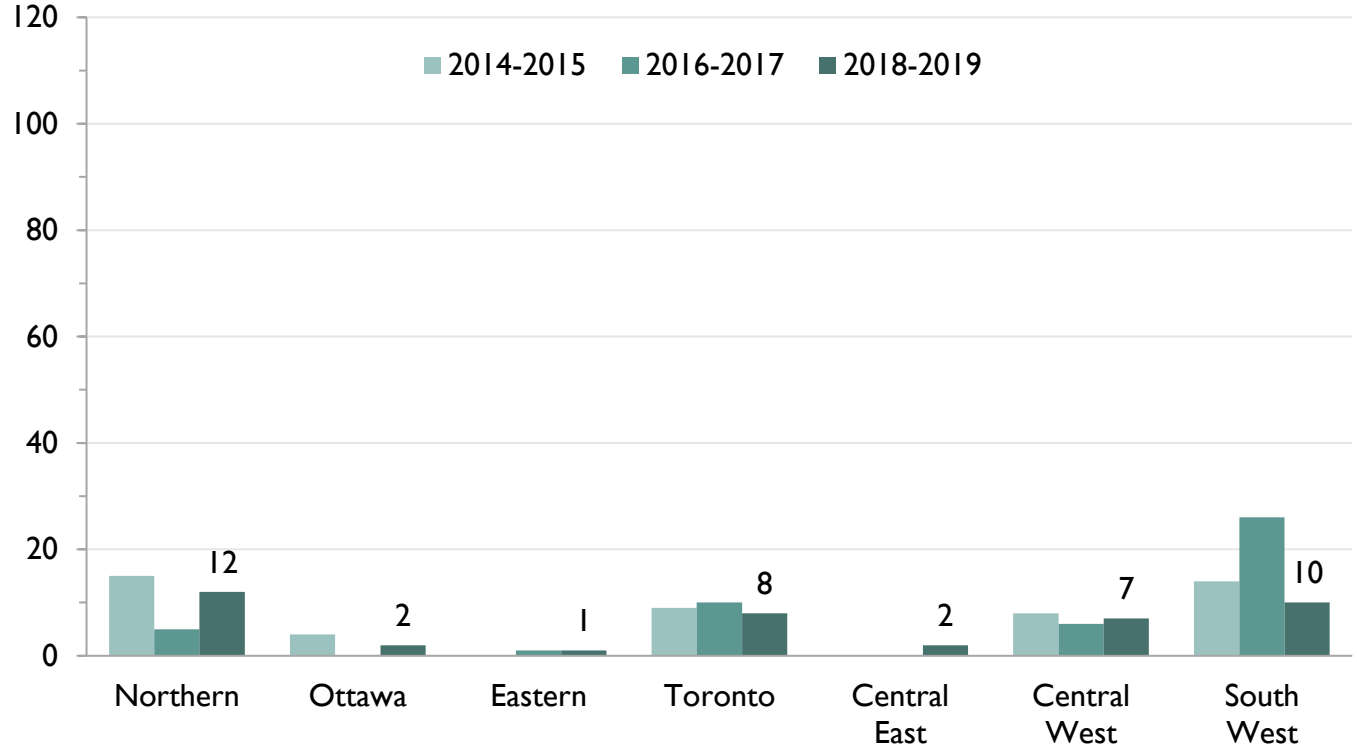
Over the two-year period 2018-2019, looking within each region, Eastern region attributed a larger proportion of its first-time HIV diagnoses among males to PWID than any other region (27.8%), followed by Northern (27.6%), South West (27.5%), Central West (18.3%), Central East (10.4%), Ottawa (7.1%) and Toronto (4.9%) regions.

Over the two-year periods 2014-2015 and 2016-2017, South West region attributed a larger proportion of its first-time HIV diagnoses among males PWID than any other region; this was true of Eastern region in 2018-2019. Between 2014-15 and 2018-19, the proportion of first-time HIV diagnoses among males attributed to PWID decreased in South West region from 45.4% to 27.5% and in Northern region from 41.7% to 27.6%.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where PWID status was not reported were excluded (average of 17.8% of diagnoses per 2-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 10.25 Number of first-time HIV diagnoses by health region, female PWID, Ontario, 2014-2015 to 2018-2019



Snapshot

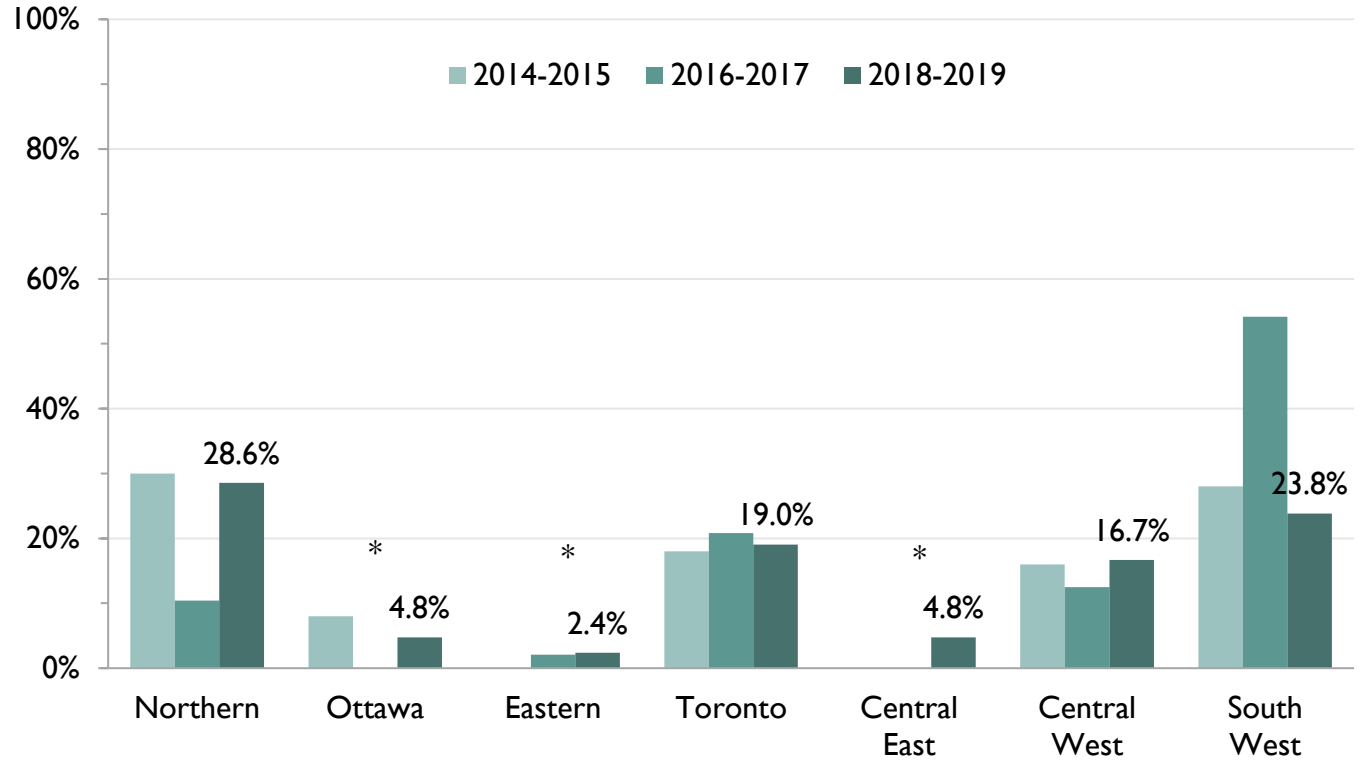
Over the two-year period 2018-2019, Northern region had the largest number of first-time HIV diagnoses among female PWID (12), followed by South West (10), Toronto (8), Central West (7), Ottawa (2), Central East (2), and Eastern (1) regions.

Northern region had the largest number of first-time HIV diagnoses among female PWID over the two-year periods 2014-2015 and 2018-2019; South West region had the largest number in 2016-2017.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where PWID status was not reported were excluded (average of 25.1% of diagnoses per 2-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 10.26 Percent of first-time HIV diagnoses across health regions, female PWID, Ontario, 2014-2015 to 2018-2019



Snapshot

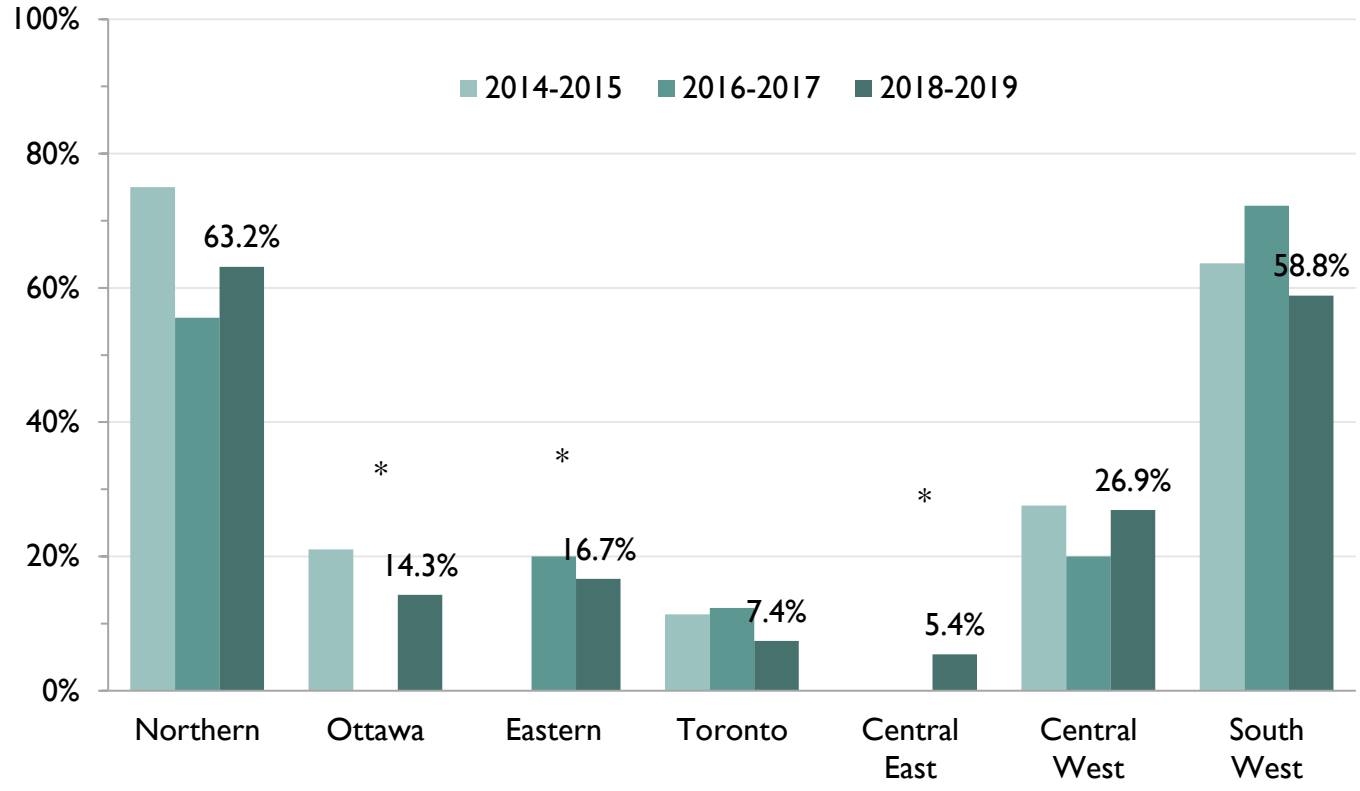
Over the two-year period 2018-2019, the Northern region had the largest proportion of first-time HIV diagnoses among female PWID (28.6%), followed by South West (23.8%), Toronto (19.0%), Central West (16.7%), Ottawa and Central East (both 4.8%), and Eastern (2.4%) regions.

Northern region had the largest proportion of first-time HIV diagnoses among female PWID over the two-year periods 2014-2015 and 2018-2019 while South West region had the largest proportion in 2016-2017.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where PWID status was not reported were excluded (average of 25.1% of diagnoses per 2-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 10.27 Percent of first-time HIV diagnoses among females within each health region attributed to PWID (where PWID status reported), Ontario, 2014-2015 to 2018-2019



Snapshot

Over the two-year period 2018-2019, looking within each region, Northern region attributed a larger proportion of its first-time HIV diagnoses among females to PWID than any other region (63.2%), followed by South West (58.8%), Central West (26.9%), Eastern (16.7%), Ottawa (14.3%), Toronto (7.4%), and Central East (5.4%) regions.

Over the two-year periods 2014-2015 and 2018-2019, Northern region attributed a larger proportion of its first-time HIV diagnoses among females to PWID than any other region; this was true of South West region in 2016-2017.

Note: *In these figures, data is combined in two-year groupings (2014-2015, 2016-2017, and 2018-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where PWID status was not reported were excluded (average of 25.1% of diagnoses per 2-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

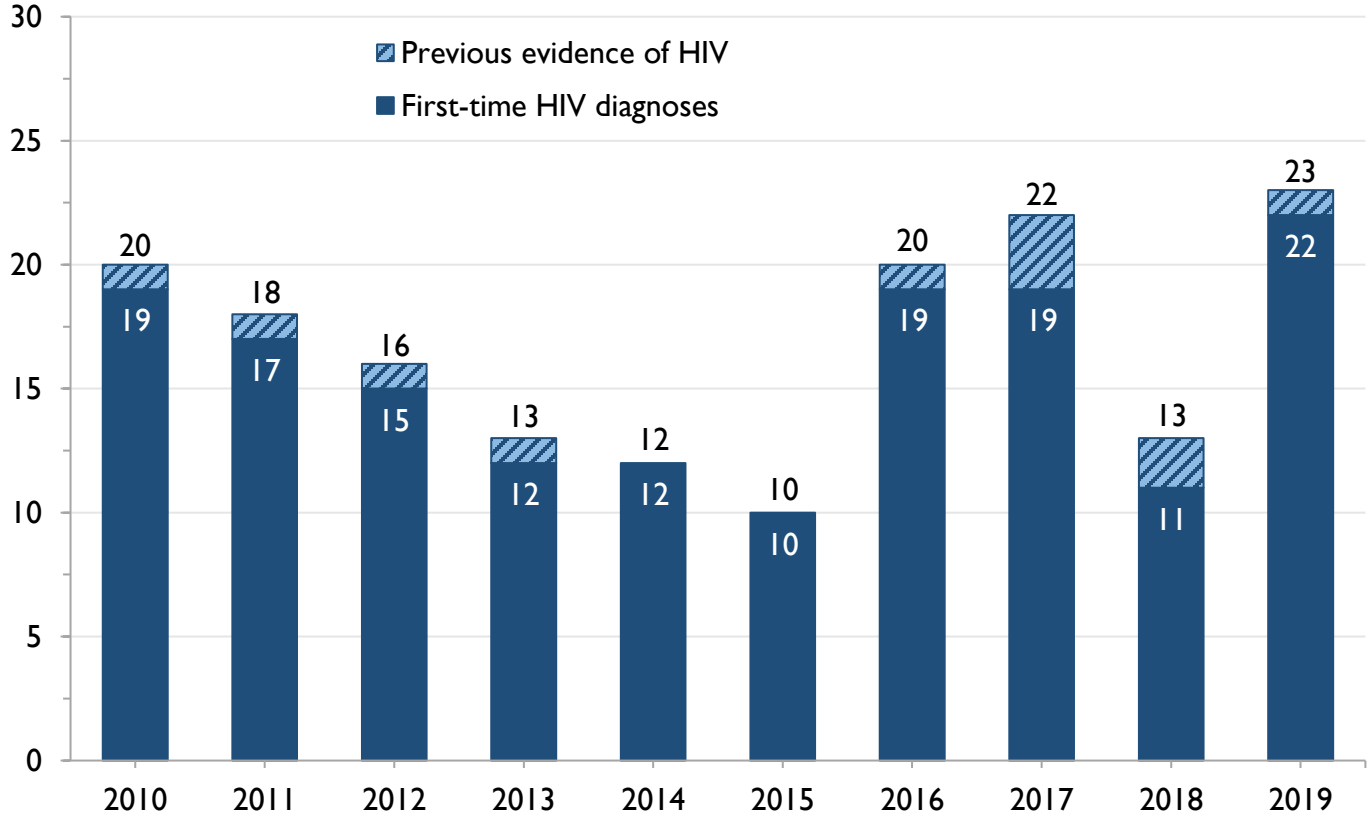
11. Indigenous Peoples

11.a. Indigenous overview

Diagnoses attributed to Indigenous Peoples are defined as reporting 'First Nations', 'Inuit', and/or 'Métis' race/ethnicity. In 2019, 22 of the 23 positive HIV tests attributed to Indigenous Peoples in Ontario were first-time HIV diagnoses.

Note: *Counts of positive HIV tests and first-time HIV diagnoses among Indigenous may be underestimated, as between 2010 and 2019, race/ethnicity was not reported for an average of 33.3% of positive HIV tests, and we estimate between 1.8% and 2.7% of first-time HIV diagnoses among Indigenous Peoples to have an uncaptured previous HIV diagnosis. Data shown are where race/ethnicity was reported.*

Figure 11.1 Number of positive HIV tests, by first-time HIV diagnoses and previous evidence of HIV, Indigenous Peoples, Ontario, 2010 to 2019



Snapshot

The number of first-time HIV diagnoses in Indigenous Peoples ranged from a low of 10 in 2015 to a high of 22 in 2019.

The number of positive HIV tests ranged from a low of 10 in 2015 to high of 23 in 2019. The proportion of positive HIV tests that had previous evidence of HIV ranged from a low of 0% in 2014 and 2015 to a high of 15.4% in 2018.

Note: *Counts of positive HIV tests and first-time HIV diagnoses among Indigenous may be underestimated, as between 2010 and 2019, race/ethnicity was not reported for an average of 33.3% of positive HIV tests, and we estimate between 1.8% and 2.7% of first-time HIV diagnoses among Indigenous Peoples to have an uncaptured previous HIV diagnosis.*

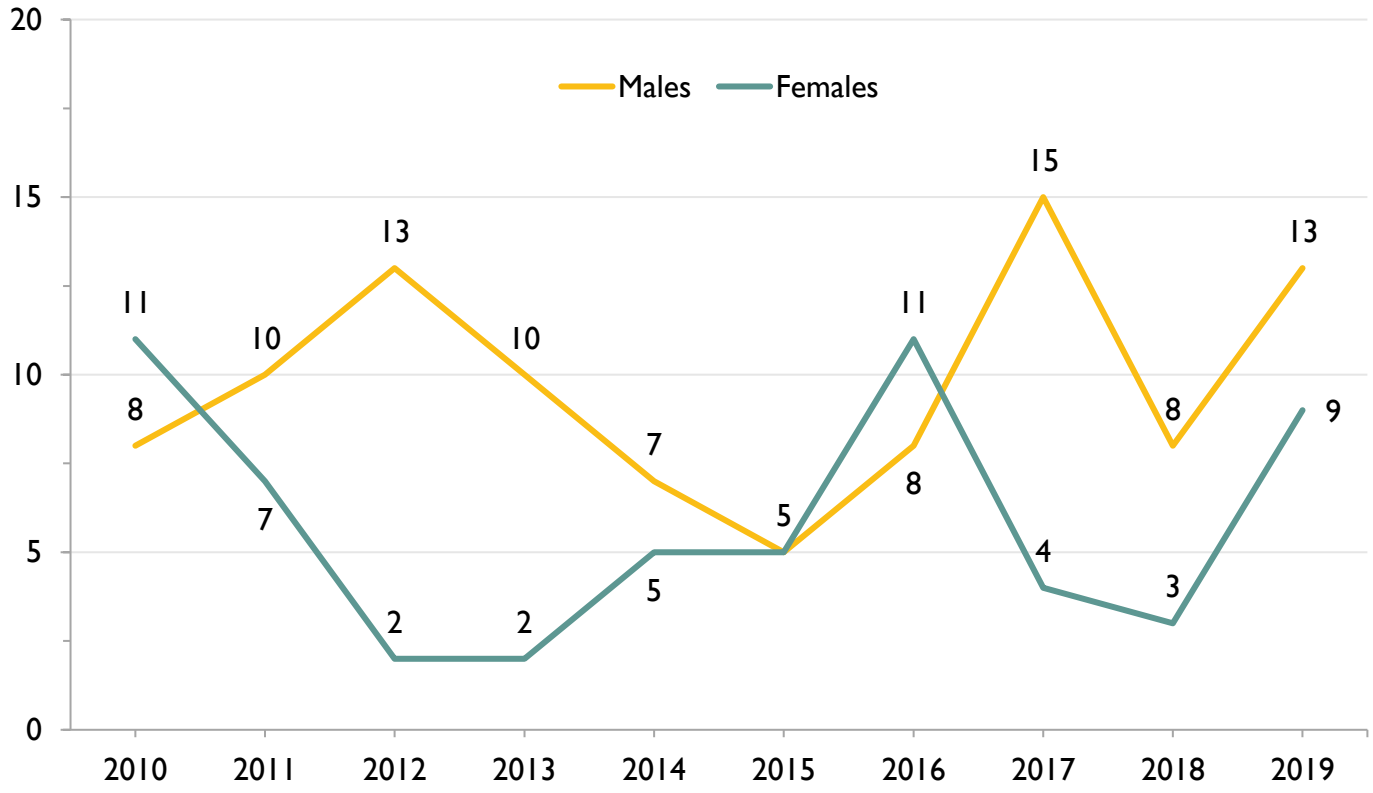
Notes: Data provided by Public Health Ontario Laboratory. Positive HIV tests where race/ethnicity was not reported were excluded (average of 33.3% of tests per year). See Appendices for more information. See Tables Supplement for underlying data.

11.b. Indigenous by sex

In 2019, there were 22 first-time HIV diagnoses among Indigenous Peoples: 13 among Indigenous males and 9 among Indigenous females. Indigenous Peoples accounted for 4.9% of all first-time HIV diagnoses in Ontario with Indigenous males accounting for 2.9% and females for 2.0%. Indigenous males accounted for 3.6% of first-time HIV diagnoses among males and Indigenous females accounted for 10.5% of first-time HIV diagnoses among females. Females accounted for 40.9% of first-time HIV diagnoses among Indigenous Peoples in 2019; this ranged from 13.3% (2012) to 57.9% (2016) between 2010 and 2019.

Note: *Counts of first-time HIV diagnoses among Indigenous may be underestimated, as 2010 and 2019, race/ethnicity was not reported for an average of 31.4% of first-time HIV diagnoses among males and 38.9% among females, and we estimate between 1.4% and 2.3% among males and between 2.0% and 2.7% among females to have an uncaptured previous HIV diagnosis. Data shown are where race/ethnicity was reported.*

Figure 11.2 Number of first-time HIV diagnoses by sex, Indigenous Peoples, Ontario, 2010 to 2019

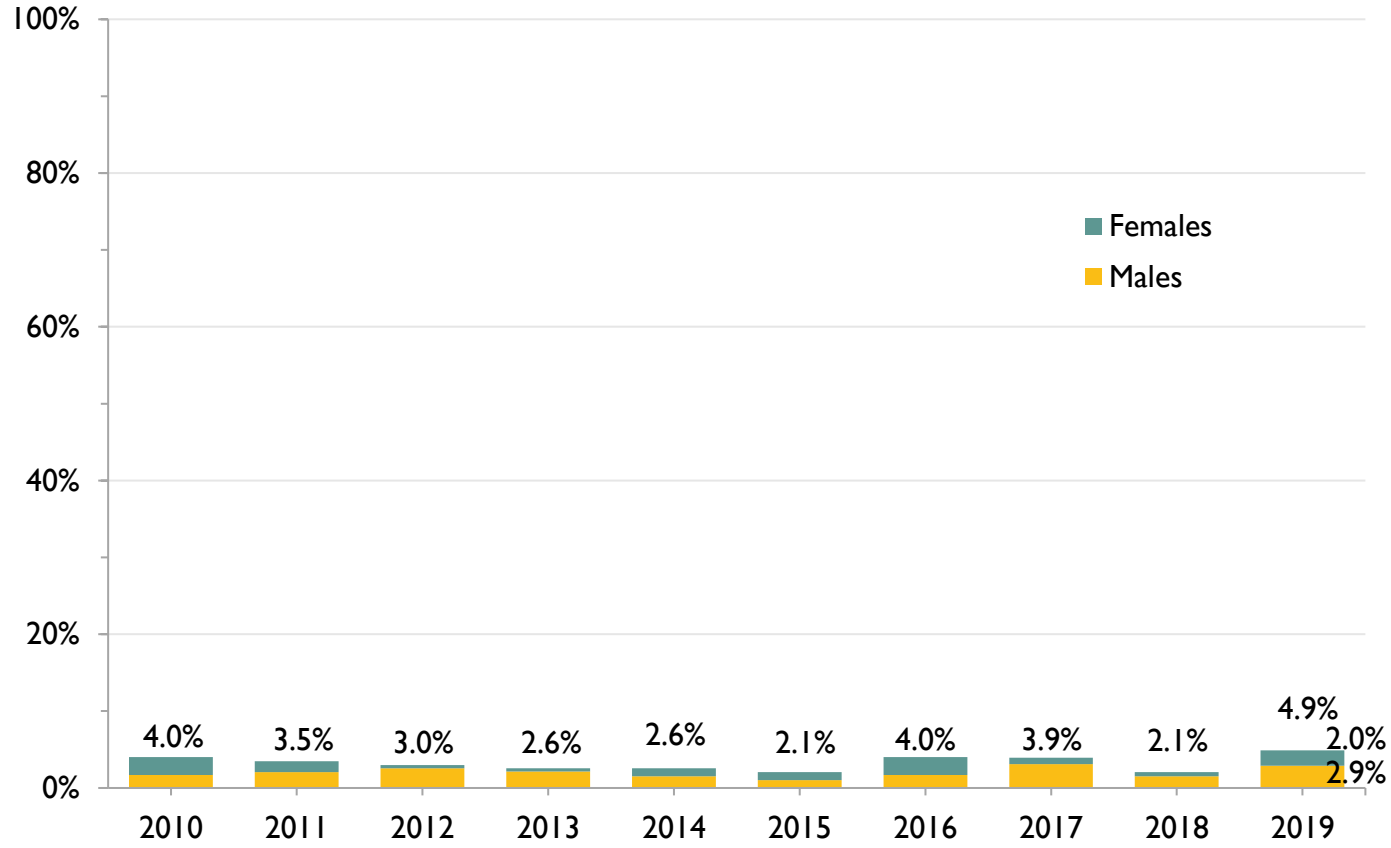


Snapshot

In 2019, there were 13 first-time HIV diagnoses among Indigenous males and 9 among Indigenous females. Between 2010 and 2019, the number of first-time HIV diagnoses among Indigenous males ranged from a low of 5 in 2015 to a high of 15 in 2017, and the number among Indigenous females ranged from a low of 2 in 2012 and 2013 to a high of 11 in 2010 and 2016.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where race/ethnicity was not reported were excluded (average of 31.4% of diagnoses per year among males, 38.9% among females). See Appendices for more information. See Tables Supplement for underlying data.

Figure 11.3 Percent of first-time HIV diagnoses attributed to Indigenous Peoples (where race/ethnicity reported), Ontario, 2010 to 2019



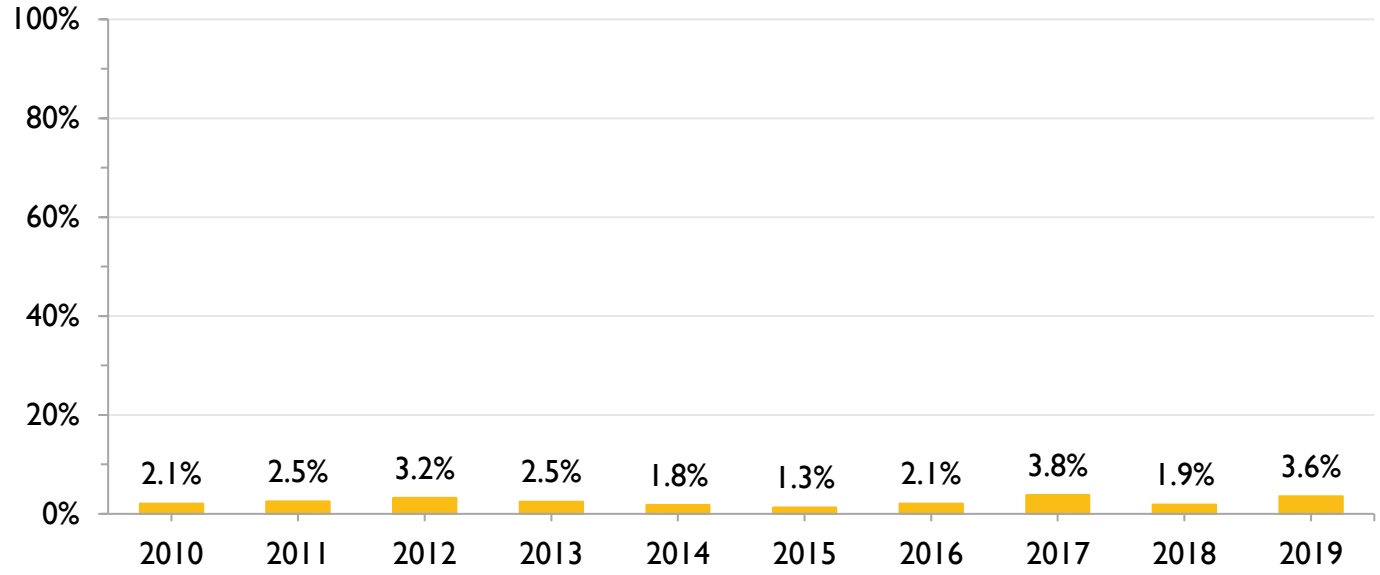
Snapshot

In 2019, Indigenous males accounted for 2.9% and Indigenous females 2.0% of all first-time HIV diagnoses, for a total of 4.9% of first-time HIV diagnoses attributed to Indigenous Peoples.

Between 2010 and 2019, Indigenous Peoples accounted for between 2.1% (2015 and 2018) and 4.9% (2019) of first-time HIV diagnoses, while Indigenous males accounted for between 1.0% (2015) and 3.1% (2017) and Indigenous females accounted for between 0.4% (2012) and 2.3% (2010 and 2016).

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where race/ethnicity was not reported were excluded (average of 31.4% of diagnoses per year among males, 38.9% among females). See Appendices for more information. See Tables Supplement for underlying data.

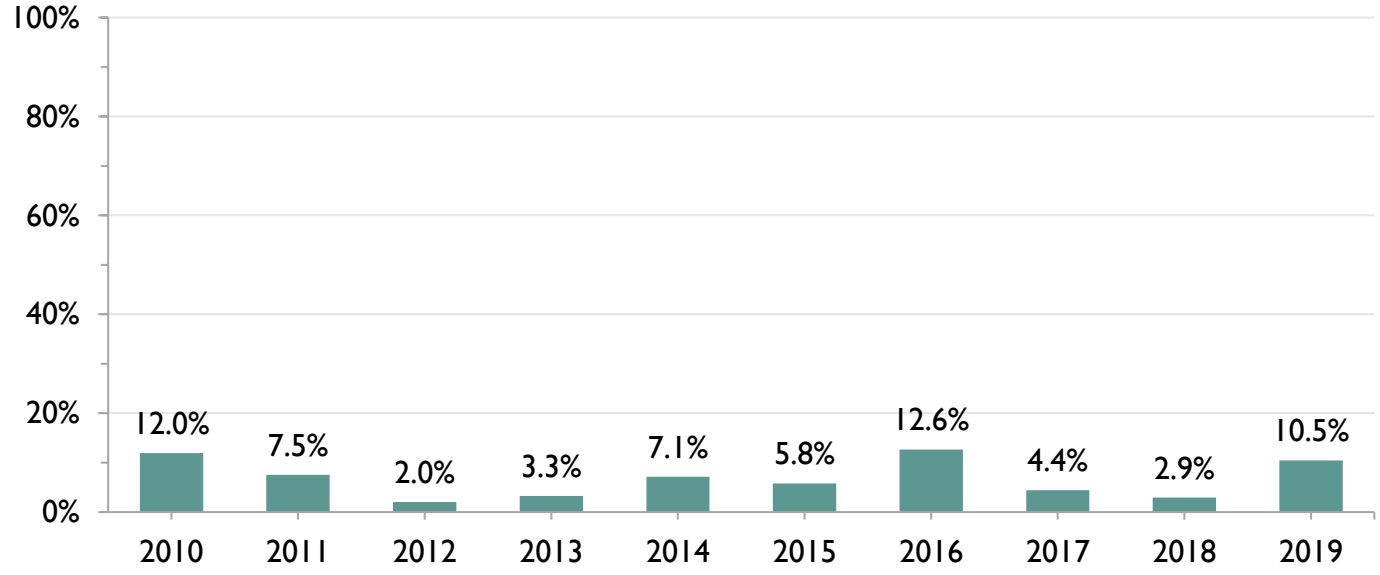
Figure 11.4 Percent of first-time HIV diagnoses among males attributed to Indigenous Peoples (where race/ethnicity reported), Ontario, 2010 to 2019



Snapshot

In 2019, Indigenous males accounted for 3.6% of first-time HIV diagnoses among males. Between 2010 and 2019, Indigenous males accounted for between 1.3% (2015) and 3.8% (2017) of first-time HIV diagnoses among males.

Figure 11.5 Percent of first-time HIV diagnoses among females attributed to Indigenous Peoples (where race/ethnicity reported), Ontario, 2010 to 2019

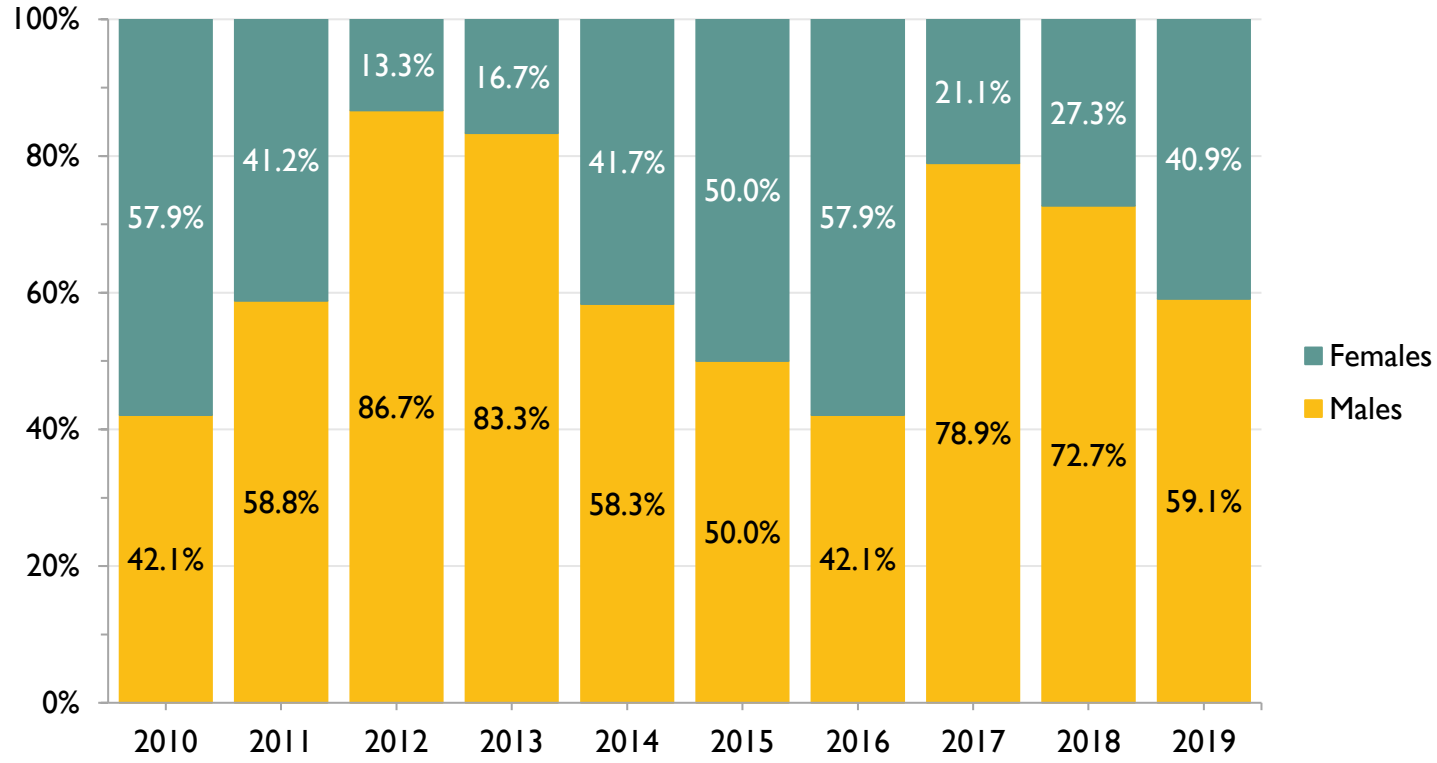


Snapshot

In 2019, Indigenous females accounted for 10.5% of first-time HIV diagnoses among females. Between 2010 and 2019, Indigenous females accounted for between 2.0% (2012) and 12.6% (2016) of first-time HIV diagnoses among females.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where race/ethnicity was not reported were excluded (average of 31.4% of diagnoses per year among males, 38.9% among females). See Appendices for more information. See Tables Supplement for underlying data.

Figure 11.6 Percent of first-time HIV diagnoses among Indigenous Peoples by sex, Ontario, 2010 to 2019



Snapshot

In 2019, females accounted for 40.9% of first-time HIV diagnoses among Indigenous Peoples. Between 2010 and 2019, females accounted for between 13.3% (2012) and 57.9% (2016) of first-time HIV diagnoses among Indigenous Peoples.

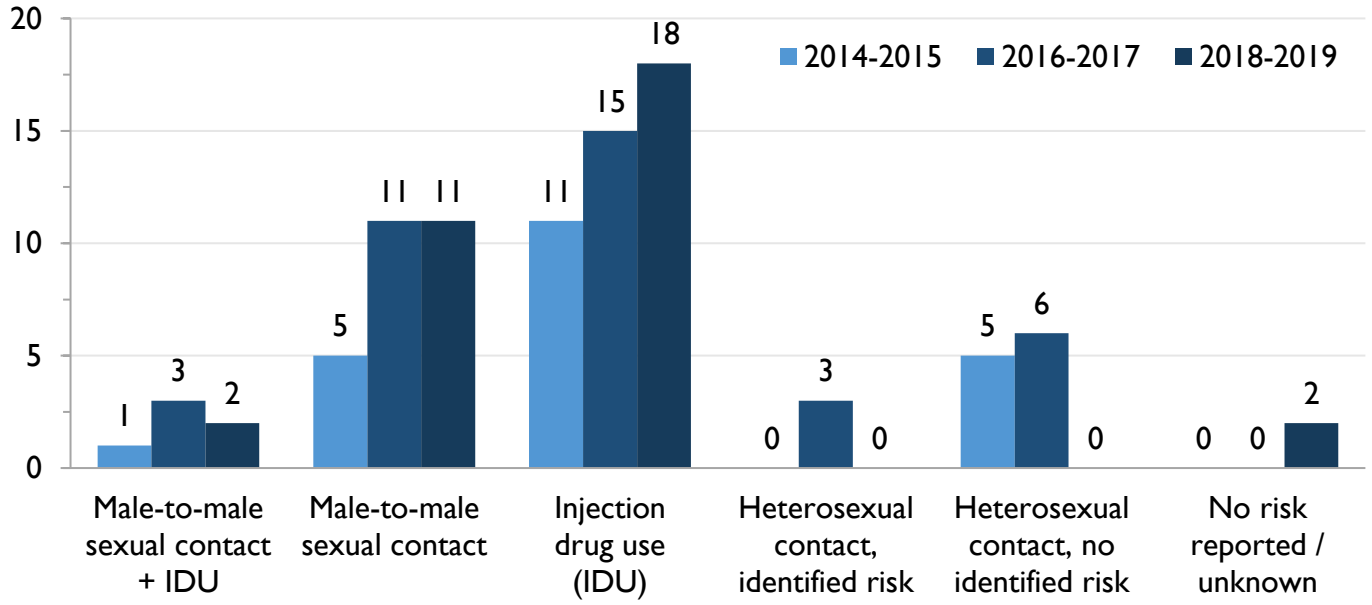
Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where race/ethnicity was not reported were excluded (average of 31.4% of diagnoses per year among males, 38.9% among females). See Appendices for more information. See Tables Supplement for underlying data.

11.c. Indigenous by HIV exposure category

Over the two-year period 2018-2019, the largest proportion of first-time HIV diagnoses among Indigenous Peoples (58.1%) was reported as IDU followed by male-to-male sexual contact (35.5%). Over the four-year period 2016-2019, 51.2% of first-time HIV diagnoses in Indigenous males were reported as male-to-male sexual contact and the number of first-time HIV diagnoses reported as male-to-male sexual contact increased from 11 to 22 between the four-year periods 2012-2015 and 2016-2019. 77.4% of first-time HIV diagnoses in Indigenous females were reported as IDU over the five-year period 2015-2019 and the number of first-time HIV diagnoses among Indigenous females reported as IDU increased from 10 to 24 between the five-year periods 2010-2014 and 2015-2019.

Notes: *In these figures, data is combined in four- or five-year groupings (2012-2015 and 2016-2019, or 2010-2014 and 2015-2019). This was done systematically to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*
The "Heterosexual contact, identified risk" category includes diagnoses where sex with a person of the opposite sex/gender is reported and either the individual's country of birth is reported as an HIV-endemic country, or the individual's sex 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 11.7 Number of first-time HIV diagnoses by HIV exposure category, Indigenous Peoples, Ontario, 2014-2015 to 2018-2019



Snapshot

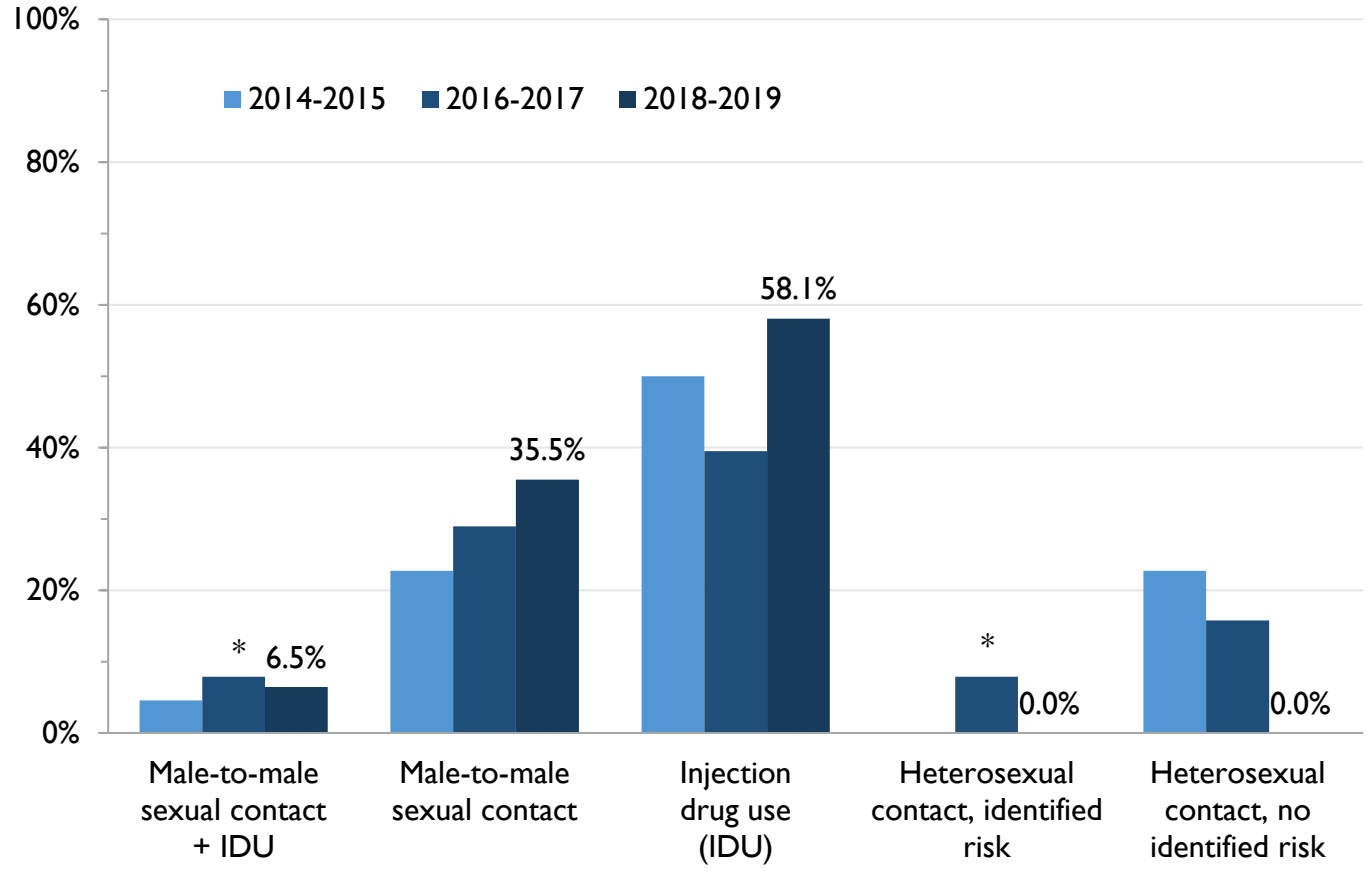
Over the two-year period 2018-2019, fewer than 5 of the 33 first-time HIV diagnoses in Indigenous Peoples did not report an HIV exposure category. In 2014-15 and 2016-17, it was 0.

Among the 31 first-time HIV diagnoses with a reported HIV exposure category in 2018-2019, 18 were reported as IDU and 11 as male-to-male sexual contact (11).

Between the two-year periods 2014-2015 and 2018-2019, the largest numbers of first-time HIV diagnoses were reported as IDU followed by male-to-male sexual contact. Between 2014-15 and 2018-19, the number of first-time HIV diagnoses reported as IDU increased from 11 to 18, while the number of first-reported as male-to-male sexual contact increased from 5 to 11.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where race/ethnicity was not reported were excluded (average of 31.6% of diagnoses per 2-year period). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

Figure 11.8 Percent of first-time HIV diagnoses by HIV exposure category (where reported), Indigenous Peoples, Ontario, 2015 to 2019



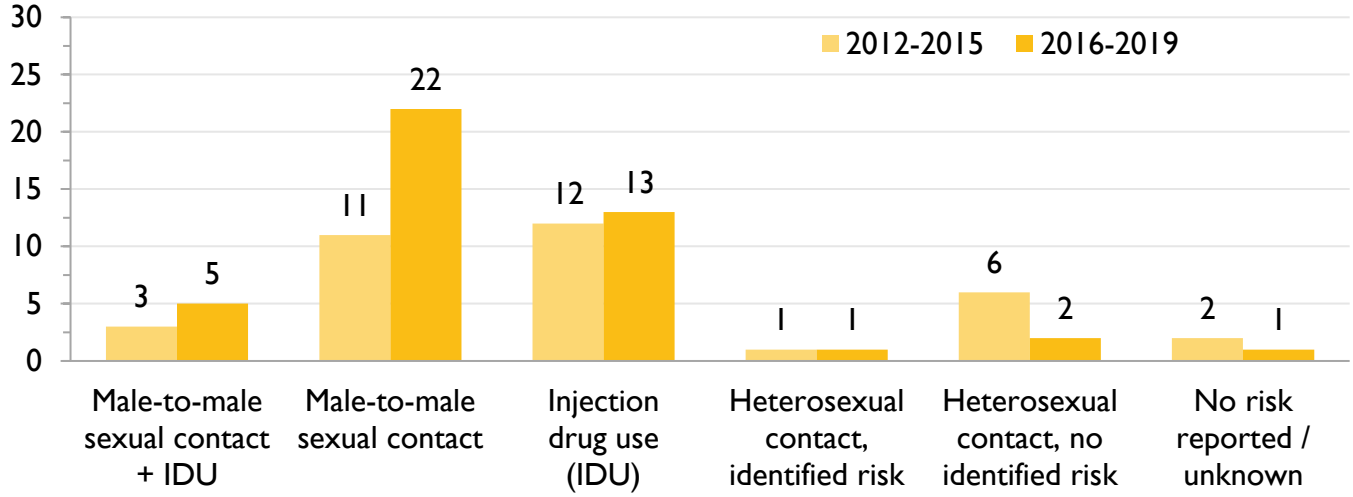
Snapshot

Over the two-year period 2018-2019, among the 31 first-time HIV diagnoses in Indigenous Peoples with a reported HIV exposure category, 58.1% were reported as IDU, 35.5% to male-to-male sexual contact, and 6.5% to male-to-male sexual contact + IDU.

Between the two-year periods 2014-2015 and 2018-2019, IDU, followed by male-to-male sexual contact, accounted for the largest proportions of first-time HIV diagnoses. The proportion of first-time HIV diagnoses reported as male-to-male sexual contact increased from 22.7% in 2014-2015 to 35.5% in 2018-2019.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where race/ethnicity was not reported were excluded (average of 31.6% of diagnoses per 2-year period). Diagnoses where race/ethnicity was reported but HIV exposure category was not reported were excluded (average of 2.0% of diagnoses per 2-year period where race/ethnicity was reported). IDU = injeciton drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

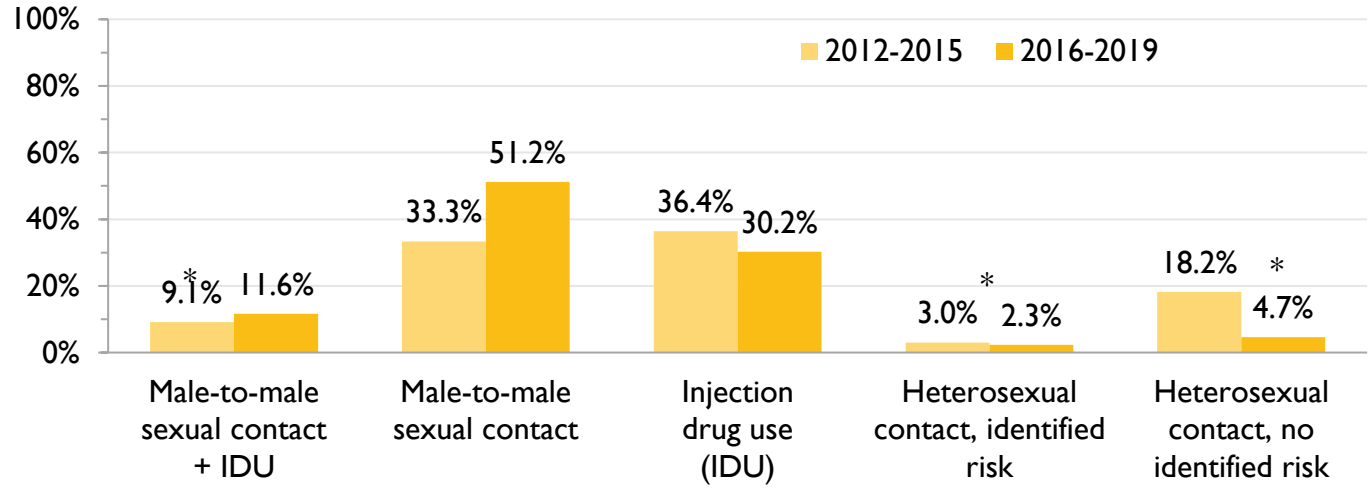
Figure 11.9 Number of first-time HIV diagnoses by HIV exposure category, Indigenous males, Ontario, 2012-2015 to 2016-2019



Snapshot

Over the four-year period 2016-2019, 1 of the 44 first-time HIV diagnoses in Indigenous males did not report an HIV exposure category. Among the 43 first-time HIV diagnoses with a reported HIV exposure category, the largest number of first-time HIV diagnoses was reported as male-to-male sexual contact (22), followed by IDU (13), and male-to-male sexual contact + IDU (5). Over the four-year period 2012-2015, 12 of the 35 first-time HIV diagnoses in Indigenous males were reported as IDU.

Figure 11.10 Percent of first-time HIV diagnoses by HIV exposure category (where reported), Indigenous males, Ontario, 2012-2015 to 2016-2019

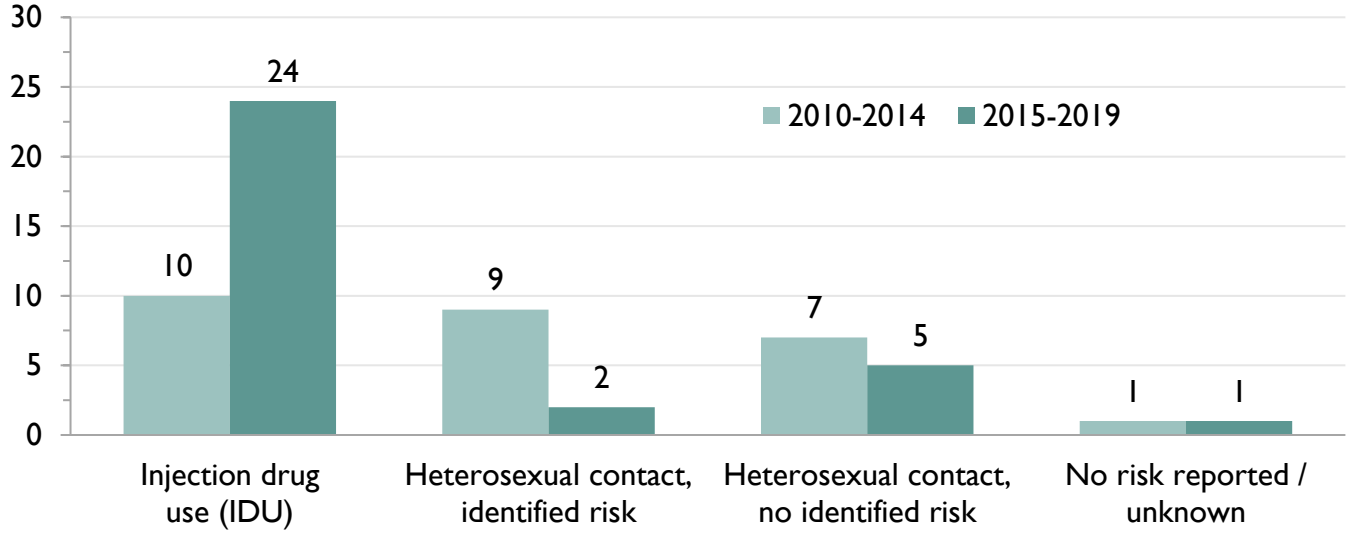


Snapshot

Over the four-year period 2016-2019, among the 43 first-time HIV diagnoses in Indigenous males with a reported HIV exposure category, 51.2% were reported as male-to-male sexual contact, 30.2% as IDU and 11.6% as male-to-male sexual contact + IDU. Over the four-year period 2012-2015, 36.4% of first-time HIV diagnoses among Indigenous males were reported as IDU.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where race/ethnicity was not reported were excluded (average of 28.9% of diagnoses per 4-year period). Diagnoses where race/ethnicity was reported but HIV exposure category was not reported were excluded in Figure 11.10 (average of 4.0% of diagnoses per 4-year period where race/ethnicity was reported). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

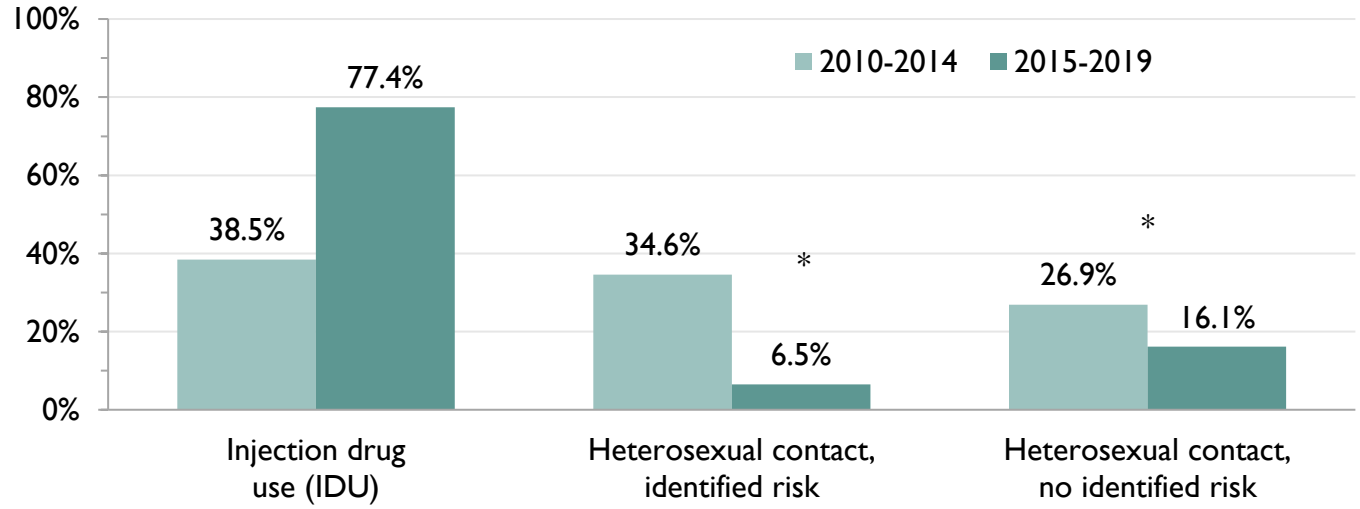
Figure 11.11 Number of first-time HIV diagnoses by HIV exposure category, Indigenous females, Ontario, 2010-2014 to 2015-2019



Snapshot

Over the five-year period 2015-2019, 1 of the 27 first-time HIV diagnoses in Indigenous females did not report an HIV exposure category. Among the 31 first-time HIV diagnoses with a reported HIV exposure category in 2016-2019, the majority (24) were reported as IDU.

Figure 11.12 Percent of first-time HIV diagnoses by HIV exposure category (where reported), Indigenous females, Ontario, 2010-2014 to 2015-2019



Snapshot

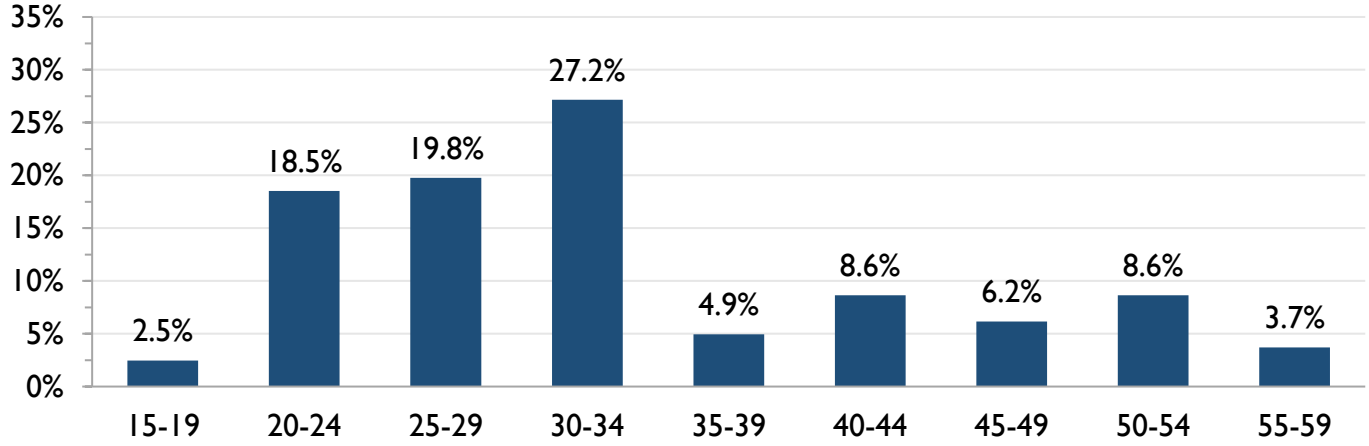
Over the five-year period 2015-2019, among the 31 first-time HIV diagnoses in Indigenous females with a reported HIV exposure category, 77.4% were reported as IDU, 16.1% as heterosexual contact with no identified risk and 6.5% as heterosexual contact with identified risk. Over the five-year period 2010-2014, 38.5% of first-time HIV diagnoses in Indigenous females were reported as IDU.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Diagnoses where race/ethnicity was not reported were excluded (average of 39.2% of diagnoses per 5-year period). Diagnoses where race/ethnicity was reported but HIV exposure category was not reported were excluded from Figure 11.12 (average of 3.4% of diagnoses per 5-year period where race/ethnicity was reported). IDU = injeciton drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

11.d. Indigenous by age

Over the five-year period 2015-2019, those aged 30-34 years accounted for the largest proportion of first-time HIV diagnoses among Indigenous Peoples (27.2%). Those aged 30-34 years accounted for the largest proportion of first-time HIV diagnoses among Indigenous males (30.6%), and those aged 20-34 and 30-34 years accounted for the largest proportions of first-time HIV diagnoses among Indigenous females (both 21.9%).

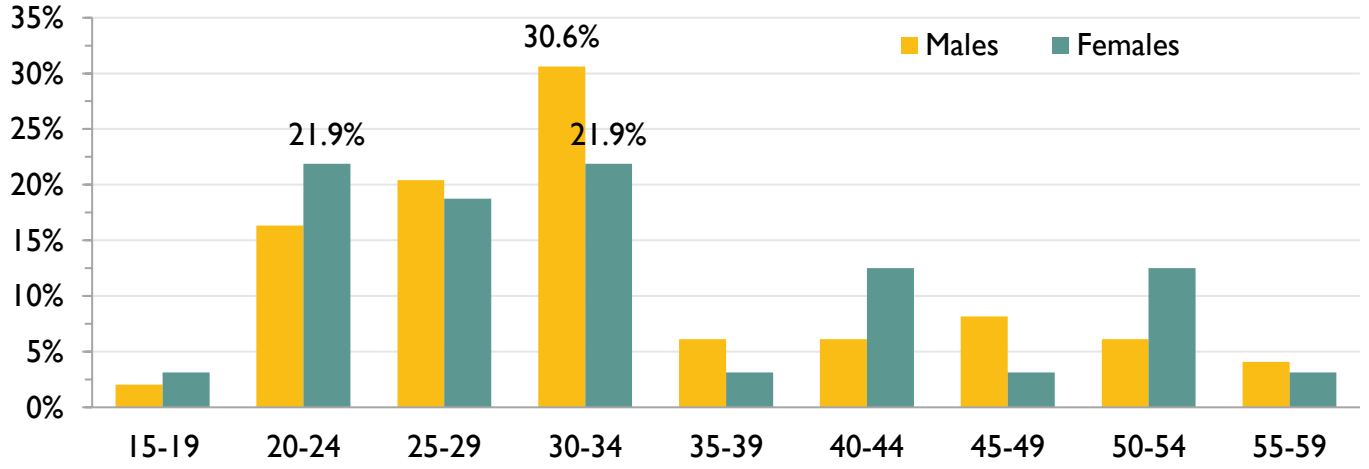
Figure 11.13 Percent of first-time HIV diagnoses by age, Indigenous Peoples, Ontario, 2015-2019



Snapshot

Over the five-year period 2015-2019, nearly two thirds (65.4%) of first-time HIV diagnoses among Indigenous Peoples were among those aged 20-34 years with the 30-34 age category accounting for the largest proportion (27.2%).

Figure 11.14 Percent of first-time HIV diagnoses by age, Indigenous males and Indigenous females, Ontario, 2015-2019



Snapshot

Over the five-year period 2015-2019, those aged 30-34 years accounted for the largest proportion of first-time HIV diagnoses among Indigenous males (30.6%), and those aged 20-34 and 30-34 years accounted for the largest proportions of first-time HIV diagnoses among Indigenous females (both 21.9%).

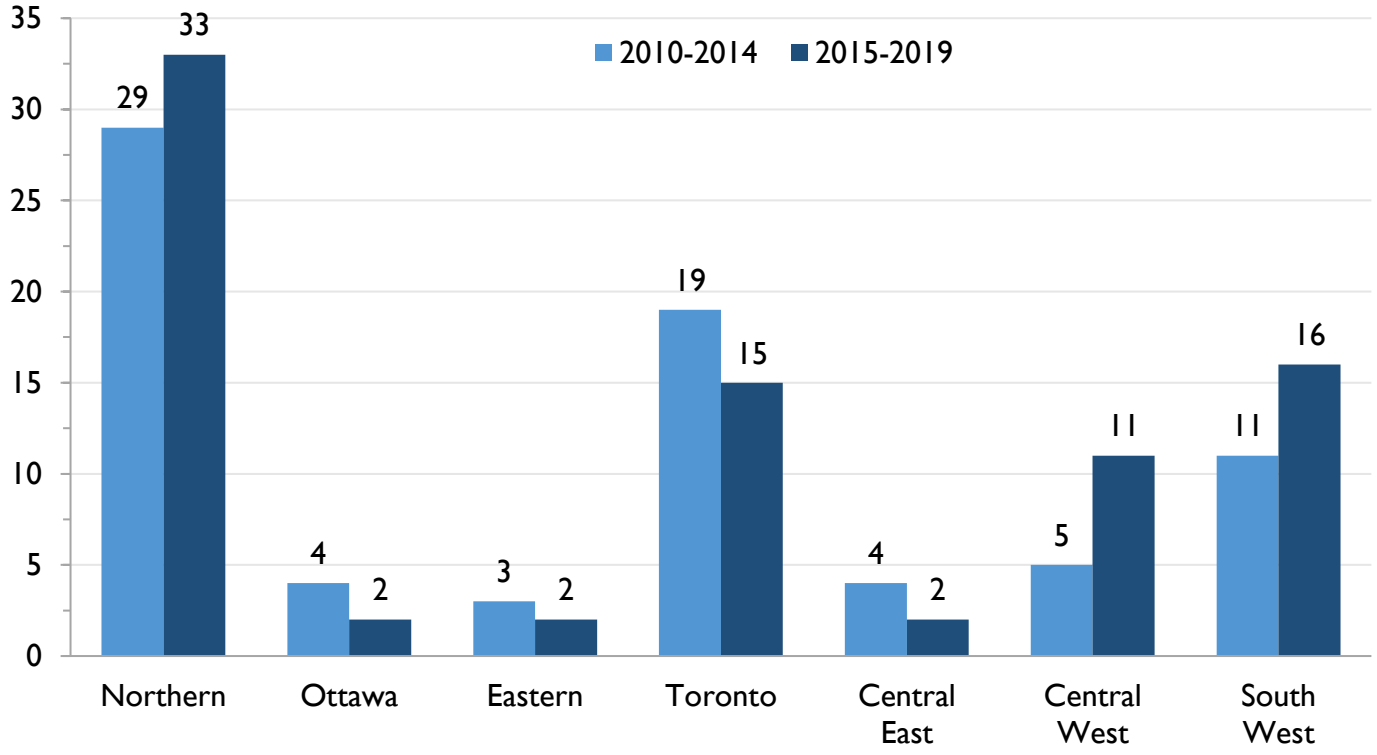
Notes: Data provided by Public Health Ontario Laboratory. Diagnoses with age not reported were excluded (less than 1%). Diagnoses where race/ethnicity was not reported were excluded (31.3% of diagnoses, 29.3% among males, 37.4% among females). See Appendices for more information. See Tables Supplement for underlying data.

11.e. Indigenous by health region

Over the five-year period 2015-2019, Northern region had the largest proportion of Indigenous first-time HIV diagnoses (40.7%); however, the majority of first-time HIV diagnoses were spread throughout the rest of the province, with many in Toronto (18.5%), Southwest (19.8%), and Central West (13.6%). Within regions, Indigenous Peoples accounted for a larger proportion of first-time HIV diagnoses in the Northern region (42.9%) than any other region. Very small proportions of first-time HIV diagnoses in Toronto (1.1%), Southwest (6.1%) and Central West (4.5%) regions were attributed to Indigenous Peoples.

Note: *In these figures, data is combined in five-year groupings (2010-2014 and 2015-2019). This was done systematically, where possible, to ensure at least 50% of cell counts were ≥5 in order to reduce the effects of year-to-year variation.*

Figure 11.15 Number of first-time HIV diagnoses by health region, Indigenous Peoples, Ontario, 2010-2014 and 2015-2019



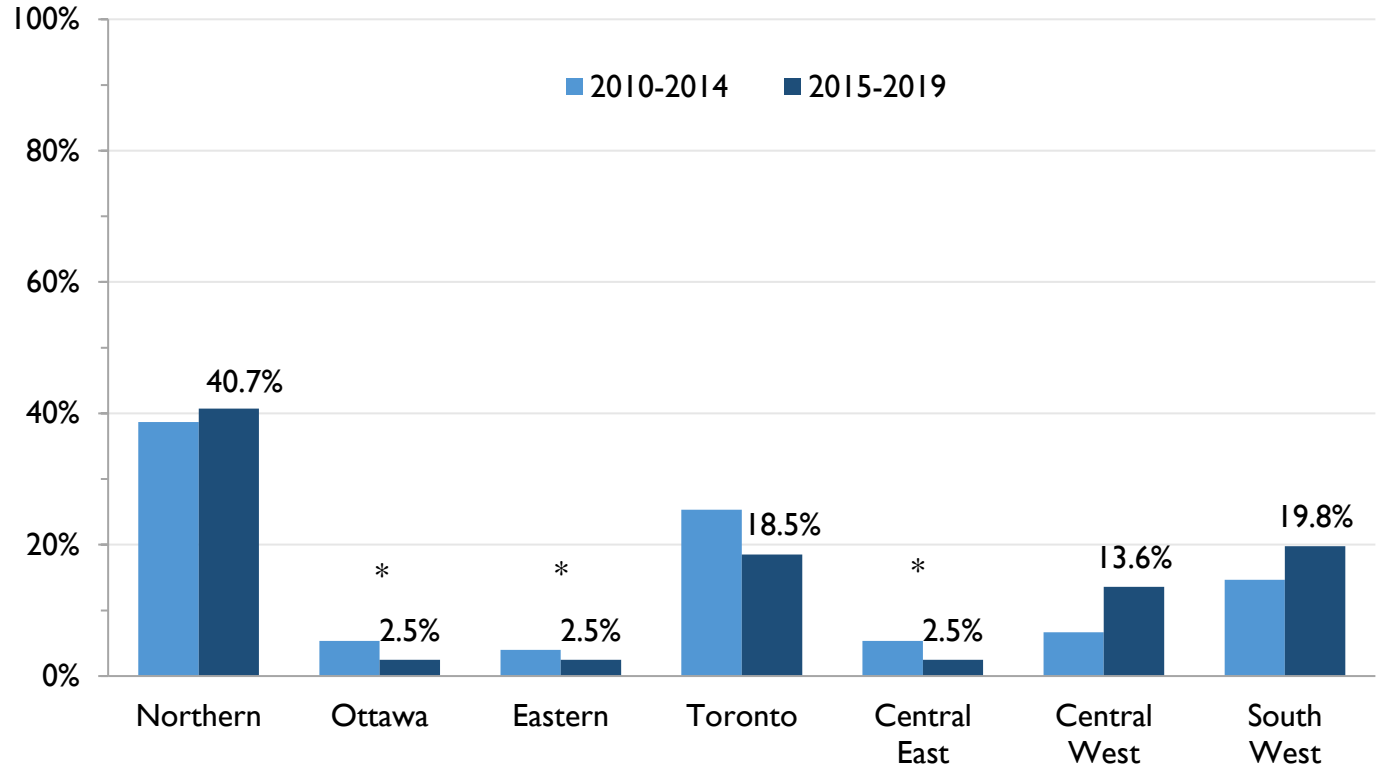
Snapshot

Over the five-year period 2015-2019, Northern region had the largest number of first-time HIV diagnoses among Indigenous Peoples (33), followed by South West (16), Toronto (15), Central West (11), Ottawa (2), Eastern (2), and Central East (2) regions.

Over the five-year period 2010-2014, Northern region had the largest number of first-time HIV diagnoses among Indigenous Peoples (29), followed by Toronto (19) and South West (11) regions.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where race/ethnicity was not reported were excluded (average of 33.7% of diagnoses per 5-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 11.16 Percent of first-time HIV diagnoses across health regions, Indigenous Peoples, Ontario, 2010-2014 and 2015-2019



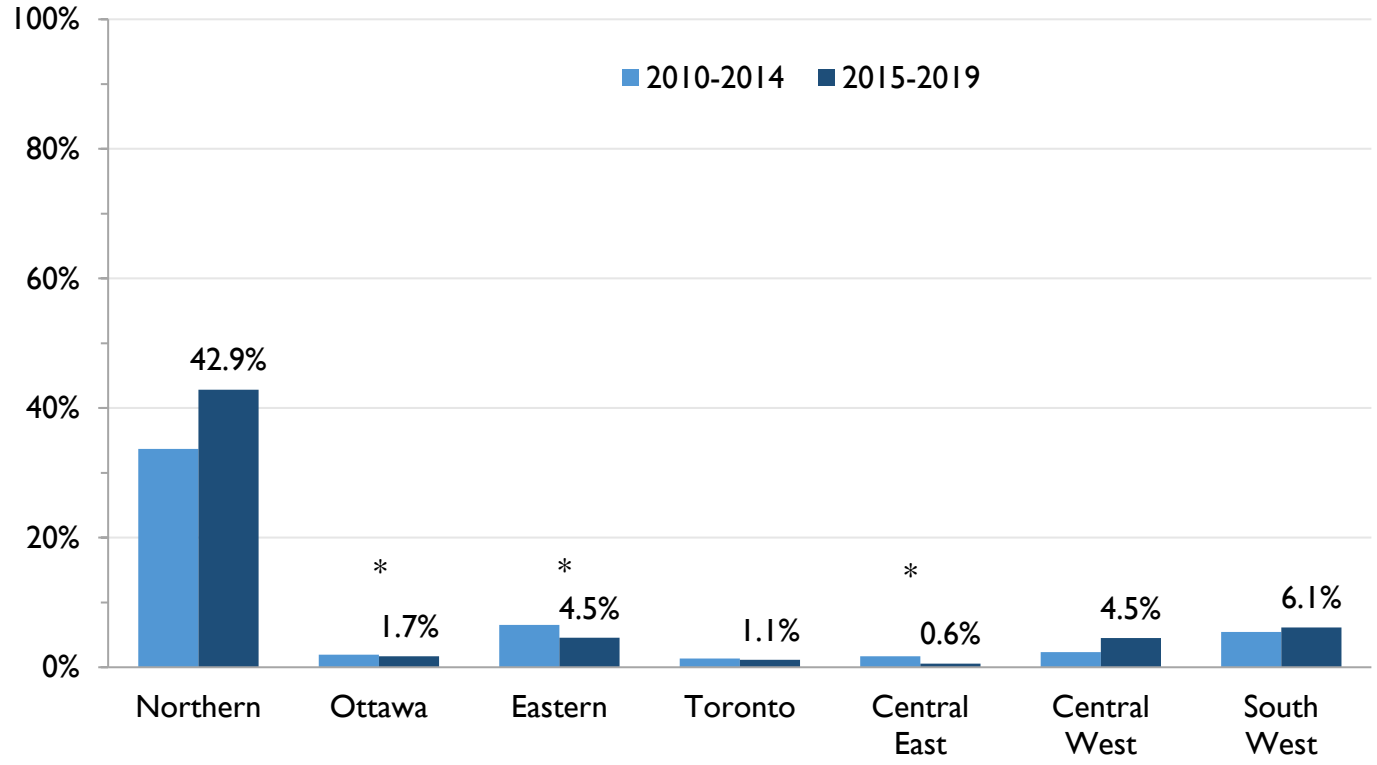
Snapshot

Over the five-year period 2015-2019, Northern region had the largest proportion of first-time HIV diagnoses among Indigenous Peoples (40.7%), followed by South West (19.8%), Toronto (18.5%), and Central West (13.6%) regions. Ottawa, Eastern, and Central East regions each had less than 5% of first-time HIV diagnoses among Indigenous Peoples over the same period.

Over the five-year period 2010-2014, Northern region had the largest proportion of first-time HIV diagnoses among Indigenous Peoples (38.7%), followed by Toronto (25.3%) and South West (14.7%) regions.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where race/ethnicity was not reported were excluded (average of 33.7% of diagnoses per 5-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 11.17 Percent of first-time HIV diagnoses within each health region attributed to Indigenous Peoples (where race/ethnicity reported), Ontario, 2010-2014 and 2015-2019



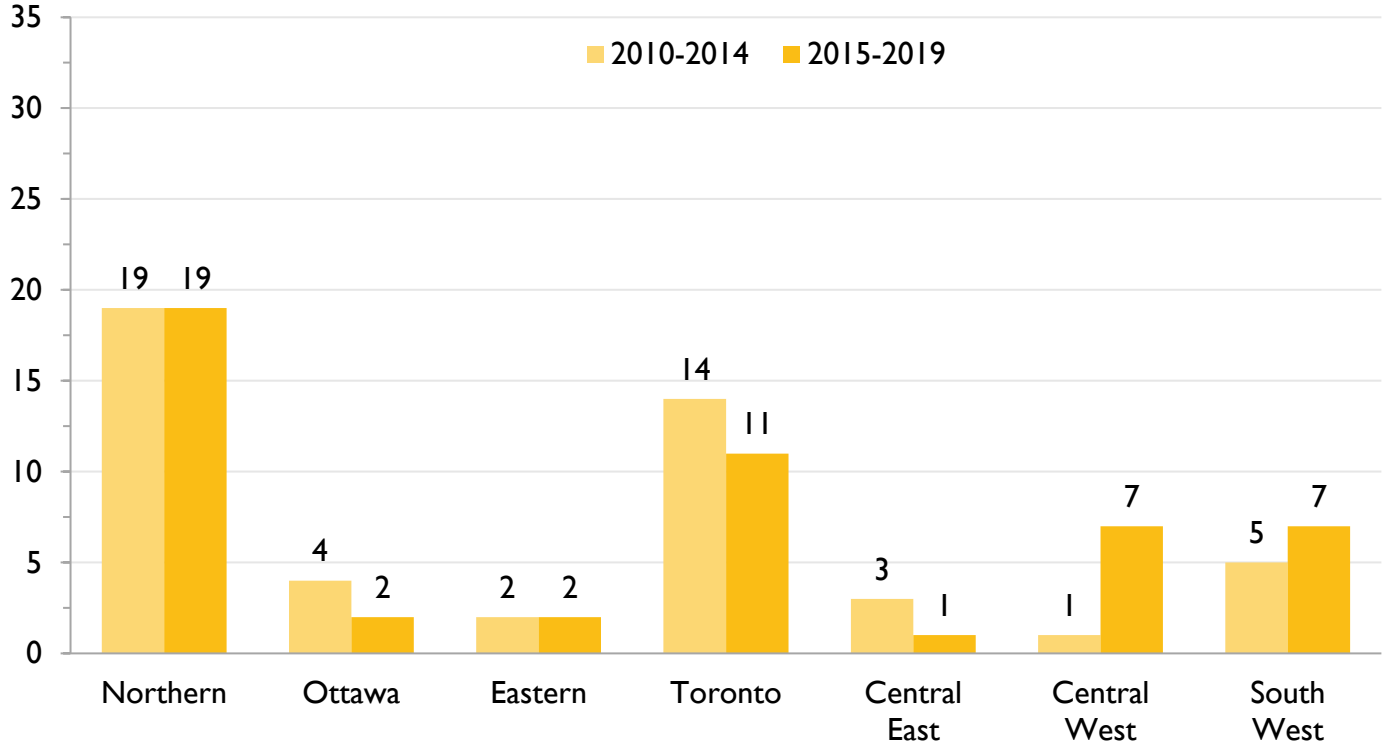
Snapshot

Over the five-year period 2015-2019, looking within each region, Northern region attributed a larger proportion of its first-time HIV diagnoses to Indigenous Peoples than any other region (42.9%), followed by South West (6.1%), and Eastern and Central West (both 4.5%) regions. Ottawa, Toronto, and Central East regions each attributed less than 2% of their first-time HIV diagnoses to Indigenous Peoples.

Over the five-year period 2010-2014, compared to other regions, Northern region attributed a larger proportion of its first-time HIV diagnoses to Indigenous Peoples than any other region (33.7%), followed by Eastern (6.5%) and South West (5.5%) regions.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if not reported, the address of the ordering provider. Diagnoses where race/ethnicity was not reported were excluded (average of 33.7% of diagnoses per 5-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 11.18 Number of first-time HIV diagnoses by health region, Indigenous males, Ontario, 2010-2014 and 2015-2019



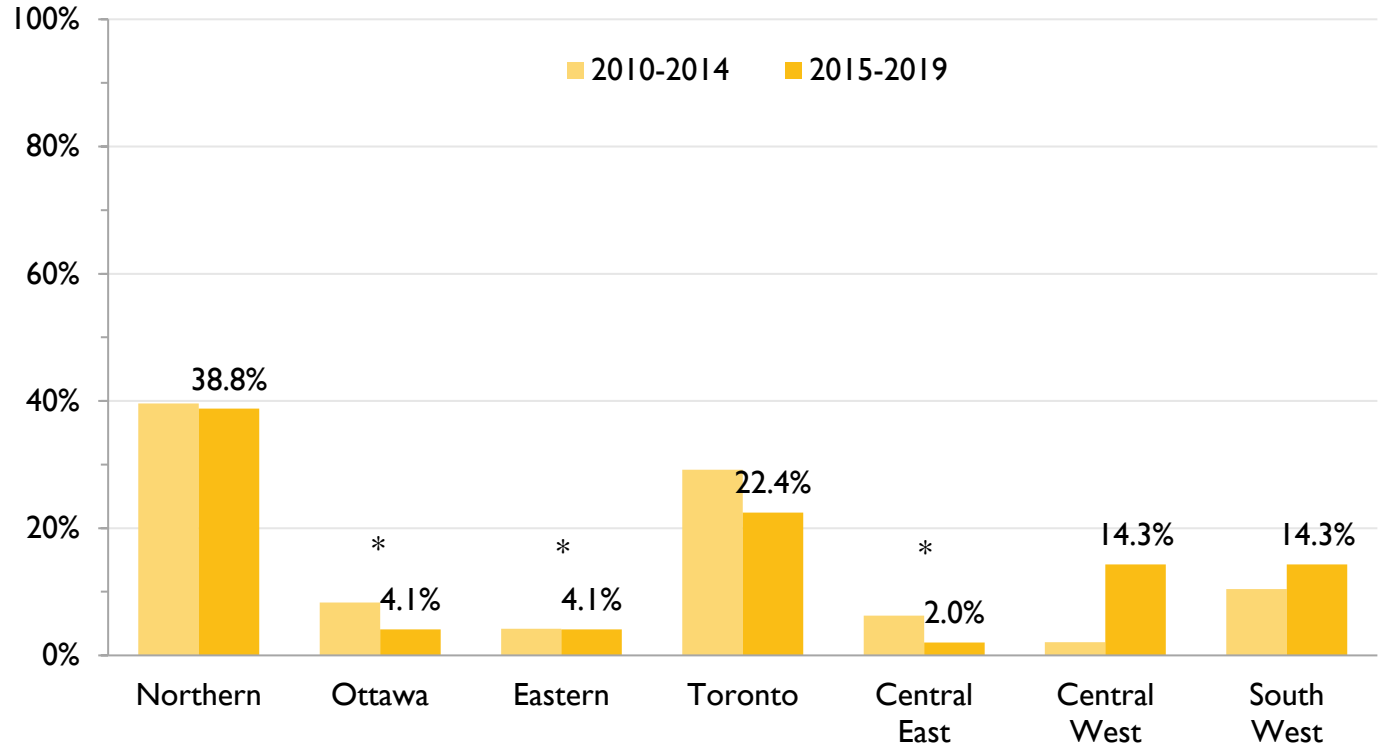
Snapshot

Over the five-year period 2015-2019, Northern region had the largest number of first-time HIV diagnoses among Indigenous males (19), followed by Toronto (11), Central West and South West (both 7), Ottawa and Eastern (both 2) and Central East (1) regions.

Over the five-year period 2010-2014, Northern region had the largest number of first-time HIV diagnoses among Indigenous males (19), followed by Toronto (14) and South West (5) regions.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where race/ethnicity was not reported were excluded (average of 31.7% of diagnoses per 5-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 11.19 Percent of first-time HIV diagnoses across health regions, Indigenous males, Ontario, 2010-2014 and 2015-2019



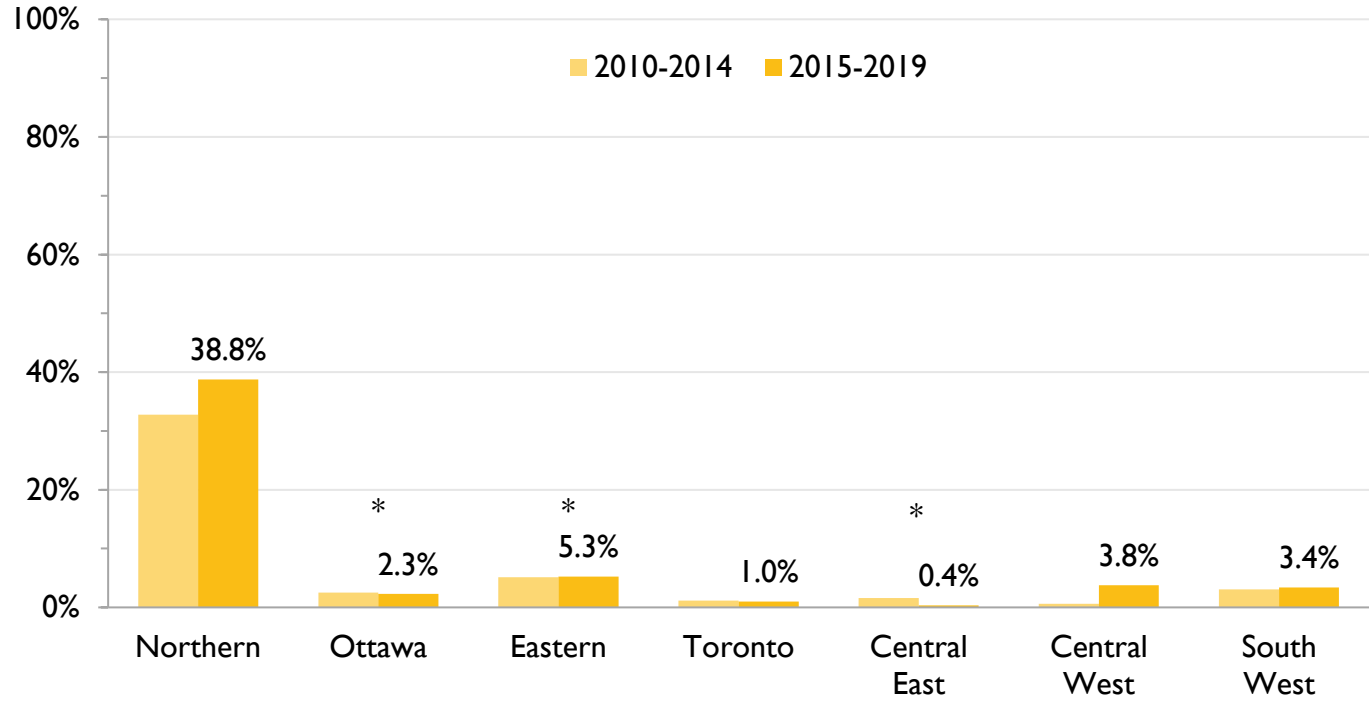
Snapshot

Over the five-year period 2015-2019, Northern region had the largest proportion of first-time HIV diagnoses among Indigenous males (38.8%), followed by Toronto (22.4%), and Central West and South West (both 14.3%) regions. Ottawa, Eastern, and Central East regions each had less than 5% of first-time HIV diagnoses among Indigenous males.

Over the five-year period 2010-2014, Northern region had the largest proportion of first-time HIV diagnoses among Indigenous males (39.6%), followed by Toronto (29.2%) and South West (10.4%) regions.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where race/ethnicity was not reported were excluded (average of 31.7% of diagnoses per 5-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 11.20 Percent of first-time HIV diagnoses among males within each health region attributed to Indigenous males (where race/ethnicity reported), Ontario, 2010-2014 and 2015-2019



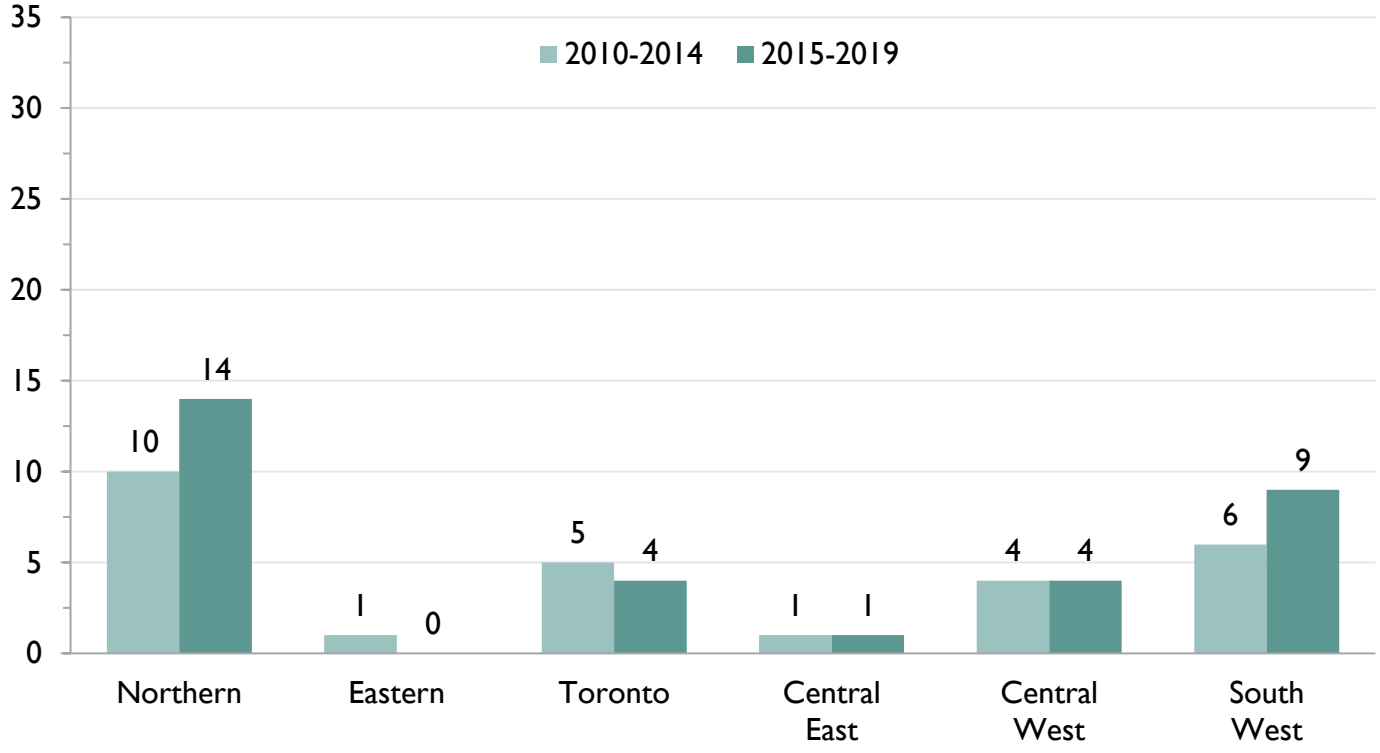
Snapshot

Over the five-year period 2015-2019, looking within each region, Northern region attributed a larger proportion of its first-time HIV diagnoses among males to Indigenous Peoples than any other region (38.8%), followed by Eastern (5.3%), Central West (3.8%) and South West (3.4%) regions. Ottawa, Toronto, and Central East regions each attributed less than 2% of their first-time HIV diagnoses among males to Indigenous Peoples.

Over the five-year period 2010-2014, Northern region attributed a larger proportion of its first-time HIV diagnoses to Indigenous Peoples than any other region (32.8%), followed by Eastern (5.1%) and South West (3.1%) regions.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where race/ethnicity was not reported were excluded (average of 31.7% of diagnoses per 5-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 11.21 Number of first-time HIV diagnoses by health region, Indigenous females, Ontario, 2010-2014 and 2015-2019



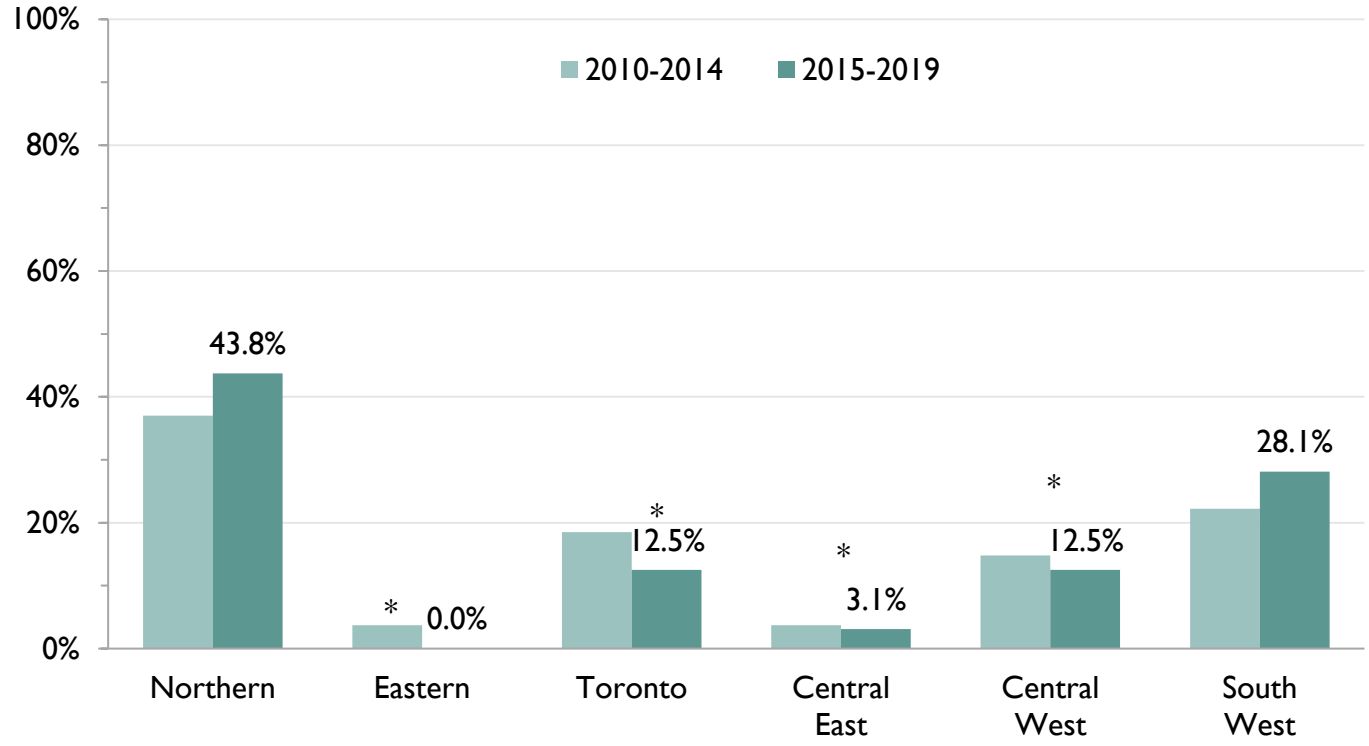
Snapshot

Over the five-year period 2015-2019, Northern region had the largest number of first-time HIV diagnoses among Indigenous females (14), followed by South West (9), Toronto and Central West (both 4) and Central East (1) regions. Ottawa and Eastern regions had 0 diagnoses.

Over the five-year period 2010-2014, Northern region had the largest number of first-time HIV diagnoses among Indigenous females (10), followed by South West (6) and Toronto (5) regions.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where race/ethnicity was not reported were excluded (average of 39.2% of diagnoses per 5-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 11.22 Percent of first-time HIV diagnoses across health regions, Indigenous females, Ontario, 2010-2014 and 2015-2019



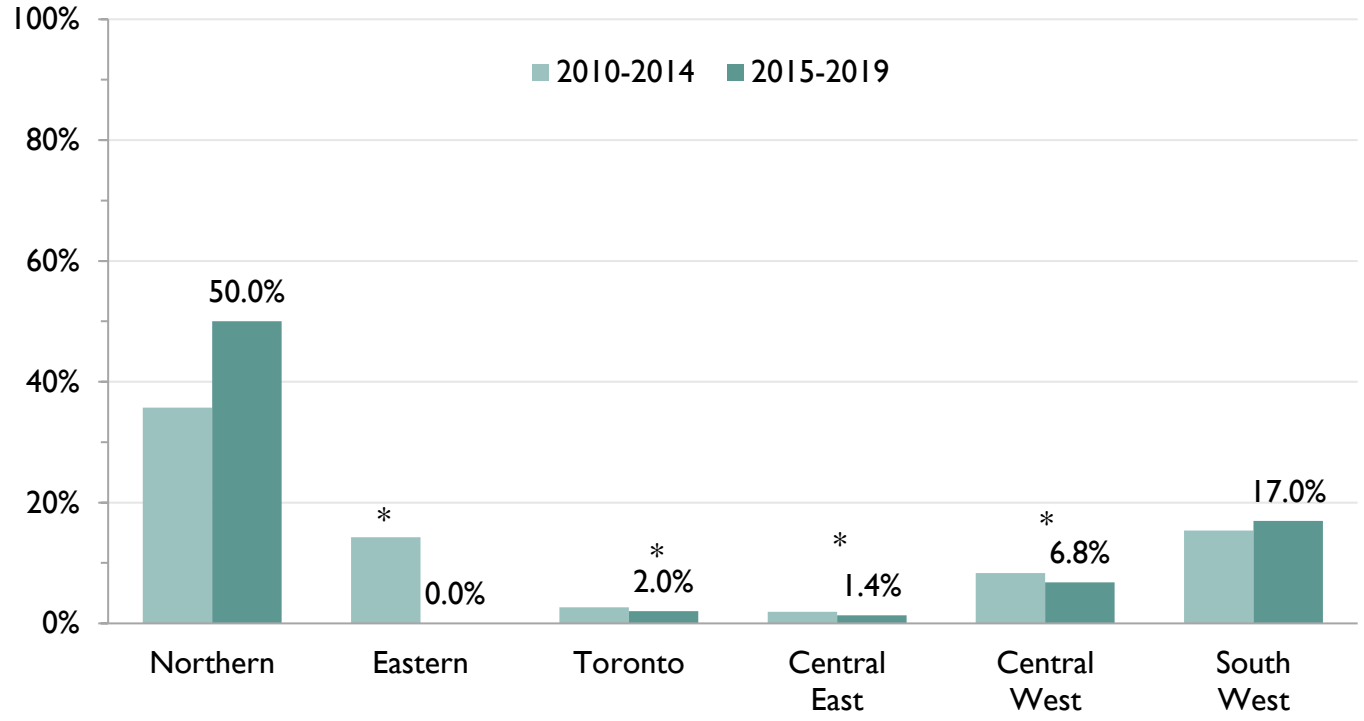
Snapshot

Over the five-year period 2015-2019, Northern region had the largest proportion of first-time HIV diagnoses among Indigenous females (43.8%), followed by South West (28.1%), and Toronto and Central West (both 12.5%) regions. Central East region had less than 5% of first-time HIV diagnoses among Indigenous females, and Ottawa and Eastern had 0%.

Over the five-year period 2010-2014, Northern region had the largest proportion of first-time HIV diagnoses among Indigenous females (37.0%), followed by South West (22.2%) and Toronto (18.5%) regions.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where race/ethnicity was not reported were excluded (average of 39.2% of diagnoses per 5-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 11.23 Percent of first-time HIV diagnoses among females within each health region attributed to Indigenous females (where race/ethnicity reported), Ontario, 2010-2014 and 2015-2019



Snapshot

Over the five-year period 2015-2019, Northern region attributed a larger proportion of its first-time HIV diagnoses among females to Indigenous Peoples than any other region (50.0%), followed by South West (17.0%), and Central West (6.8%) regions. Ottawa, Eastern, Toronto, and Central East regions each attributed fewer than 2% of their first-time HIV diagnoses among females to Indigenous females.

Over the five-year period 2010-2014, Northern region attributed a larger proportion of its first-time HIV diagnoses among females to Indigenous Peoples than any other region (35.7%), followed by South West (15.4%) and Eastern (14.3%) regions.

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if unreported, the address of the ordering provider. Diagnoses where race/ethnicity was not reported were excluded (average of 39.2% of diagnoses per 5-year period). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

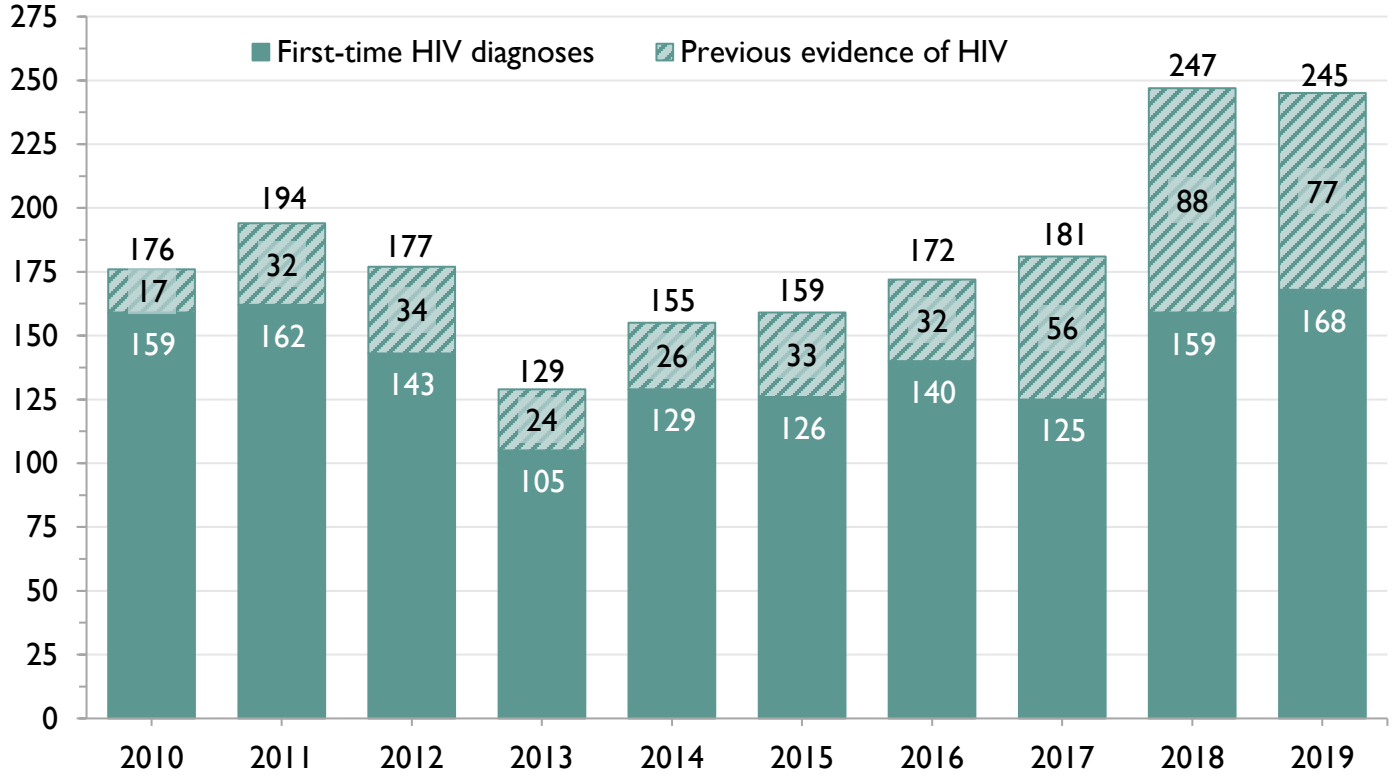
12. Women

12.a. Women overview

Diagnoses attributed to Women are defined by having Female or Trans female sex reported. In 2019, of the 245 positive HIV tests attributed to Women in Ontario, 169 were first-time HIV diagnoses and 77 had previous evidence of HIV. The proportion of positive HIV tests that have previous evidence of HIV increased from 9.7% in 2010 to 31.4% in 2019 with most of that increase occurring in the latter three years. As test history information can be missing, we estimate that overall first-time HIV diagnosis counts among females are an overestimate by between 13.9 and 16.3 percent. In 2019, Women accounted for 24.6% of first-time HIV diagnoses.

Note: *Due to missing data on test history, first-time HIV diagnoses may include some people with an uncaptured previous HIV diagnosis. OHESI estimates this to be between 13.9% and 16.3% of first-time HIV diagnoses among females.*

Figure 12.1 Number of positive HIV tests, by first-time HIV diagnoses and previous evidence of HIV, Women, Ontario, 2010 to 2019



Snapshot

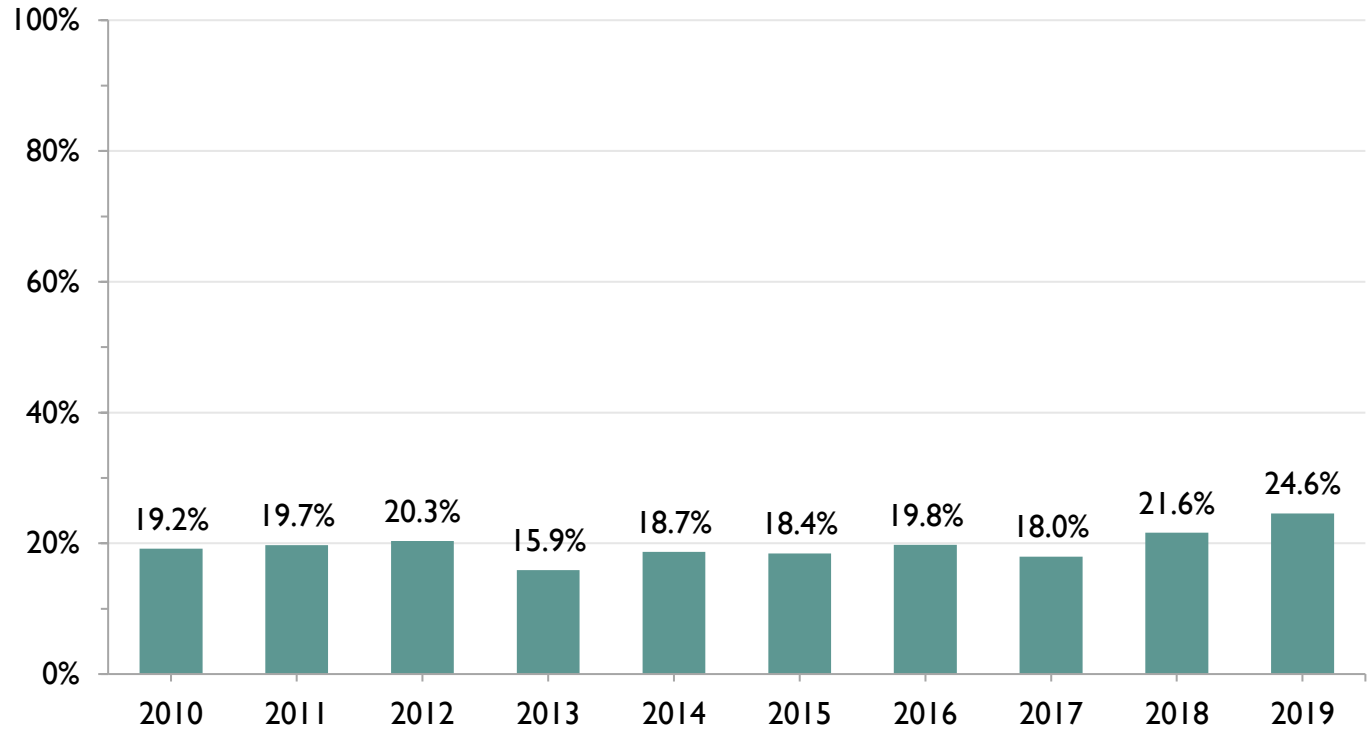
Between 2010 and 2019, the number of first-time HIV diagnoses among Women was fairly consistent (average 142), with increases in 2018 (159) and 2019 (168) and a decrease in 2013 (105).

The proportion of positive HIV tests among Women with previous evidence of HIV increased from 9.7% in 2010 to 31.4% in 2019, with most of that increase occurring in the latter three years.

Note: *Due to missing data on test history, first-time HIV diagnoses may include some people with an uncaptured previous HIV diagnosis. OHESI estimates this to be between 13.9% and 16.3% of first-time HIV diagnoses among females.*

Notes: Data provided by Public Health Ontario Laboratory. Positive HIV tests where sex was not reported were excluded (average of less than 1% of tests per year). See Appendices for more information. See Tables Supplement for underlying data.

Figure 12.2 Percent of first-time HIV diagnoses attributed to Women, Ontario, 2010 to 2019



Snapshot

In 2019, Women accounted for 24.6% of all first-time HIV diagnoses. Between 2010 and 2019, Women accounted for between 15.9% (2013) and 24.6% (2019) of all first-time HIV diagnoses.

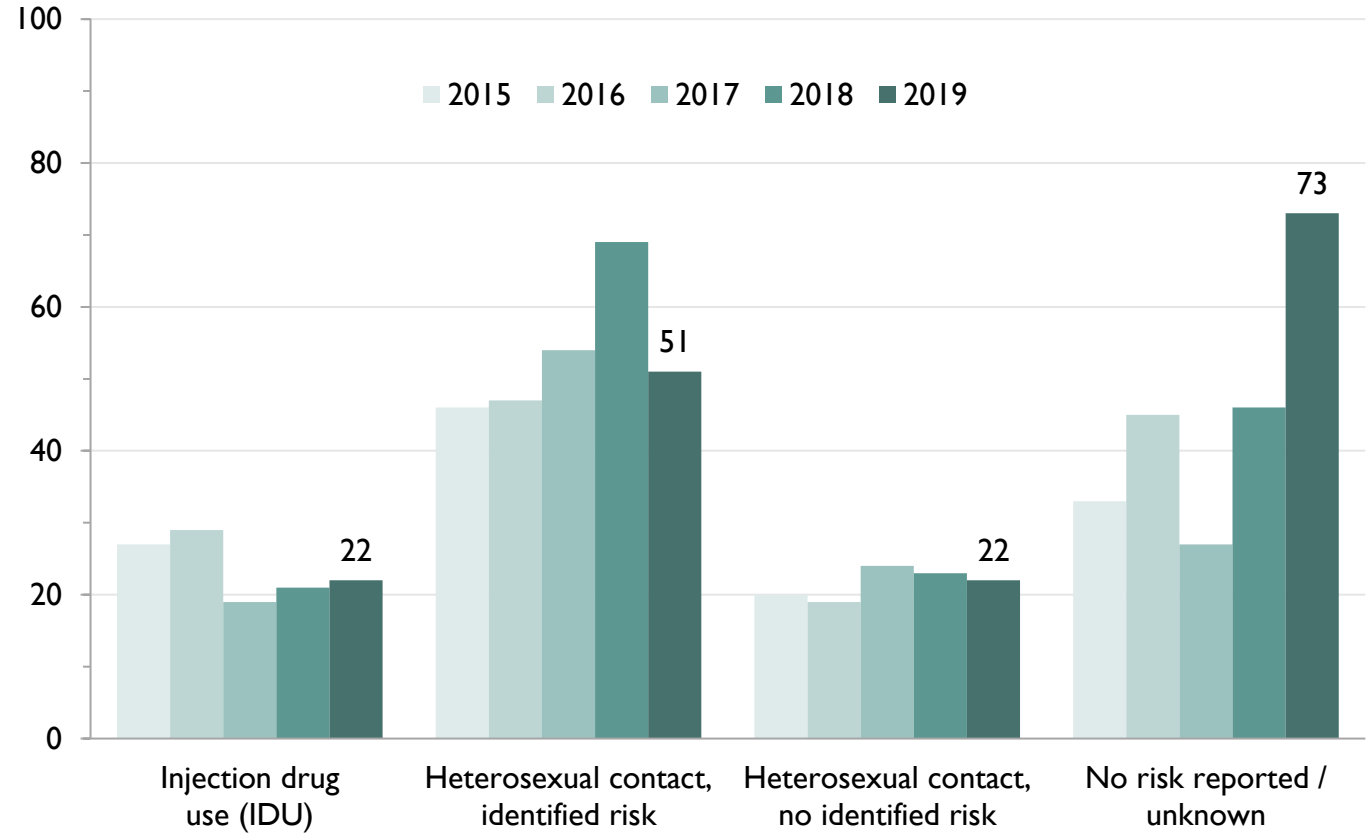
Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where sex was not reported were excluded (average of less than 1% of diagnoses per year). See Appendices for more information. See Tables Supplement for underlying data.

12.b. Women by HIV exposure category

Patterns of HIV exposure categories have remained fairly stable over time in first-time HIV diagnoses among Women. Between 2015 and 2019, the most frequently reported HIV exposure category among first-time HIV diagnoses among Women was heterosexual contact with identified risk (53.7% in 2019). Between 18.6% and 30.5% of first-time HIV diagnoses among Women reported HIV exposure through IDU and between 20.0% and 24.7% reported exposure through heterosexual contact with no identified risk.

Note: *The "Heterosexual contact, identified risk" category includes diagnoses where sex with a person of the opposite sex/gender is reported and either the individual's country of birth is reported as an HIV-endemic country, or the individual's sex 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 12.3 Number of first-time HIV diagnoses by HIV exposure category, Women, Ontario, 2015 to 2019



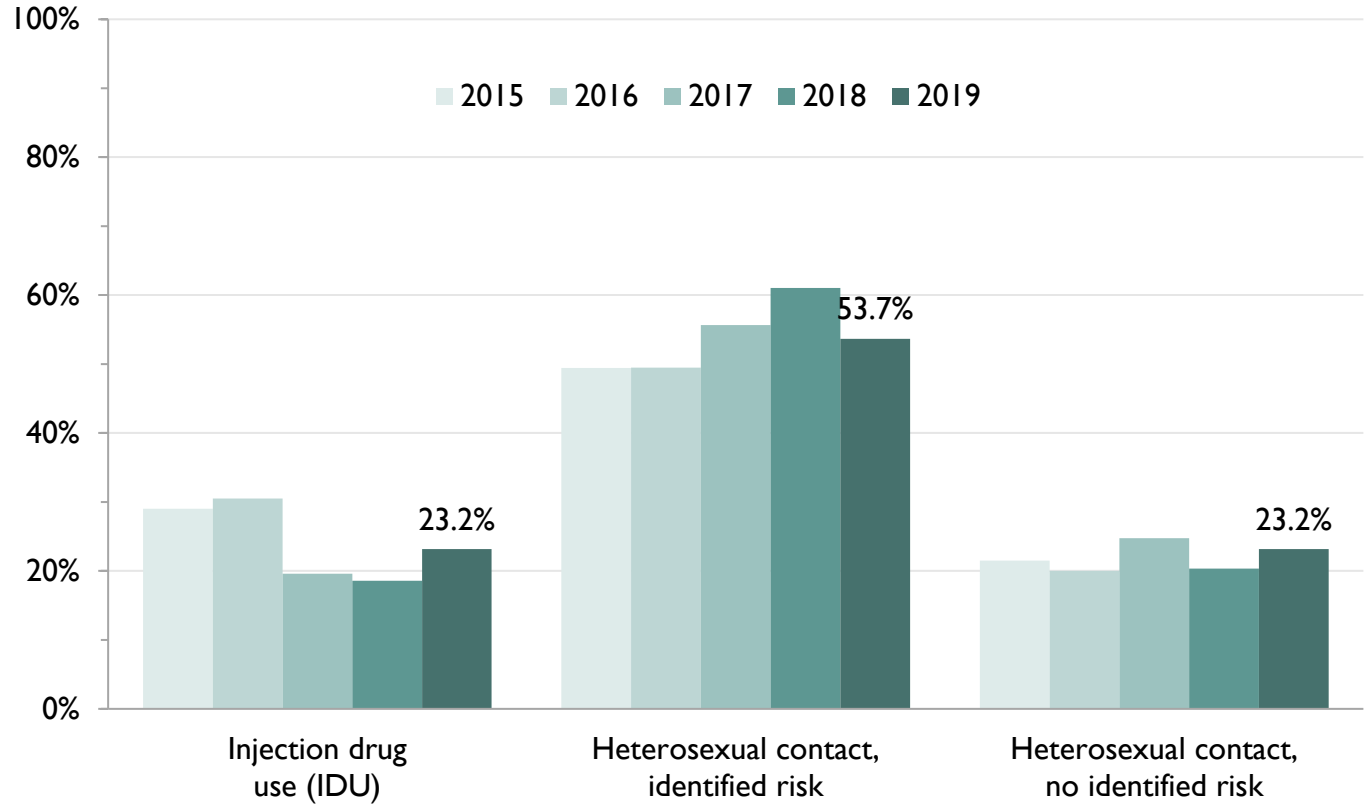
Snapshot

In 2019, 95 of the 168 first-time HIV diagnoses among Women (56.5%) reported an HIV exposure category and 73 (43.4%) did not (i.e. no risk reported, unknown).

Among the 95 first-time HIV diagnoses with a reported HIV exposure category in 2019, the most frequently reported HIV exposure category was heterosexual contact with identified risk (51) followed by heterosexual contact with no identified risk (22) and IDU (22). This pattern is relatively consistent with the previous four years.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where sex was not reported were excluded (average of less than 1% of diagnoses per year). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

Figure 12.4 Percent of first-time HIV diagnoses by HIV exposure category (where reported), Women, Ontario, 2015 to 2019



Snapshot

In 2019, among the 95 first-time HIV diagnoses in Women with a reported HIV exposure category, the heterosexual contact with identified risk HIV exposure category accounted for the largest proportion (53.7%), followed by heterosexual contact with no identified risk (23.2%) and IDU (23.2%). This pattern is relatively consistent between 2015 and 2019, however the proportion of first-time HIV diagnoses among Women reporting IDU decreased from 29.0% in 2015 to 23.2% in 2019.

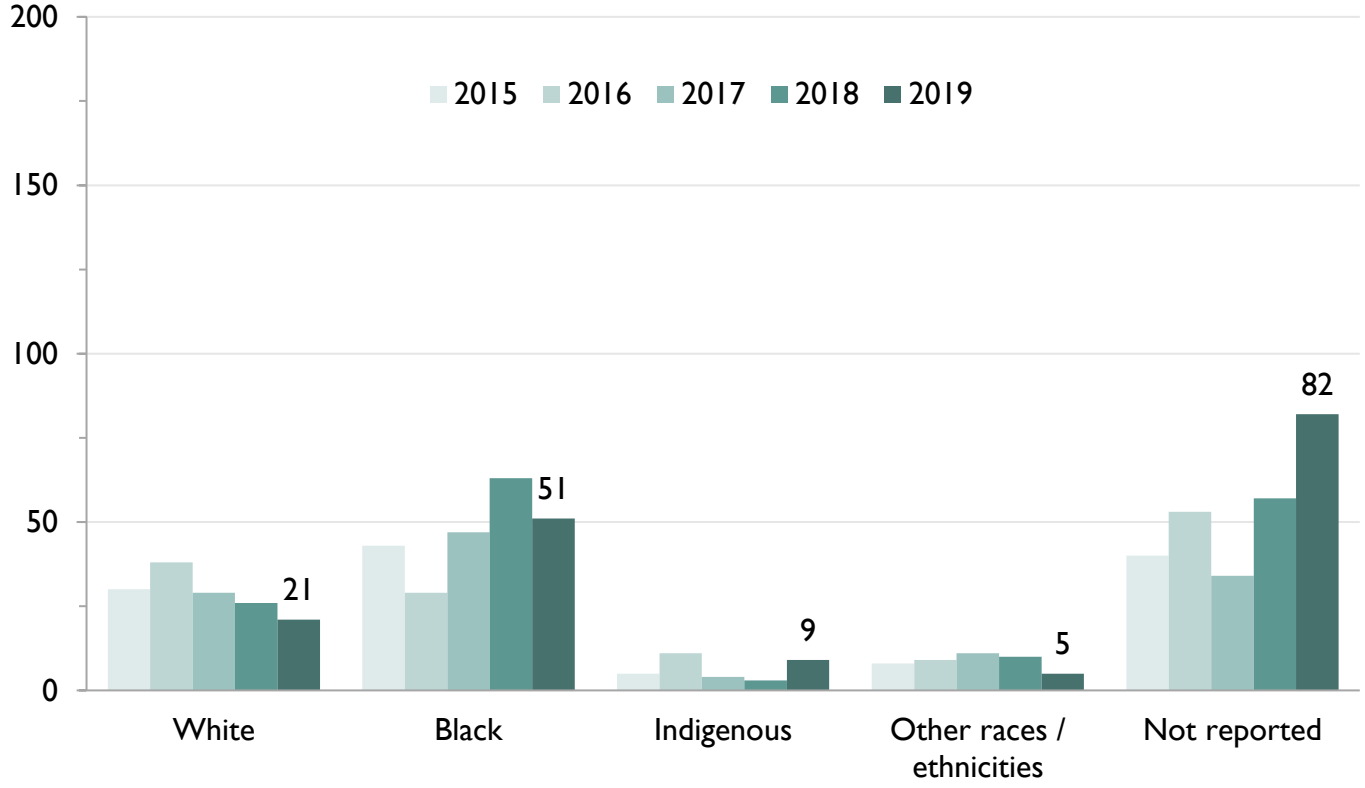
Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where sex was not reported were excluded (average of less than 1% of diagnoses per year). Diagnoses where sex was reported but HIV exposure category was not reported were excluded (average of 30.5% of diagnoses per year where sex was reported). IDU = injection drug use. See Appendices and specifically HIV exposure categories for more information. See Tables Supplement for underlying data.

12.c. Women by race/ethnicity

Of the 168 first-time HIV diagnoses among Women in 2019, 86 (51.2%) reported information on race/ethnicity and 82 (48.8%) did not.

Of the 86 that did report race/ethnicity, the largest proportion was attributed to Black women (59.3%), followed by white (24.4%), and Indigenous (10.5%) women.

Figure 12.5 Number of first-time HIV diagnoses by race/ethnicity, Women, Ontario, 2015 to 2019



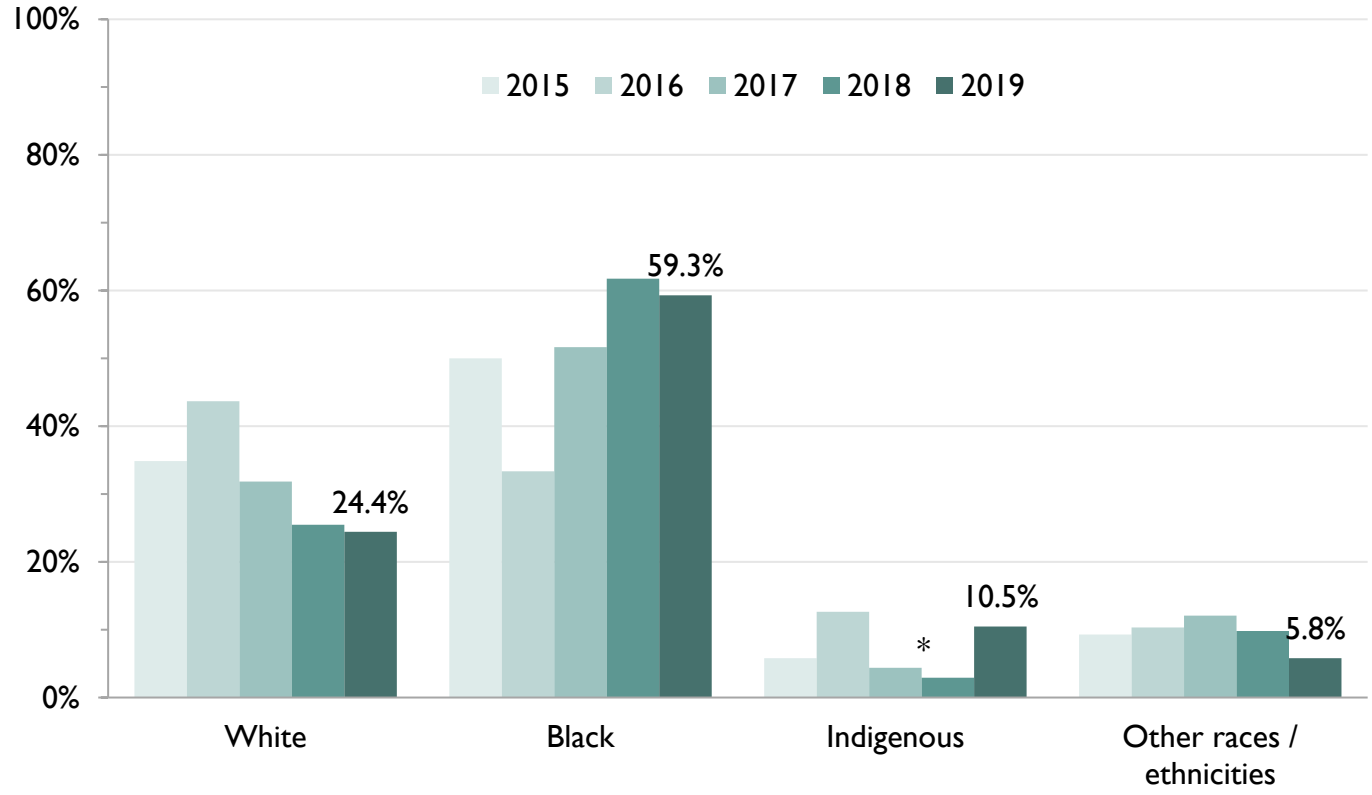
Snapshot

Among the 86 first-time HIV diagnoses among Women with a reported race/ethnicity, 51 were in Black women, 21 in white women, 9 in Indigenous women, and 5 in women of other races/ethnicities.

Every year between 2015 and 2019 except 2016, Black women accounted for the largest number of first-time HIV diagnoses among Women; white women accounted for the largest number in 2016.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where sex was not reported were excluded (average of less than 1% of diagnoses per year). See Appendices for more information. See Tables Supplement for underlying data.

Figure 12.6 Percent of first-time HIV diagnoses by race/ethnicity (where reported), Women, Ontario, 2015 to 2019



Snapshot

In 2019, among the 86 first-time HIV diagnoses in Women with a reported race/ethnicity, Black women accounted for the largest proportion (59.3%), followed by white (24.4%), Indigenous (10.5%) and women of other races/ethnicities (5.8%).

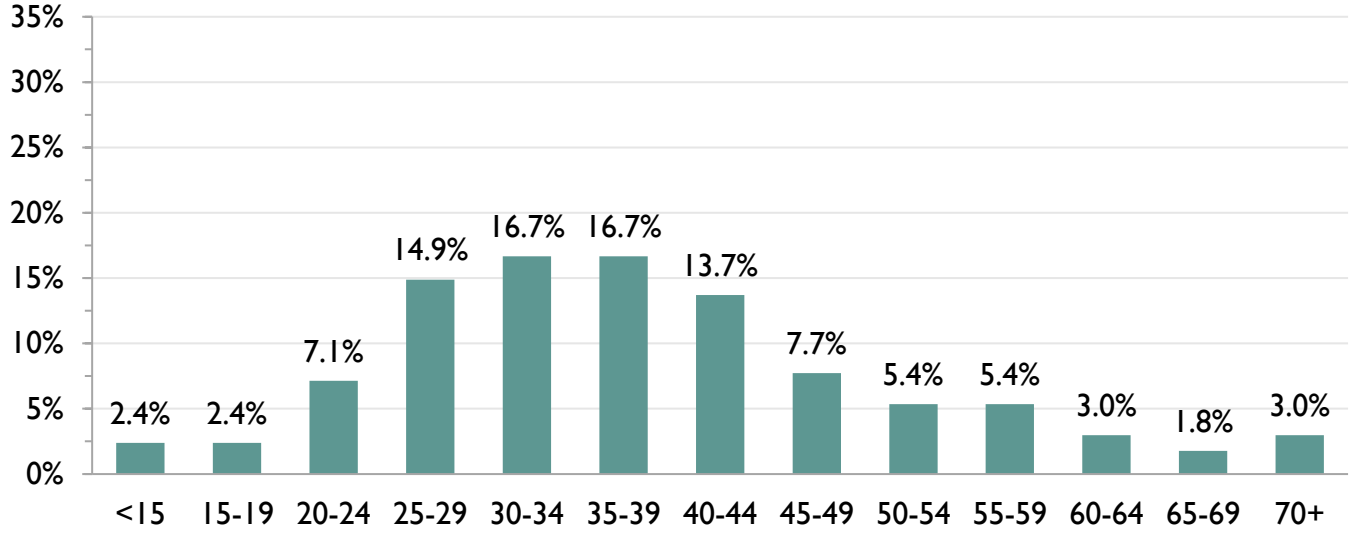
In every year between 2015 and 2019 except 2016, Black women accounted for the largest proportions of first-time HIV diagnoses among Women, followed by white women.

Notes: Data provided by Public Health Ontario Laboratory. Diagnoses where sex was not reported were excluded (average of less than 1% of diagnoses per year). Diagnoses where sex was reported but race/ethnicity was not reported were excluded (average of 36.3% of diagnoses per year where sex was reported). See Appendices for more information. See Tables Supplement for underlying data.

12.d. Women by age

In 2019, those aged 35-39 and 30-34 years accounted for the largest proportion of first-time HIV diagnoses among Women (both 16.7%), and had the highest rates of first-time HIV diagnoses per 100,000 females (5.7 and 5.6, respectively).

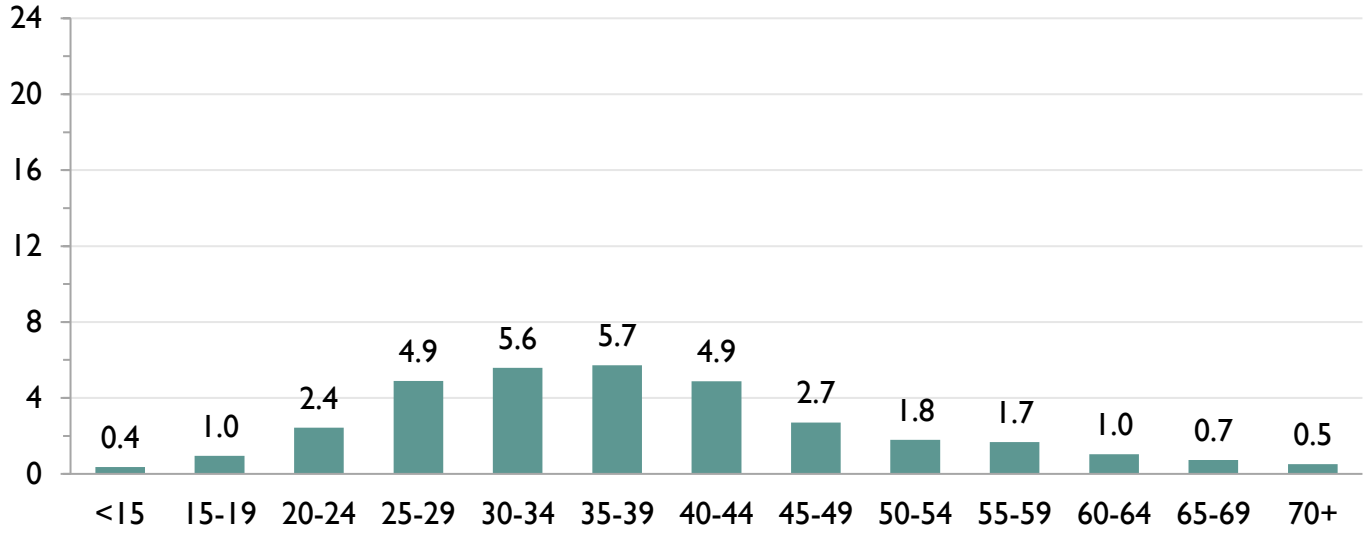
Figure 12.7 Percent of first-time HIV diagnoses by age, Women, Ontario, 2019



Snapshot

In 2019, more than 6 in 10 (61.9%) of first-time HIV diagnoses among Women were among those aged 25-44 years and the 30-34 and 35-39 age categories accounted for the largest proportions (16.7% each).

Figure 12.8 Rate of first-time HIV diagnoses per 100,000 females by age, Women, Ontario, 2019



Snapshot

In 2019, the rate of first-time HIV diagnoses among Women was highest among those aged 35-39 years (5.7 per 100,000 females) followed by those aged 30-34 years (5.6 per 100,000 females).

Notes: Data provided by Public Health Ontario Laboratory. * denotes a proportion based on at least one count of <5, therefore proportions may be unstable and trends should be interpreted with caution. Rates calculated using Statistics Canada population estimates for all ages, accessed 06/24/2020. Diagnoses where sex was not reported were excluded (average of less than 1% of diagnoses per year). Diagnoses where age was not reported were excluded (less than 1%). See Appendices for more information. See Tables Supplement for underlying data.

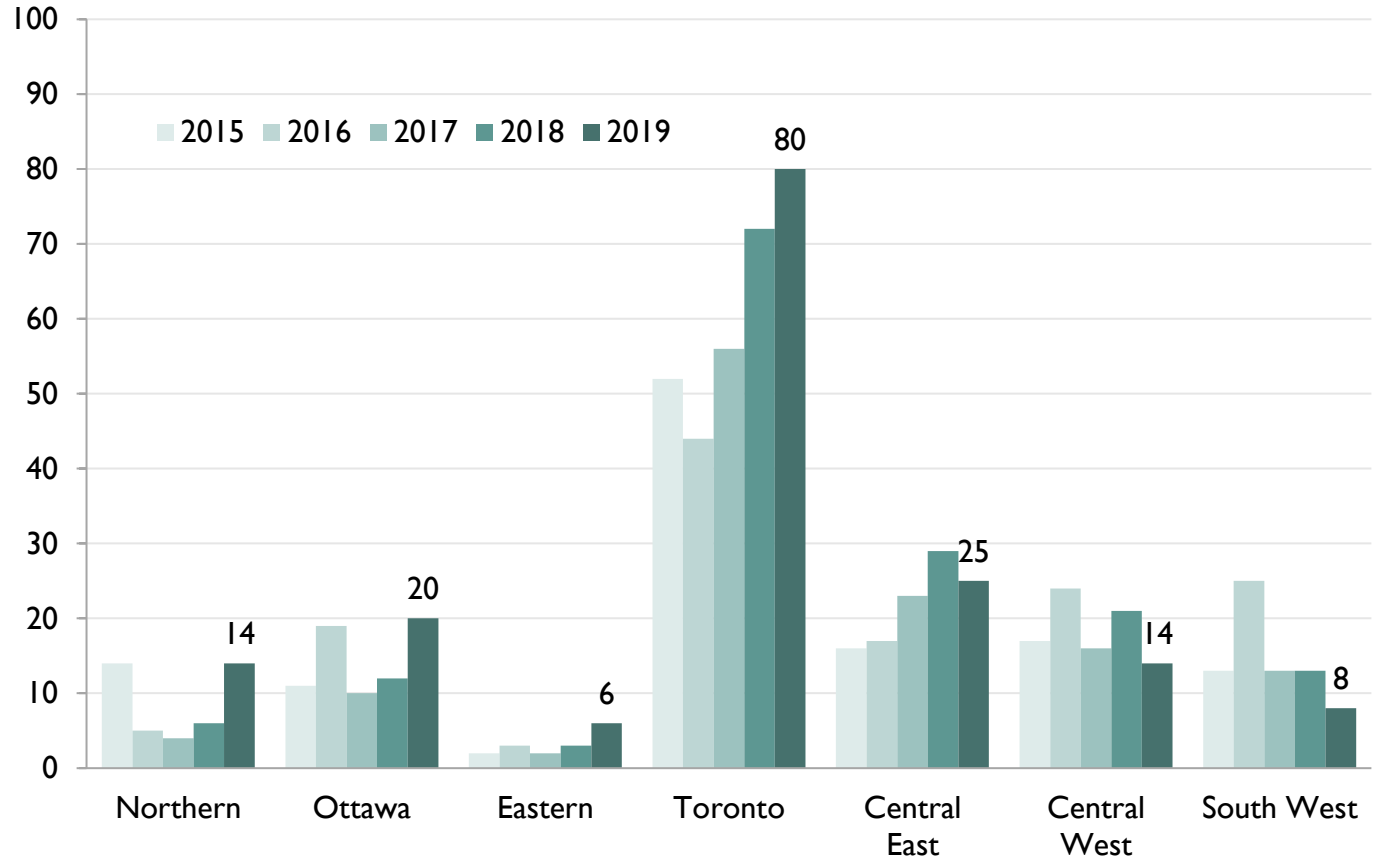
12.e. Women by health region

In 2019, Toronto region had the largest proportion of first-time HIV diagnoses among Women (47.9%), as well as the highest rate per 100,000 females (5.3), followed by Ottawa (3.8), and Northern (3.5) regions.

Between 2015 and 2019, the number of first-time HIV diagnoses among Women increased in Toronto region from 52 to 80.

In 2019, looking within each region, Ottawa region attributed a larger proportion of its first-time HIV diagnoses to Women than any other region (57.1%), followed by Northern (50.0%) and Eastern (46.2%) regions.

Figure 12.9 Number of first-time HIV diagnoses among Women by health region, Ontario, 2015 to 2019



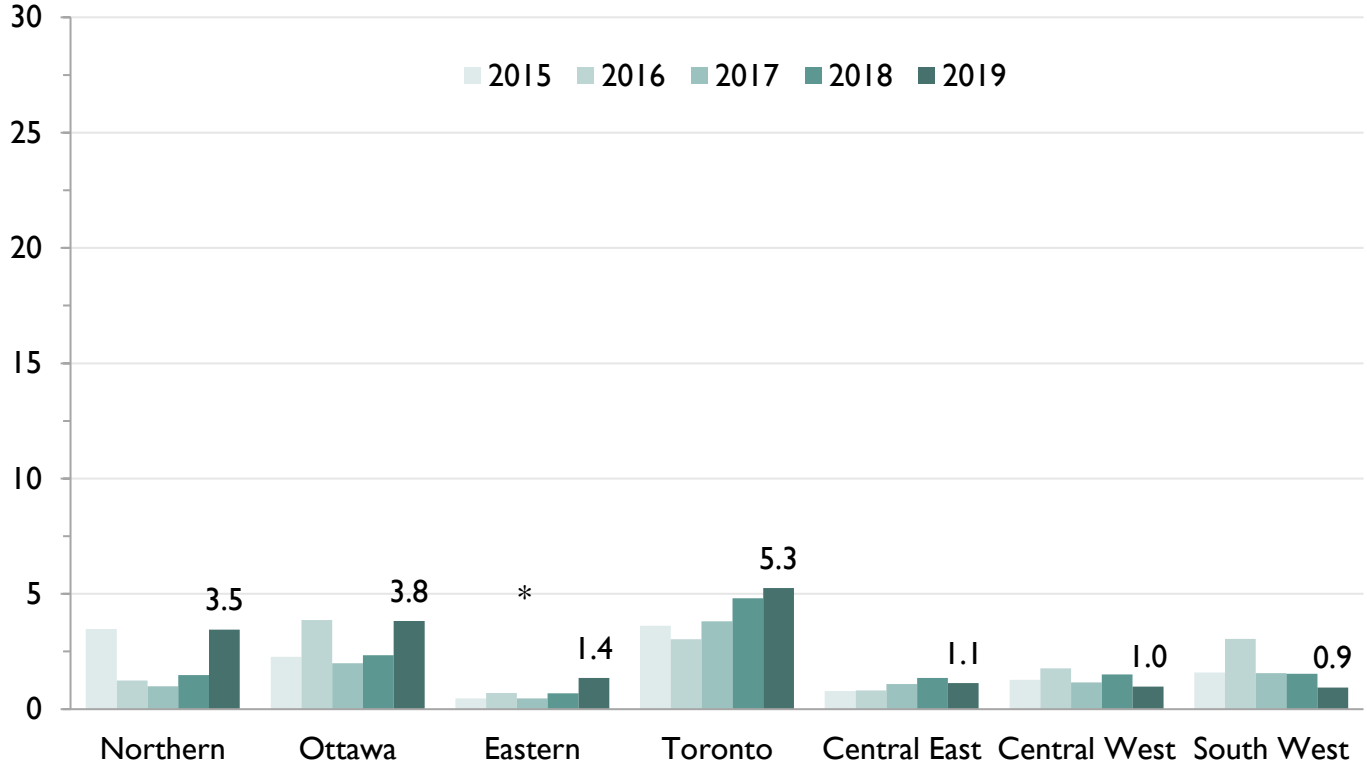
Snapshot

In 2019, Toronto region had the largest number of first-time HIV diagnoses among Women (80), followed by Central East (25), Ottawa (20), Northern and Central West (both 14), South West (8), and Eastern (6) regions.

Between 2015 and 2019, Toronto region had the largest number of first-time HIV diagnoses among Women. The number of first-time HIV diagnoses attributed to Women in Toronto region increased from 52 in 2015 to 80 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if not reported, the address of the ordering provider. Diagnoses where sex was not reported were excluded (average of less than 1% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 12.10 Rate of first-time HIV diagnoses per 100,000 females by health region, Women, Ontario, 2015 to 2019



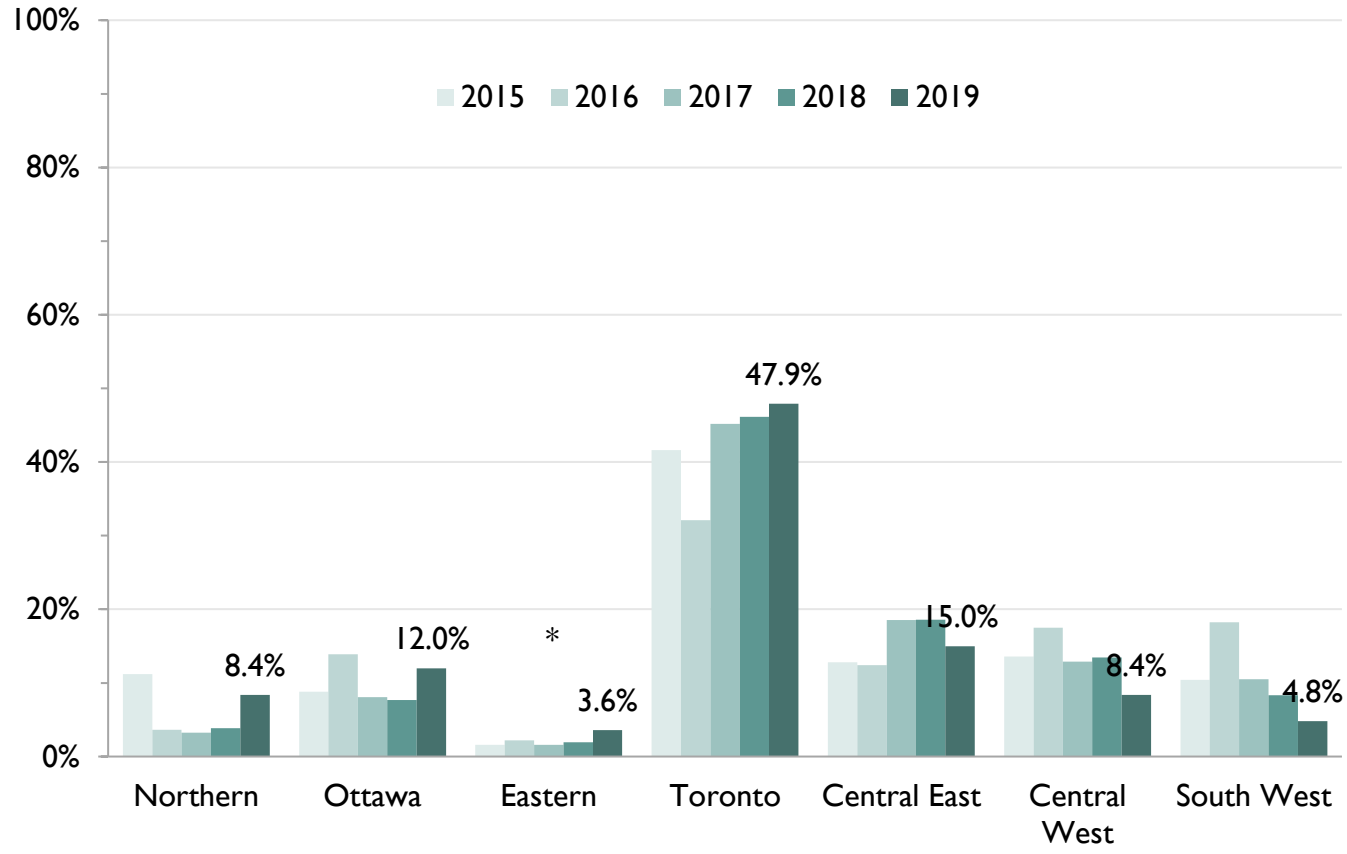
Snapshot

In 2019, Toronto region had the highest rate of first-time HIV diagnoses among Women per 100,000 females (5.3), followed by Ottawa (3.8), Northern (3.5), Eastern (1.4), Central East (1.1), Central West (1.0), and South West (0.9) regions.

Between 2015 and 2019, Toronto region had the highest rate of first-time HIV diagnoses among Women per 100,000 females. The rate in Toronto region increased from 3.6 in 2015 to 5.3 in 2019.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if not reported, the address of the ordering provider. Diagnoses where sex was not reported were excluded (average of less than 1% of diagnoses per year). Rates calculated using Statistics Canada population estimates for all ages, accessed 08/17/2020. See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 12.11 Percent of first-time HIV diagnoses across health regions, Women, Ontario, 2015 to 2019

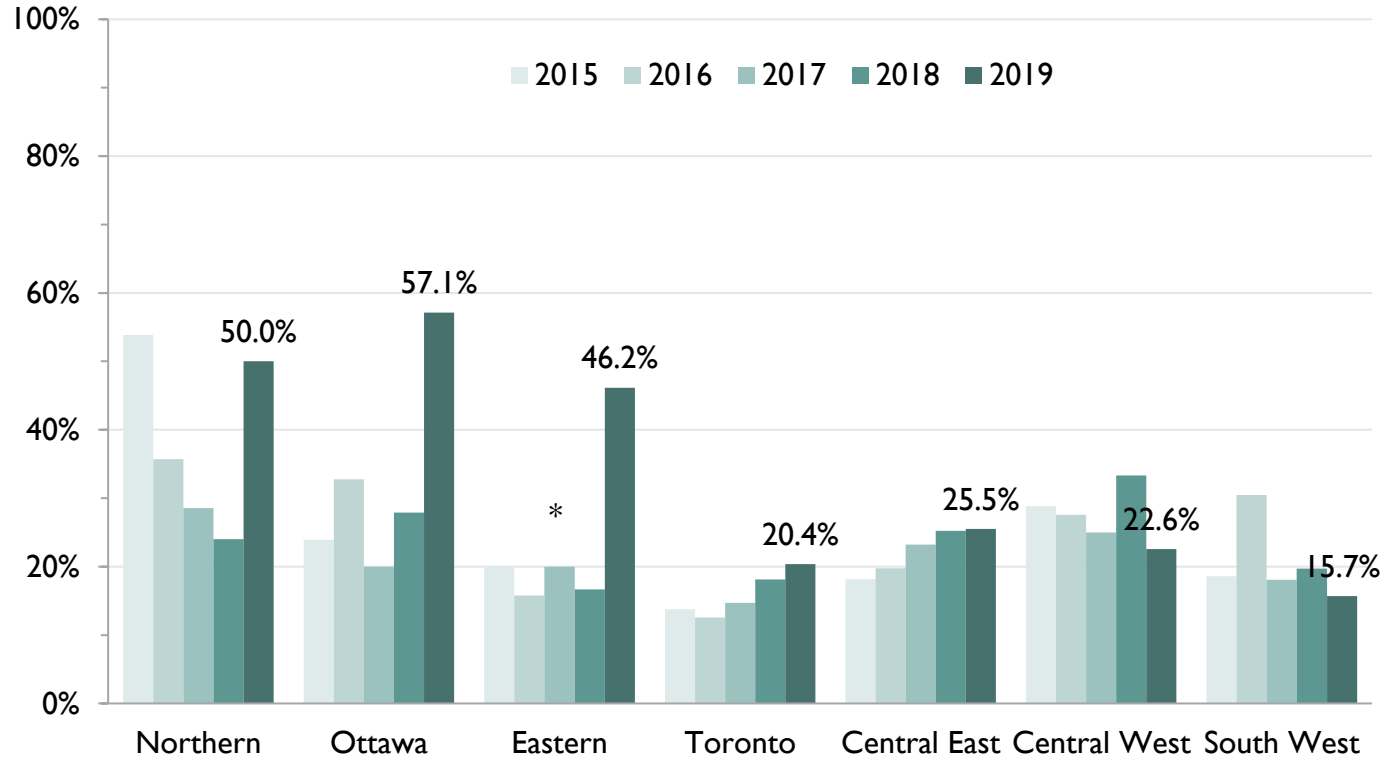


Snapshot

In 2019, Toronto region had the largest proportion of first-time HIV diagnoses among Women (47.9%), followed by Central East (both 15.0%), Ottawa (12.0%), Northern and Central West (both 8.4%), South West (4.8%), and Eastern (3.6%) regions. This trend has been consistent over time: between 2015 and 2019, Toronto region accounted for the largest proportion of first-time HIV diagnoses among Women.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if not reported, the address of the ordering provider. Diagnoses where sex was not reported were excluded (average of less than 1% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Figure 12.12 Percent of first-time HIV diagnoses within each region attributed to Women (where sex reported), Ontario, 2015 to 2019



Snapshot

In 2019, looking within each region, Ottawa region attributed a larger proportion of its first-time HIV diagnoses to Women than any other region (57.1%), followed by Northern (50.0%), Eastern (46.2%), Central East (25.5%), Central West (22.6%), Toronto (20.4%), and South West (15.7%) regions.

Notes: Data provided by Public Health Ontario Laboratory. Health regions are groupings of Public Health Units. Diagnoses were assigned to a health region based on their address of residence or, if not reported, the address of the ordering provider. Diagnoses where sex was not reported were excluded (average of less than 1% of diagnoses per year). See Appendices and specifically Health regions for more information. See Tables Supplement for underlying data.

Appendices

1. Definitions

African, Caribbean or Black (ACB) people

One of Ontario's priority populations. Diagnoses attributed to ACB are defined by having indication of being born in an African or Caribbean country and/or Black race/ethnicity. See Priority populations for more information.

Anonymous HIV testing

A type of non-nominal HIV diagnostic testing where no identifying information on the individual being tested is collected on the 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 within the HIV Datamart.

Coded HIV testing

A type of non-nominal HIV diagnostic testing where a code, instead of the name of the individual being tested, is collected on the test requisition form. The lack of identifying information means that it is not possible to link coded HIV-positive diagnostic tests to viral load tests within the HIV Datamart.

Gay, bisexual, and other men who have sex with men (GBMSM)

One of Ontario's priority populations. Diagnoses attributed to GBMSM are defined by having reported 'Male' or 'Transgender male' sex, and sexual contact with men as an HIV risk factor. See Priority populations for more information.

First-time HIV diagnoses

First-time HIV diagnoses are positive HIV tests with no previous evidence of HIV. We look at this number to better understand which diagnoses are likely due to local transmission in Ontario and, therefore, what populations might be at most risk and benefit most from prevention activities. We report on first-time HIV diagnoses separately to better understand local transmission.

First-time HIV diagnoses exclude anyone with a previous positive diagnostic test as indicated on the LEP form (or the test requisition form since 2018), regardless of the location of the previous positive test (inside of outside of Ontario). It also uses linked viral load testing history in Ontario as evidence of being in care for HIV so excludes 1) anyone with a history of viral load testing in Ontario of more than 30 days before to their first nominal confirmatory diagnostic test in Ontario, or 2) anyone with a history of viral load testing in Ontario within 30 days (including same day) of their first nominal confirmatory diagnostic test with a viral load of <200 copies/mL indicating prior treatment. People who have evidence of a history of viral load testing before their first reported HIV positive test are counted as a positive HIV test in the first year which there is evidence of an HIV diagnoses (i.e. the year of their first viral load test).

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 and coded HIV-positive diagnostic tests).

HIV exposure category

A category meant to represent an individual's most likely means of HIV acquisition. An individual getting tested is assigned to an exposure category based on reported "HIV risk factors" (defined below) 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 for more information.

HIV risk factor

A factor reported on the HIV test requisition form and/or the LEP form that relates to an individual's potential route(s) of HIV acquisition. HIV risk factors are used to define both HIV exposure categories and HIV priority populations. They are not mutually exclusive (as many as are applicable can be selected) and include: sexual contact with women; sexual contact with men; injection drug use; having been born in an HIV-endemic country (includes countries in sub-Saharan Africa and the Caribbean); being a child of HIV-positive mother; sex with a person who was known to be HIV-positive; sex with a person who was known to be using injection drugs; sex with a person who was known to be born in an HIV-endemic country (includes countries in sub-Saharan Africa and the Caribbean); and sex with a person who was known to be a bisexual male (for female individuals).

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 (Western Blot, 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).

Indigenous Peoples

One of Ontario's priority populations. Diagnoses attributed to Indigenous Peoples are defined by having the 'First Nations', 'Inuit', and/or 'Métis' race/ethnicity reported. See Priority populations for more information.

Integrated Public Health Information System (iPHIS)

iPHIS is an electronic, web-based system used by public health units (PHUs) for case-management and reporting to the Ontario Ministry of Health on diseases of public health significance, including HIV. It is the main source of data used by PHUs and Public Health Ontario to produce reportable disease

surveillance reports. iPHIS includes information elicited during public health follow up of HIV cases. iPHIS data are not used in this report.

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.

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.

Non-nominal HIV testing

A type of HIV diagnostic testing where the test requisition form does not contain the name of the individual being tested. There are two types of non-nominal testing in Ontario: anonymous and coded. The lack of identifying information means that it is not possible to link non-nominal HIV-positive diagnostic tests to previous diagnostic tests and viral load tests within the HIV Datamart.

People who use injection drugs (PWID)

One of Ontario's priority populations. Diagnoses attributed to PWID are defined by having reported injection drug use as an HIV risk factor. See Priority populations for more information.

Positive HIV tests

Positive HIV tests includes all unique individuals (i.e. only one test for each individual) receiving a confirmed HIV-positive diagnosis in Ontario. This includes individuals who have previously tested positive for HIV outside of Ontario, but does not include individuals who have previously tested positive for HIV in Ontario. It also includes individuals who have a history of viral load testing in Ontario without a recorded and linked prior confirmatory diagnostic test in Ontario. Only the first positive test in Ontario is included toward the positive HIV tests counts.

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 Positive HIV Test. Individuals with a previous record of an HIV-positive test *within* Ontario are excluded to prevent double-counting. The LEP is used to remove tests which cannot be linked by identifying information on the requisition form, but are indicated as a repeat test. This will remove many additional duplicates, but if repeat test information is missing or not reported, or a patient tests HIV-positive more than once through non-nominal testing, duplicate tests will still remain.

Individuals with a positive HIV test include: 1) first-time HIV diagnoses and 2) people who have previous evidence of HIV. Individuals with previous evidence of HIV either 1) had an HIV-positive diagnoses outside of Ontario and later retested in Ontario (as recorded on the test history section of the laboratory enhancement program (LEP) case report or the test requisition form), or 2) had a history of viral load testing in Ontario more than 30 days prior to their first nominal confirmatory diagnostic test in Ontario, or 3) had a history of viral load testing in Ontario within 30 days (including same day) of their

first nominal confirmatory diagnostic test with a viral load of <200 copies/mL indicating prior treatment. People who have evidence of a history of viral load testing before their first reported HIV positive test are counted as a positive HIV test in the first year which there is evidence of an HIV diagnoses (i.e. the year of their first viral load test).

Previous evidence of HIV (PEH)

Positive HIV tests with previous evidence of HIV represent unique individuals (i.e. only one test for each individual) 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. People who have evidence of a history of viral load testing before their first reported HIV positive test are counted as a positive HIV test in the first year which there is evidence of an HIV diagnoses (i.e. the year of their first viral load test).

Priority Population

Populations outlined as priorities for HIV programming in Ontario's response to HIV, including gay, bisexual and other men who have sex with men, including trans men (GBMSM); people who are African, Caribbean or Black (ACB); Indigenous Peoples; people who use injection drugs (PWID); and women. Information from the test requisition (both new and old test requisition forms) and LEP forms are used to assign an HIV diagnosis (i.e. HIV-positive test) to a priority population, where applicable. Unlike the categories traditionally used to describe new diagnoses (known as exposure categories), these priority populations are not mutually exclusive. That means that an HIV diagnosis can be assigned to more than one priority population (if applicable) – an approach which better represents Ontario's HIV epidemic. To be assigned to any priority population, only information on that single priority population is required. For example, if race/ethnicity is missing but exposure category indicates male-to-male sexual contact, the individual could be assigned the GBMSM priority population. Assignment of priority population is excluded if data is not reported to define that priority population. See Priority populations 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 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.

Women* / Women

Women* is the official priority population as outlined in Ontario's Provincial HIV/AIDS Strategy; it includes ACB women, women who use injection drugs, Indigenous women, transgender women, other women who face systemic and social inequities, and women who are more likely to be exposed to HIV through a sexual or drug using partner. As indicators of systemic and social inequities of HIV are not available in the HIV surveillance data, the priority population Women* is unable to be defined. Instead, we use "Women" in this report, which is defined by having 'Female' or 'Trans female' sex reported. See Priority populations for more information.

2. Abbreviations

ACB = African Caribbean and Black

GBMSM = Gay, bisexual and other men who have sex with men

LEP = Laboratory Enhancement Program

OHESI = Ontario HIV Epidemiology and Surveillance Initiative

PHO = Public Health Ontario

PWID = People who use injection drugs

3. Technical notes

When a person living with HIV retests and receives a second or mulitiple additional positive test results, measures are in place to prevent the second or multiple tests from being counted as a positive HIV test. The information on the HIV test requisition form is entered in the laboratory information system and is matched to previous tests in the PHO HIV Datamart using the name and health card number of the patient. When the name or OHIP number has changed, or a person tests anonymously or using a coded test, it is not possible to link that test to other test results. For example, an individual who initially tested HIV-positive through anonymous testing, and then later received a nominal HIV-positive test when entering care, would be inadvertently counted as two separate new diagnoses.

Since its introduction in 1999, the Laboratory Enhancement Program (LEP) has collected information to supplement what is collected on the HIV test requisition for individuals newly diagnosed with HIV, including HIV testing history. When test history is completed, it is not necessary to link the test back to previous results. A test indicating a previous HIV-positive diagnosis in Ontario can be directly removed as a duplicate test. For the analyses in this report (both positive HIV tests and first-time HIV diagnoses), these duplicates with reported test history in Ontario have been removed.

The definition of an 'HIV diagnosis' has been updated to gain a more accurate picture of people diagnosed or entering care for HIV in Ontario and people who are learning their HIV diagnoses for the first time. The positive HIV tests definition includes 1) first-time HIV diagnoses and 2) people who have previous evidence of HIV (had been diagnosed previously). People who have previous evidence of HIV may be newly entering care in Ontario. Only the first positive test in Ontario is included toward the positive HIV tests counts.

Using the LEP and the PHO viral load testing data, it is possible to examine first-time HIV diagnoses. First-time HIV diagnoses are individuals who have no previous evidence of HIV. That is, they are learning of their HIV diagnosis for the first time. First-time HIV diagnoses exclude anyone with a previous positive diagnostic test in another province or country and who retested in Ontario, as indicated on the HIV test requisition (since 2018) or the LEP form. 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. People who have evidence of a history of viral load testing before their first reported HIV positive test are counted as a positive HIV test in the first year which there is evidence of an HIV diagnoses (i.e. the year of their first viral load test). Viral load history is only available from 1996 on, as this is when viral load testing became widely available in Ontario. Therefore, categorizing diagnoses as having previous evidence of HIV is only available after this date. A validation study was carried out to assess case history information from the integrated Public Health Information System (iPHIS). Overall, for the cases that could be linked, iPHIS concurred with the exclusions applied by the viral load criteria of previous evidence of HIV.

We report on positive HIV tests in Ontario to inform policy and planning services that can be tailored to all people living with HIV. We look at first-time HIV diagnoses to better understand which diagnoses are likely due to local transmission in Ontario, and therefore, what populations might be at most risk and benefit most from prevention activities.

Approximately one in four positive HIV tests (23.4% in 2019) had previous evidence of HIV. The ascertainment of repeated testing within Ontario (duplicates) and positive HIV tests with previous

evidence of HIV due to a diagnosis out of province are both likely to be underestimated because it is only possible when test history is complete or repeated tests can be linked. Reasons for unlinked data include an individual having one (or more) anonymous or coded HIV tests prior to their nominal test. Another reason could be because either 1) the LEP questionnaire is missing, or 2) the HIV testing history section of the questionnaire or HIV test requisition form is incomplete. Between 2010 and 2019, approximately 51.1% of positive HIV tests in Ontario had both the LEP forms returned and the test history section complete (54.8% in 2019). The ascertainment of previous evidence of HIV due to a history of viral load testing could overestimate the number of positive HIV tests (but would give a more accurate number of first-time HIV diagnoses). When an individual has a history of viral load testing, they may have already received a diagnostic test in Ontario that could not be linked to their viral load tests. That first diagnostic test could have been anonymous, coded, or unable to be linked for some other reason. When this person is included because they've received a new diagnostic test, they may be counted twice in the data: at the time of their first unlinked diagnosis and at the time of their first viral load test. As it is not possible to know if they've already had a positive diagnostic test in Ontario, these individuals are counted as a positive HIV test, and as a first-time HIV diagnosis.

The continued refinement of surviellance data means that historical numbers will be updated in OHESI reports. Therefore, previous releases of surveillance numbers no longer represent the most accurate representation, and the most recent report should always be cited.

Limitations to HIV testing and new HIV diagnoses

Information about risk factors and demographics are only available when test forms are filled out completely and correctly. HIV test requisitions are not filled out completely for all new HIV diagnoses. Furthermore, approximately 37% of LEP forms are not returned by 3 months and in total, approximately 31% of LEP forms in 2019 were not returned. After combining information from both forms (HIV test requisition and LEP), exposure category information is missing for approximately 27% of positive HIV tests in 2019. Due to race/ethnicity historically (prior to 2018) only been collected on the LEP and not the HIV test requisition, and low uptake of the new test requisition form that does collect information on race/ethnicity since 2018, there is a high rate of race/ethnicity information that is missing; approximately 31% of positive HIV tests in 2019. The missing information means that some positive HIV tests and first-time HIV diagnoses cannot be assigned to priority populations. It is unknown whether some categories or populations may be more likely to be missing information, which could potentially bias the proportions. There may also be bias due to varied practices among providers for filling out the requisition and LEP forms. For example, some providers may ask about ethnicity or risk factors, while others may not ask or make assumptions. The time it takes for LEP forms to be returned can result in reporting delays.

Data on transgender individuals has not been collected in a consistent manner over time. For this reason, transgender individuals are not included in any of the HIV diagnosis counts or rates when stratified by sex. Transgender females are counted when reporting on Women and transgender males are counted as GBMSM if sex with a man is reported. As data collection becomes more consistent with capturing transgender identity, future reports will incorportate this information.

4. 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 exposure category is meant to represent an individual's most likely means of HIV acquisition. The exposure categories are mutually exclusive. When more than one risk factor is reported for a single individual, a hierarchy is used to assign an HIV test to a single exposure category. This hierarchy is as follows:

1. Mother-to-child transmission (MTC): Being a child of an HIV-positive mother or aged less than 18 months
2. 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 iv** in the HIV exposure categories section of the introduction of this report):

- Heterosexual contact, identified risk: combines diagnoses assigned to "HIV-endemic + heterosexual contact" (category #5a above) and "Heterosexual contact – partner with identified risk (PIR)" (category #6)
- Other: combines diagnoses 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 diagnoses assigned to "HIV-endemic, no heterosexual contact" (category #5b) and "No identified risk" (category #10), or where the form is not completed (category #11).

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 one quarter of first-time HIV diagnoses (average of 24.4% per year between 2015 and 2019). These tests are included in figures of numbers of diagnoses 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 2019. 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 or 2019 and the years prior should remain mindful of this caveat.

5. Priority populations

Positive HIV tests and first-time HIV diagnoses are assigned (where applicable) to one or more of the priority populations outlined in Ontario's Provincial HIV/AIDS Strategy. These populations are not mutually exclusive, and individuals can be classified as belonging to more than one priority population. In 2019, approximately 77% of positive HIV tests belonged to at least one priority population (GBMSM, PWID, ACB, Indigenous or Women). Approximately 27% of positive HIV tests belonged to two or more priority populations at one time. Approximately 75% of first-time HIV diagnoses belonged to at least one priority population. Approximately 23% of first-time HIV diagnoses belonged to two or more priority populations at one time.

Each population is uniquely defined by indicators of HIV risk factors, race/ethnicity, country of birth, and/or sex on the HIV test requisition and LEP forms. Where the defining criteria of each priority population is reported, HIV diagnoses are assigned to a priority population, where applicable. Assignment to these populations is based on information from the HIV test requisition forms and LEP forms, as follows:

Gay, bisexual and other men who have sex with men (GBMSM)

- Sex is male or transgender male, and sexual contact with men reported as an HIV risk factor

People who are African, Caribbean, or Black (ACB)

- Country of birth is an African or Caribbean country and/or race/ethnicity is Black

People who use injection drugs (PWID)

- Injection drug use (IDU) reported as an HIV risk factor

Indigenous Peoples

- Race/ethnicity is First nations or Inuit or Métis

Women (instead of Women*, see below)

- Sex is female or transgender female

Women* is the official priority population as outlined in Ontario's Provincial HIV/AIDS Strategy; it includes ACB women, women who use injection drugs, Indigenous women, transgender women, other women who face systemic and social inequities, and women who are more likely to be exposed to HIV through a sexual or drug using partner. As indicators of systemic and social inequities of HIV are not available in the HIV surveillance data, the priority population Women* is unable to be defined. Instead, we use "Women" in this report, which is inclusive of all females and transgender women.

Information on HIV diagnoses by priority population is available for different years based on the priority population. Historically, the HIV test requisition form has obtained information on HIV risk factor and sex. Therefore, the GBMSM, PWID and Women priority populations are able to be assigned (if appropriate) from 1985 onward. Information on race/ethnicity and country of birth were added to the LEP form in 2009. Therefore, the ACB and Indigenous priority populations are only able to be assigned from 2009 onwards. The HIV test requisition underwent revision in 2018 to collect information on race/ethnicity and country of birth, and improve the documentation of transgender men and transgender women within HIV diagnosis data. Additional information on the revised HIV test requisition form is used to help assign priority populations (but not sex). These revisions will allow us to better characterize priority populations for both negative and positive tests. The high amount of missing information for positive HIV tests (approximately 34% on race/ethnicity and approximately 24% on exposure category between 2010 to 2019) means that information on priority population is missing for many diagnoses. Therefore, it may be more valid to focus on trends over time rather than the specific numbers or proportions.

To be assigned to any priority population, only information on that single priority population is required. For example, if race/ethnicity is missing but sex indicates male and HIV risk factors indicate sexual contact with men, the individual could be assigned to the GBMSM priority population. Assignment of priority population is excluded if data that defines that priority population is not reported.

6. Statistical methods

Rates are a measure of how frequently an event occurs in a defined population over a specified period of time. Because rates take into account the size of the population (denominator) over a specific time period and place, rates are helpful for comparing disease frequency among different groups or across different locations. For example, if we were to only look at the numbers of positive HIV tests within, for example, a health region, one region may have the second largest *number* of positive HIV tests; while after taking into account the size of the health regions, a different health region could have the second highest *rate* of positive HIV tests when comparing health regions. The rates of positive HIV tests and first-time HIV diagnoses per 100,000 people were calcualted using population estimates from Statistics Canada.

Population estimates for sex and age were accessed on 06/24/2020 and population estimates for health regions by sex were accessed 08/17/2020 and can be found from Statistics Canada: Table 17-10-0134-01: 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, annual (https://doi.org/10.25318/1710013401-eng).

In some figures, data is combined in two-, four-, or five-year groupings (2014-2015, 2016-2017, and 2018-2019 or 2012-2015 and 2016-2019, or 2010-2014 and 2015-2019). This was done systematically where possible to ensure at least 50% of cell counts were ≥5. The number of HIV diagnoses are combined over these time periods to reduce the effects of year-to-year variation (which can be particularly influential for

populations with a small number of diagnoses [<5 per year]). Where possible, single year data are reported.

Percentages associated with priority populations are calculated based on each priority population separately and only where the defining information is reported. That is, the percentage calculation is based off the diagnoses known to be attributed to a single priority population (numerator) divided by the total number of diagnoses where the status of that priority population (yes or no) is known (denominator). When considering one priority population, no information on any other priority population (whether the individual belongs to another priority population or if there is missing or incomplete information on other data used to create other priority populations) is considered. The proportion of missingness is now reported (where appropriate) in the notes at the bottom of each page and Tables section of the report.

Counts of first-time HIV diagnoses and/or positive HIV tests have not historically been reported by priority population or race/ethnicity due to high proportions of missing data (both from the LEP not being returned an/or the LEP being returned but missing information), and therefore undercounts of the number of diagnoses by sub-group. For the first time, we are reporting the raw (reported) counts of first-time HIV diagnoses by priority population, exposure category, and race/ethnicity. The reported count is the number of reported first-time HIV diagnoses within each sub-group (e.g. within a priority population, exposure category or race/ethnicity). For example, there were 307 first-time HIV diagnoses among males that are reported to be GBMSM due to 'sex with men' being marked on the risk factors section of the HIV test requisition form or the LEP form. There were 97 first-time HIV diagnoses among males that were reported not to be GBMSM. This gives a proportion of 76% (307/404) males classified as GBMSM among males in 2019. Each priority population has its own numbers of reported to be part of that priority population and reported not to be of that priority population. There are counts of HIV diagnoses where priority population is not reported. In this case, it is "unknown" as to whether the diagnoses are or are not part of that priority population and diagnoses are classified as such. The number of diagnoses reported "not to be in a priority population" (have information to classify diagnosis as not part of any priority population) is reported, along with the number of diagnoses with unknown priority population. We do not have any information on whether any one priority population would be more or less likely to be missing information, we only know that some diagnoses cannot be classified. Therefore, interpret counts with caution.

7. iPHIS vs. PHO data

For positive HIV tests, OHESI uses laboratory data on HIV-positive diagnostic tests from the Public Health Ontario (PHO) Laboratory along with information documented by ordering providers on test requisition forms and from the LEP.

OHESI **does not** use information from the integrated Public Health Information System (iPHIS). iPHIS is an electronic, web-based system used by PHUs for case-management and reporting to the Ontario Ministry of Health on diseases of public health significance, including HIV. It is the main source of data used by PHO to produce reportable disease surveillance reports. iPHIS includes information elicited during public health follow up of HIV cases.

The number of HIV diagnoses in iPHIS does not correspond to the number of positive HIV tests in PHO HIV surveillance. Potential sources of discrepancy include:

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

8. 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 28% of diagnoses are missing information on address of residence in 2019 and assigned based on provider address.

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 (2021) 34 PHUs in Ontario and each has its own unique geographical boundary. This is different from previous years where there were 36 PHUs (2017 and before). 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

Toronto health region
- Toronto

Ottawa health region
- Ottawa

Northern health region
- Algoma
- North Bay Parry Sound
- Northwestern
- Porcupine
- Sudbury
- Thunder Bay
- Timiskaming

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

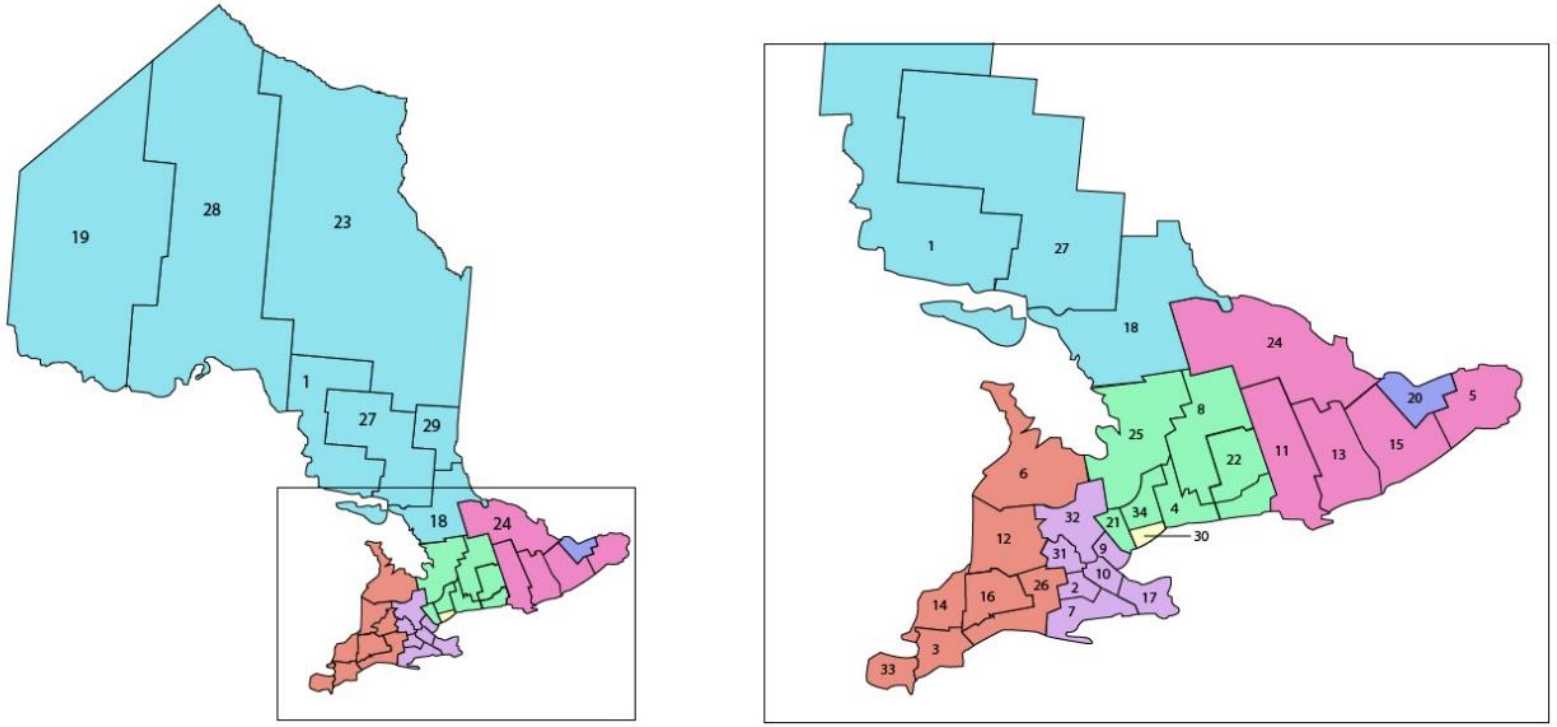
Central East health region
- Durham
- Haliburton, Kawartha, Pine Ridge
- Peel
- Peterborough
- Simcoe Muskoka
- York

Central West health region
- Brant
- Haldimand-Norfolk
- Halton
- Hamilton
- Niagara
- Waterloo
- Wellington-Dufferin-Guelph

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

Health regions map

Figure v. Geographic map of health region and public health unit boundaries in 2019.



Public health units (map legend)

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

Note: Map created using Statistics Canada boundary files

Tables

Data tables are available in a separate supplement: HIV diagnoses in Ontario, 2019: Tables supplement.