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HIV, viral hepatitis and sexually transmissible infections in Australia Annual surveillance report 2021

HIV

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HIV, viral hepatitis and sexually transmissible infections in Australia
Annual surveillance report 2021

The Kirby Institute

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in collaboration with networks in surveillance for HIV, viral hepatitis and sexually transmissible infections

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Abbreviations

ABS	Australian Bureau of Statistics
ACCESS	Australian Collaboration for Coordinated Enhanced Sentinel Surveillance
AIDS	acquired immunodeficiency syndrome
ANSPS	Australian Needle Syringe Program Survey
ART	Antiretroviral therapy
BBV	bloodborne virus
CI	confidence interval
DNA	deoxyribonucleic acid
HIV	human immunodeficiency virus
HPV	human papillomavirus
NESB	non-English speaking background
PEP	post-exposure prophylaxis
PrEP	pre-exposure prophylaxis RNA ribonucleic acid
STI	sexually transmissible infection
TasP	treatment as prevention
UNAIDS	Joint United Nations Programme on HIV/AIDS

HIV

The years for comparison in this report are from 2011 to 2020 unless focus is given to the impact of the COVID-19 epidemic, where the years for comparison are 2011 to 2019, and 2019 and 2020.

1 Summary data

New HIV notifications

- There were 633 HIV notifications with a first ever diagnosis in Australia in 2020, a 36% decline in notifications since 2011 (983 notifications). Declines in 2020 are likely attributable in part to the impact of COVID-19 restrictions on social activity, healthcare access and testing, and travel, in addition to declines observed prior to 2020.
- Male-to-male sex continues to be the major HIV risk exposure in Australia, reported for 426 (67%) HIV notifications in 2020 (including those reporting male-to male sex and injecting drug use), with heterosexual sex reported for 155 (24%) notifications, and injecting drug use for 21 (3%) notifications.
- The number of HIV notifications among Australian-born men attributed to male-to-male sex or male-to-male sex and injecting drug use has decreased, from 480 in 2011 to 233 in 2020, a decline of 51%, compared with a 17% decline among men born overseas (from 224 to 187 notifications).
- Based on the test for immune function (CD4+ T-cell count), 44% of HIV notifications in 2020 were classified as late diagnoses (having a CD4+ cell count of less than 350 cells/μL), the highest proportion in the past 10 years. These diagnoses are likely to have been in people who had acquired HIV at least four years prior to diagnosis.
- Over the past five years (2016–2020) the proportion of late HIV diagnoses was higher among people born in Sub-Saharan Africa (54%), Southeast Asia (52%), and Central or South America (36%). The proportion of late HIV diagnoses was also higher among people who reported heterosexual sex as their HIV risk exposure (49%) and in particular, men aged over 50 years with heterosexual sex as their HIV risk exposure (58%).
- Between 2011 and 2016, the HIV notification rate among Aboriginal and Torres Strait Islander peoples increased from 3.6 to 6.3 per 100 000 and then declined to 3.1 per 100 000 in 2019. In 2020, the HIV notification rate was 2.2 per 100 000 among the Aboriginal and Torres Strait Islander population compared with 2.3 per 100 000 among the Australian-born non-Indigenous population. Low numbers of HIV notifications among Aboriginal and Torres Strait Islander people means that trends in HIV notification rates should be interpreted with caution.
- Between 2016 and 2020, a greater proportion of HIV notifications in the Aboriginal and Torres Strait Islander population were attributed to heterosexual sex (21%) and injecting drug use (14%) than among the Australian-born non-Indigenous population (18% and 3%, respectively).
- Between 2016 and 2020, among 198 babies born to women living with HIV, 1.5% of newborns were diagnosed with HIV, compared with 14.4% in the period 1996 to 2000.

HIV testing

- Among participants of the Gay Community Periodic Surveys, the proportion of non-HIV-positive gay and bisexual men who reported having had an HIV test in the 12 months prior to the survey increased by 13% from 61% in 2011, to 74% in 2019. Between 2019 and 2020 this proportion dropped from 74% to 68%, likely due to the impacts caused by the ongoing COVID-19 pandemic
- Among gay and bisexual men attending sexual health clinics in the ACCESS (Australian Collaboration for Coordinated Enhanced Sentinel Surveillance) network, the proportion of gay and bisexual men who were tested for HIV at least once in the previous 12 months increased from 79% in 2011 to 91% in 2019 and reduced to be 89% in 2020.

HIV prevalence and incidence

- In 2020, HIV prevalence (the proportion of all people in Australia who are living with HIV), was estimated to be 0.14%, which is low compared with other high-income and Asia-Pacific countries.
- The self-reported HIV prevalence among gay and bisexual men participating in the Gay Community Periodic Surveys was 7.3% in 2020.
- HIV prevalence among people who inject drugs attending needle and syringe programs was estimated to be 2.5% in 2020, and 0.9% if gay and bisexual men are excluded.
- The HIV incidence (the rate at which HIV negative people are newly diagnosed with HIV) among gay and bisexual men attending sexual health clinics in the ACCESS network, reduced by 75% between 2011 (0.64 new infections per 100 person-years) and 2016 (0.16 new infections per 100 000 person years) and was stable from 2016 to 2019. In 2020 the HIV incidence rate among gay and bisexual men was 0.11 new infections per 100 person-years. Among female sex workers the HIV incidence rate remained low between 2011 and 2020 and was 0.0 in 2020.

HIV testing and care cascade

- There were an estimated 29 090 people living with HIV in Australia in 2020. Of those, an estimated 91% (25 490 people) had received a diagnosis. Of those diagnosed, 96% (24 220) were retained in care and 91% (24 220 people) were receiving antiretroviral therapy (ART). Of those receiving ART, 97% (23 410) had a suppressed viral load (less than 200 HIV-1 RNA copies/mL). Of all people living with HIV in Australia, an estimated 86% had a suppressed viral load.
- There were an estimated 2610 (9%) people living with HIV in Australia in 2020 who were unaware of their HIV status (undiagnosed). The estimated proportion with undiagnosed HIV was highest among people born in Southeast Asia (28%), and Latin America (22%). The estimated proportion with undiagnosed HIV was also higher in people with reported risk exposures of injecting drug use (14%) and heterosexual sex (14%), and lower among men with male-to-male sex as their HIV risk exposure (8%).

Prevention

- In 2020, according to the Gay Community Periodic Surveys, the majority (79.6%) of HIV-negative gay and bisexual men who had casual partners were regularly using at least one strategy to protect themselves against acquiring HIV (avoiding anal sex, using condoms, or biomedical prevention), up from 69.4% in 2014. Conversely, this means 20.4% were not consistently using any of these strategies in 2020.
- On 1 April 2018, PrEP became available to eligible individuals on the Pharmaceutical Benefits Scheme (PBS). From this date, until the end of 2020, 42 090 individuals have been dispensed PBS subsidised PrEP.
- Among participants of the Gay Community Periodic Surveys, over a third (37.4%) were eligible for PrEP in 2020, up from 36.7% in 2018. Of those eligible for PrEP, 92.5% were aware of PrEP up from 87.1% in 2018 and 57.0% reported using prescribed PrEP in the previous six months, up from 40.1% in 2018.

2 Interpretation

The decline in HIV notifications between 2019 and 2020 is likely strongly influenced by COVID-19, including changes to sexual behaviour, healthcare access and testing practices, and travel. Longer term declines since 2016 also likely reflect the ongoing impact of high PrEP uptake in Australia. Australia met the UNAIDS 2020 targets of 90% of people living with HIV being diagnosed (91% in 2020), 90% of those diagnosed being on antiviral treatment (91% in 2020), and 90% of those on antiviral treatment with a suppressed viral load (97% in 2020). High treatment coverage has been achieved in 2020 despite the COVID-19 pandemic suggesting an effective transition to telehealth consultations during periods of lockdown. There has also been a corresponding increase in the proportion of people on treatment with a suppressed viral load, which reduces the risk of onward transmission to effectively zero. With 80% of people living with HIV having achieved suppressed viral load, Australia has reached the UNAIDS 2020 target of 73%, but work still needs to be done to achieve the 2030 target of 86%.

Outside the influence of the COVID-19 pandemic, the decline in HIV notifications in Australia between 2011 and 2020 is driven by a decrease in notifications among Australian-born men whose exposure risk was reported as male-to-male sex. Among this population, there was an increasing uptake of PrEP, which is subsidised in Australia. However, the decline in HIV notifications has not been equal across all populations. Among gay and bisexual men, prior to 2020, there was no decline among overseas-born men. Testing and PrEP uptake needs to increase further, across all jurisdictions and other priority populations to have the greatest benefit.

New diagnoses in other populations also haven't shown the same declines, including for people who acquired HIV from heterosexual sex and people who were born overseas. More than half (59%) of notifications attributed to heterosexual sex are diagnosed late, indicating the importance of initiatives to raise awareness about HIV testing. The proportion of those who were categorised as late HIV diagnoses (44%) was the highest since 1997 and is a continuation of a longer-term trend, reinforcing the need for improved access to testing among at-risk populations to reduce the time between HIV acquisition and diagnosis.

Among the Aboriginal and Torres Strait Islander population, the HIV notification rate increased between 2011 and 2016 and then declined from 2016 to 2019 to be half that of 2011. In 2020, the HIV notification rate among the Aboriginal and Torres Strait Islander population (2.2 per 100 000) was lower than the Australian-born non-Indigenous population (2.3 per 100 000) but is based on small number (18 new notifications) so should be interpreted with caution.

Among people who inject drugs, harm reduction strategies to minimise blood-borne virus transmission have been highly successful at sustaining a low HIV prevalence and must be continued. Low rates of mother-to-child transmission of HIV were observed in Australia, reflecting an increased uptake of effective interventions during the periods of pregnancy, labour, delivery and breastfeeding. The incidence of HIV among women involved in sex work was extremely low—among the lowest in the world—due to highly successful HIV prevention efforts for this priority population.

As COVID-19 restrictions are lifted, interstate and international travel resumes, and people resume their pre-pandemic sexual activity, health promotion, testing and treatment strategies must adapt to accommodate these changes in activity. Targeted testing strategies are needed to counter the decline in testing in 2020, and the increasing proportion of people being diagnosed with HIV late, to improve health outcomes and reduce the risk of onward transmission. There is also need for an expansion of PrEP availability and the promotion of PrEP use as well as other forms of prevention to people who would benefit from these strategies, including in people born overseas and Aboriginal and Torres Strait Islander people.

3 HIV notifications

This section focuses on people diagnosed with HIV for the first time in Australia ('notifications'). In 2020, there were 633 HIV notifications in Australia: 548 (87%) among males, 459 (73%) among people aged 30 years and above, and 18 (3%) among Aboriginal and Torres Strait Islander people. Just over a fifth of all notifications (142) were classified as newly acquired (evidence of HIV acquisition in the 12 months prior to diagnosis), while 44% of notifications were classified as diagnosed late, the highest proportion since before 2011 (Table 2).

There were an additional 325 HIV cases previously diagnosed overseas with a confirmatory test conducted in Australia; 32% were in Victoria, 28% in New South Wales, and 24% in Queensland (Table 1). These notifications are included in the HIV cascades of treatment and care estimates but excluded from further analyses in this report.

Table 1 Number of new cases of HIV in Australia, 2020, by state/territory and whether HIV was first diagnosed in Australia or overseas

	Place of first diagnosis of HIV		
	Australia	Overseas	Total cases
State/Territory			
Australian Capital Territory	6	4	10
New South Wales	216	92	308
Northern Territory	3	3	6
Queensland	107	79	186
South Australia	29	8	37
Tasmania	6	0	6
Victoria	195	104	299
Western Australia	71	35	106
Total	**633**	**325**	**958**

Source: State and territory health authorities; includes all states and territories

A total of 40 553 notifications of HIV with first ever diagnosis in Australia have been reported since 1984, of which 36 904 (91%) were among males, 3 279 (8%) among females and 122 (<1%) among trans and gender diverse people. In the period 2011–2014, the number of HIV notifications increased by 10%, but in the subsequent period 2014–2019 the number of notifications decreased by 16%. A decline of 30% between 2019 and 2020 from 902 to 633 notifications is likely related to the impacts of the COVID-19 pandemic and should be interpreted with caution (Table 2). A similar pattern has been seen among males, with an increase of 11% between 2011 and 2014, an 18% decrease between 2014 and 2019 and followed by a 31% decrease between 2019 and 2020. Notifications among females were relatively stable between 2011 and 2019 followed by a 20% decline between 2019 and 2020. Between 2011 and 2020 there were 41 notifications reported among trans and gender diverse people, although it is likely that this Figure is an underrepresentation due potential under reporting in HIV notifications data (Table 2).

By age group, the largest number of notifications in 2020 was among people aged 30 to 39 years (130), followed by those aged over 50 (91), and those aged 20 to 29 years (73). The number of notifications remains low among younger age groups, with seven notifications among those aged 15 to 19 years and no notifications among those aged 0 to 14 years. Notifications in younger age groups fluctuated over the past ten years (Table 2).

Table 2 Characteristics of HIV notifications, 2011–2020

	Year of HIV diagnosis									
Characteristic	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total cases[a]	983	1067	1036	1080	1029	1012	966	841	902	633
Gender										
Male	880	961	927	974	919	919	850	756	799	548
Female	102	105	106	104	108	88	108	81	96	77
Transgender	1	1	3	2	2	5	8	4	7	8
Median age (years)										
Male	37.0	36.0	37.0	35.0	35.0	34.0	36.0	35.0	35.0	35.0
Female	32.5	31.0	34.0	35.0	36.0	34.0	34.0	35.0	37.0	35.0
Transgender	36.0	20.0	40.0	38.0	35.0	29.0	39.0	30.0	39.0	38.0
Aboriginal and Torres Strait Islander Status										
Non-Indigenous	954	1026	996	1031	970	962	924	798	861	607
Aboriginal and/or Torres Strait Islander	24	35	26	34	40	46	30	33	25	18
Not reported	5	6	14	15	19	4	12	10	16	8
Age group (years)										
0-14	8	2	6	3	3	5	2	3	2	1
15-19	17	22	22	14	20	11	11	8	7	10
20-29	264	318	272	316	296	313	256	262	244	163
30-39	305	323	287	346	304	310	312	237	289	199
40-49	239	224	250	216	210	195	174	159	160	128
50+	150	178	199	185	196	178	211	172	200	132
Language spoken at home										
English	782	797	532	832	738	734	540	529	579	495
Other language	81	85	75	104	130	135	133	149	158	100
Not reported	120	185	429	144	161	143	293	163	165	38
Newly acquired[b]	373	396	348	424	399	364	279	257	262	142
(% of new diagnoses)	39.0%	37.1%	33.6%	39.3%	38.8%	35.0%	28.9%	30.6%	29.1%	22.4%
Late HIV diagnosis, %[c]	28.9%	31.4%	32.1%	28.6%	29.3%	32.8%	35.8%	39.1%	38.5%	44.0%
Advanced HIV diagnosis, %	19.0%	17.7%	18.5%	16.8%	16.3%	19.6%	23.0%	20.7%	24.2%	29.8%
Median CD4+ cell count, cells/μL	429	430	420	440	440	420	390	390	377	330
State/Territory										
ACT	11	17	21	18	14	13	13	6	12	6
NSW	334	408	355	344	348	317	310	283	286	216
NT	9	20	13	8	9	23	11	13	7	3
QLD	196	208	181	245	203	195	185	180	158	107
SA	57	31	58	39	44	42	43	30	30	29
TAS	15	13	11	16	17	19	12	11	17	6
VIC	279	267	307	302	285	311	313	260	293	195
WA	82	103	90	108	109	92	79	58	99	71
HIV exposure risk category										
Male-to-male sex[d]	688	744	683	757	702	714	611	519	534	365
Male-to-male sex and injecting drug use	32	34	44	50	49	51	53	57	64	61
Injecting drug use	20	25	28	31	32	14	32	28	23	21
Heterosexual sex	192	206	220	201	204	206	239	189	209	155
Receipt of blood/tissue[e]	0	4	3	0	8	1	0	0	2	2
Mother with/at risk of HIV	7	1	4	3	4	5	3	2	2	1
Other/undetermined	44	53	54	38	30	21	28	46	68	28

a Includes gender of 'Other' and 'Not reported'.

b Newly acquired HIV was defined as newly diagnosed infection with a negative or indeterminate HIV antibody test result or a diagnosis of primary HIV within one year before HIV diagnosis. In Victoria from April 2016 there was a change in the laboratory reporting of HIV confirmatory results such that there are expected to be fewer indeterminate results requiring follow-up. This will therefore reduce the number of results which were previously used to provide evidence for newly acquired HIV infections.

c Late HIV diagnosis was defined as newly diagnosed HIV with a CD4+ cell count of less than 350 cells/μL, and advanced HIV as newly diagnosed infection with a CD4+ cell count of less than 200 cells/μL. Newly acquired HIV was not categorised as late or advanced diagnosis, irrespective of CD4+ cell count.

d Includes men who had sex with both men and women.

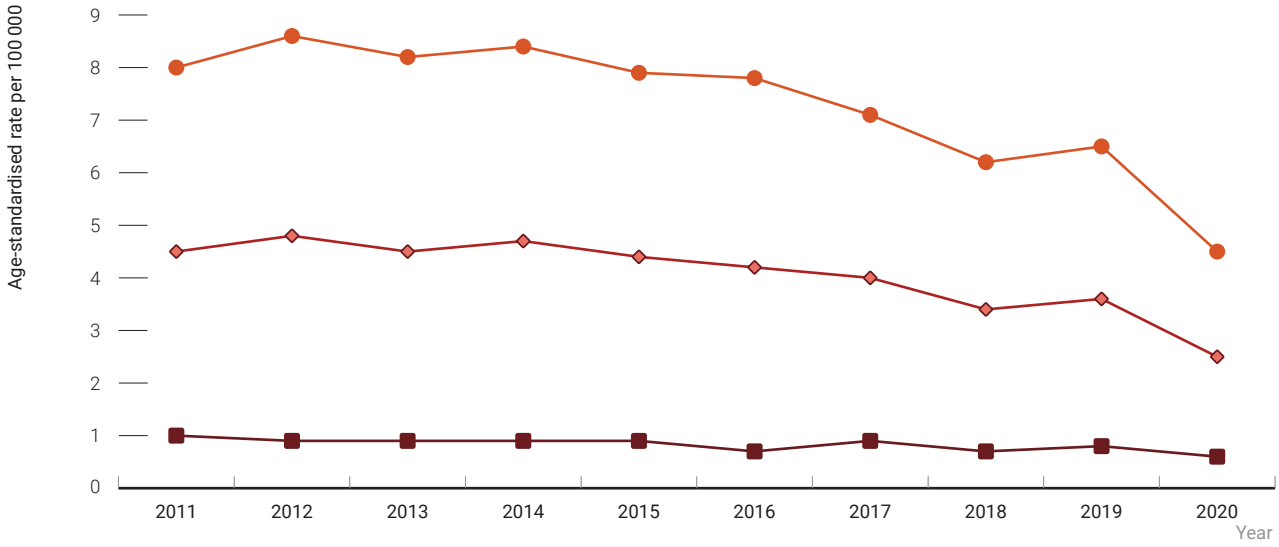
e Includes receipt of blood/tissue overseas, so does not indicate transmission through blood products in Australia.

Source: State and territory health authorities; see Methodology for detail.

Demographics

Between 2011 and 2019, the HIV notification rate declined by 20% from 4.5 to 3.6 per 100 000. In 2020, the HIV notification rate was 2.5 per 100 000 (Figure 1). By gender, the notification rate was 4.5 per 100 000 males and 0.6 per 100 000 females in 2020.

Figure 1 HIV notification rate per 100 000 population, 2011–2020, by gender



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Men	8.0	8.6	8.2	8.4	7.9	7.8	7.1	6.2	6.5	4.5
Women	1.0	0.9	0.9	0.9	0.9	0.7	0.9	0.7	0.8	0.6
Total	4.5	4.8	4.5	4.7	4.4	4.2	4.0	3.4	3.6	2.5

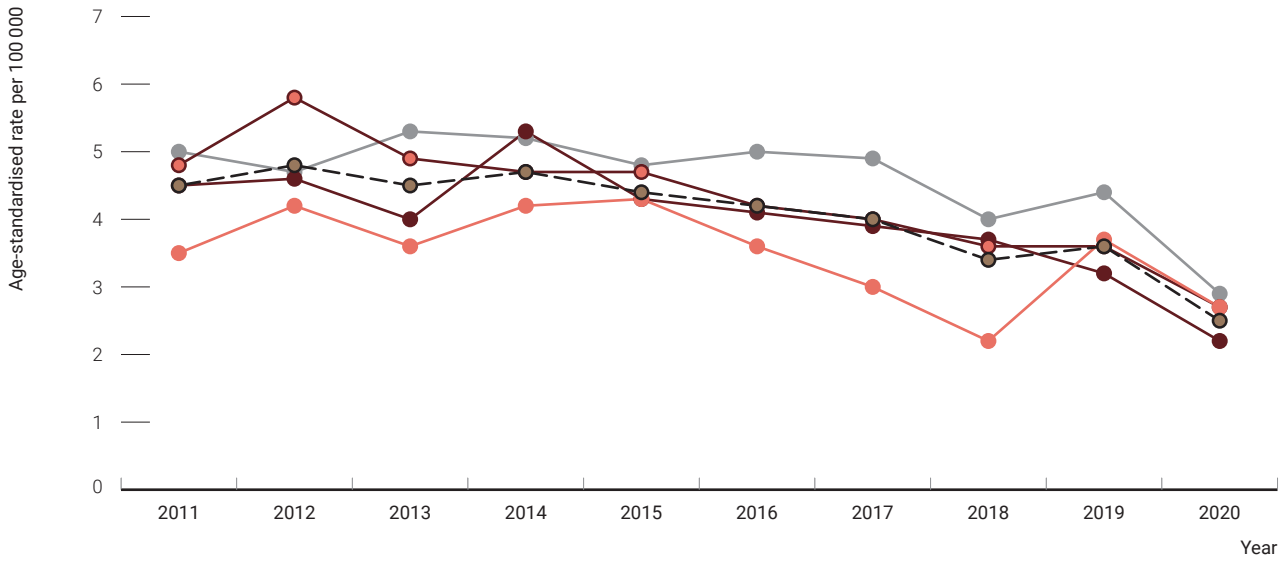
Source: State and territory health authorities; see Methodology for detail.

In 2020, HIV notification rates were highest among those aged 30 to 39 years (5.3 per 100 000), 20 to 29 years (4.5 per 100 000) and 40 to 49 years (3.9 per 100 000). Between 2011 and 2019 there was a 36% decline in the notification rate for those aged 40 to 49, a 19% decline for those aged 30 to 39 years and a 17% decline among those aged 20 to 29. For these age groups, in 2020, the notification rate was 3.9, 5.3 and 4.5 per 100 000, respectively. The HIV epidemic in Australia remains concentrated among gay and bisexual men and other men who have sex with men. Reflecting this, HIV notification rates among females were lower than males in all age groups between 2011 and 2020. In 2020, HIV notification rates among females were highest for those aged 30 to 39 years (1.5 per 100 000), followed by those aged 40 to 49 years (1.0 per 100 000). Small numbers of notifications among females when separated by age groups mean that caution should be applied when interpreting these rates. Breakdowns of HIV notification rates by age and gender can be found on the Kirby Institute data site.

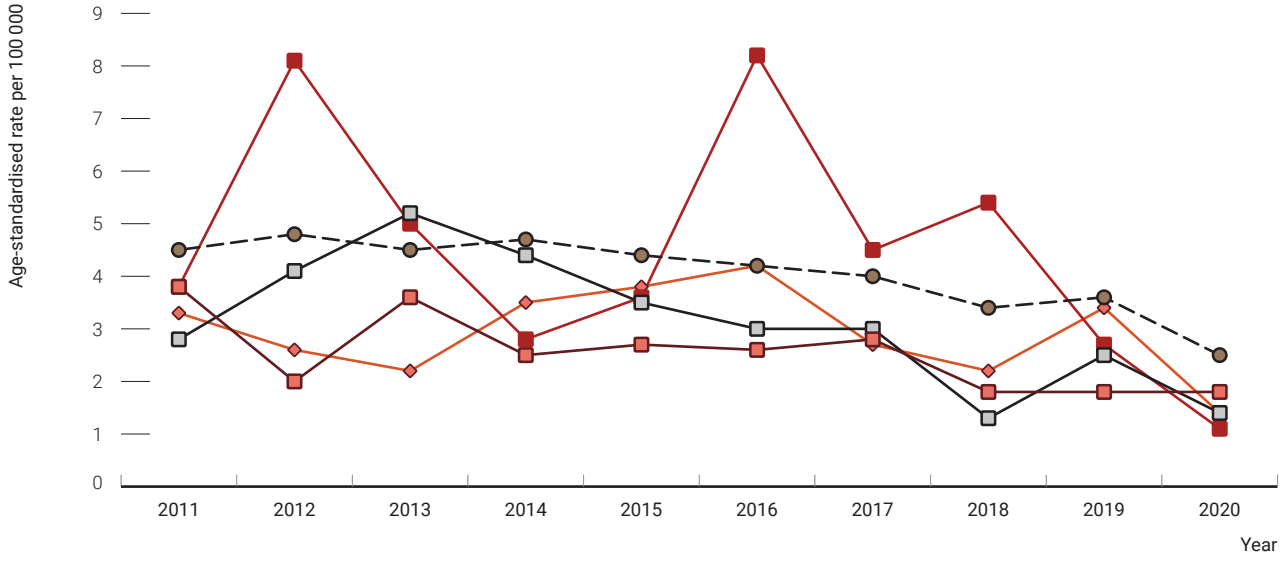
Between 2011 and 2019, the HIV notification rate declined by 29% in Queensland from 4.5 to 3.2 per 100 000, 25% in New South Wales from 4.8 to 3.6 per 100 000, 12% in Victoria from 5.0 to 4.4 per 100 000, and fluctuated in Western Australia. All four states had a decline in notification rates between 2019 and 2020 (Figure 2). In 2020, and by state/territory, the HIV notification rate was highest in Victoria at 2.9 per 100 000, followed Western Australia and New South Wales at 2.7 per 100 000, and Queensland at 2.2 per 100 000 (Figure 2).

In the Australian Capital Territory, South Australia, Tasmania and the Northern Territory the numbers of notifications each year are smaller, so trends need to be interpreted with caution. Between 2011 and 2019, HIV notification rates fluctuated in all four states and territories, followed by a decline in 2020. In 2020 the HIV notification rate was 1.8 per 100 000 in South Australia, 1.4 per 100 000 in the Australian Capital Territory and Tasmania, and 1.1 per 100 000 in the Northern Territory (Figure 2).

Figure 2 HIV notification rates per 100 000 population, 2011–2020, by state/territory



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
NSW	4.8	5.8	4.9	4.7	4.7	4.2	4.0	3.6	3.6	2.7
QLD	4.5	4.6	4.0	5.3	4.3	4.1	3.9	3.7	3.2	2.2
VIC	5.0	4.7	5.3	5.2	4.8	5.0	4.9	4.0	4.4	2.9
WA	3.5	4.2	3.6	4.2	4.3	3.6	3.0	2.2	3.7	2.7
Australia	4.5	4.8	4.5	4.7	4.4	4.2	4.0	3.4	3.6	2.5



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ACT	2.8	4.1	5.2	4.4	3.5	3.0	3.0	1.3	2.5	1.4
NT	3.8	8.1	5.0	2.8	3.6	8.2	4.5	5.4	2.7	1.1
SA	3.8	2.0	3.6	2.5	2.7	2.6	2.8	1.8	1.8	1.8
TAS	3.3	2.6	2.2	3.5	3.8	4.2	2.7	2.2	3.4	1.4
Australia	4.5	4.8	4.5	4.7	4.4	4.2	4.0	3.4	3.6	2.5

Source: State and territory health authorities; see Methodology for detail.

HIV notification rates over the 10-year period 2011–2020 differed by region of birth. Among Australian-born people, the HIV notification rate was stable from 2011 to 2014 (between 3.9 and 4.3 per 100 000) and then declined steadily from 2014 to 2019 (from 4.3 per 100 000 to 2.8 per 100 000). HIV notification rates declined for all regions of birth in 2020 apart from North Africa and the Middle East, Sub-Saharan Africa and Oceania (Table 3). Among people born overseas, the highest HIV notification rates in 2020 were among people born in Sub-Saharan Africa (10.8 per 100 000), Latin America (8.6 per 100 000), and Southeast Asia (7.9 per 100 000. Due the impact of COVID-19 travel restrictions, trends in HIV notification rates by region of birth to 2020 should be interpreted with caution.

Table 3 HIV notification rates per 100 000 population, 2011–2020, by region of birth

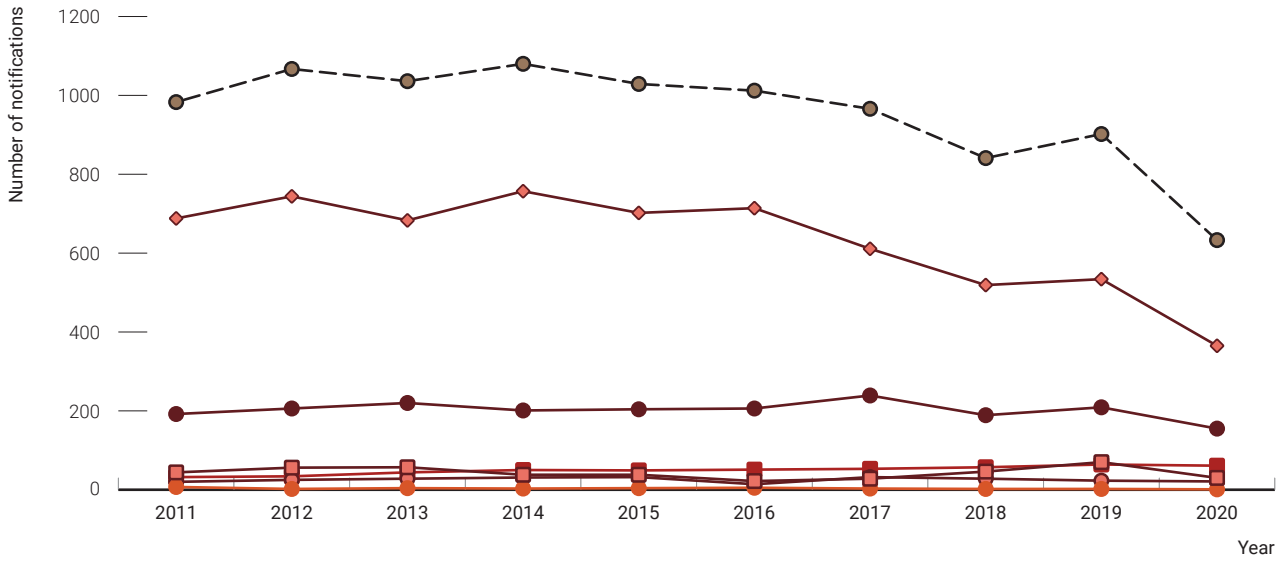
Region of birth	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia	4.0	4.2	3.9	4.3	3.7	3.6	3.3	2.7	2.8	2.0
North Africa and the Middle East	3.2	4.2	5.9	4.0	5.4	1.9	2.7	2.1	1.2	1.8
North-East Asia	4.2	4.6	3.1	4.1	4.7	3.7	2.3	3.3	2.9	0.9
North-West Europe and North America	4.6	4.6	3.3	3.7	4.4	3.7	2.0	2.5	3.3	1.2
Oceania	5.7	5.6	6.6	5.0	3.6	5.0	4.3	5.0	4.4	4.6
Latin America	11.6	12.8	22.9	12.0	9.0	17.7	14.8	13.2	16.9	8.6
South-East Asia	8.4	8.6	9.2	8.9	11.4	12.2	10.3	9.9	12.4	7.9
Southern and Central Asia	3.1	3.2	2.3	2.0	1.7	2.3	1.9	2.1	1.5	1.4
Southern and Eastern Europe	4.7	3.6	4.1	4.5	4.7	2.1	4.5	2.6	2.6	1.1
Sub-Saharan Africa	14.8	14.5	12.5	12.9	10.5	10.1	8.9	7.4	8.1	10.8

Source: State and territory health authorities; see Methodology for details.

HIV risk exposure

Transmission of HIV in Australia continues to occur primarily through male-to-male sexual contact (Table 2, Figure 3). Of the 633 new HIV notifications in 2020, 58% (365) were attributed to male-to-male sex, a 12% decrease from 70% (688) in 2011. Heterosexual sex accounted for 24% (155) of notifications, an increase of 4% from 20% (192) since 2011. In 2020, male-to-male sex and injecting drug use accounted for 10% (61) of notifications, and injecting drug use for 3% (21) of notifications (Table 2, Figure 3).

Figure 3 Number of HIV notifications, 2011–2020, by exposure category



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male-to-male sex	688	744	683	757	702	714	611	519	534	365
Male-to-male sex and injecting drug use	32	34	44	50	49	51	53	57	64	61
Injecting drug use	20	25	28	31	32	14	32	28	23	21
Heterosexual contact	192	206	220	201	204	206	239	189	209	155
Mother-to-child contact	7	2	4	3	4	5	3	2	2	1
Other	44	56	57	38	38	22	28	46	70	30
Overall	983	1067	1036	1080	1029	1012	966	841	902	633

Notes: The 'male-to-male sex' category includes men who had sex with both men and women. One diagnosis was attributed to an overseas occupational exposure in healthcare or other settings in the 10 years 2011–2020 and was grouped in the 'Other' category.

Source: State and territory health authorities; see Methodology for detail.

Subpopulations

Gay and bisexual men: Men who have sex with men may identify as gay, bisexual, queer, heterosexual, transgender or other identities. However, notifications only record data on the most likely HIV risk exposure, which is behavioural, so 'male-to-male sex' is used when describing HIV notifications. This section relates to notifications with a reported exposure classification of male-to-male sex and male-to-male sex and injecting drug use.

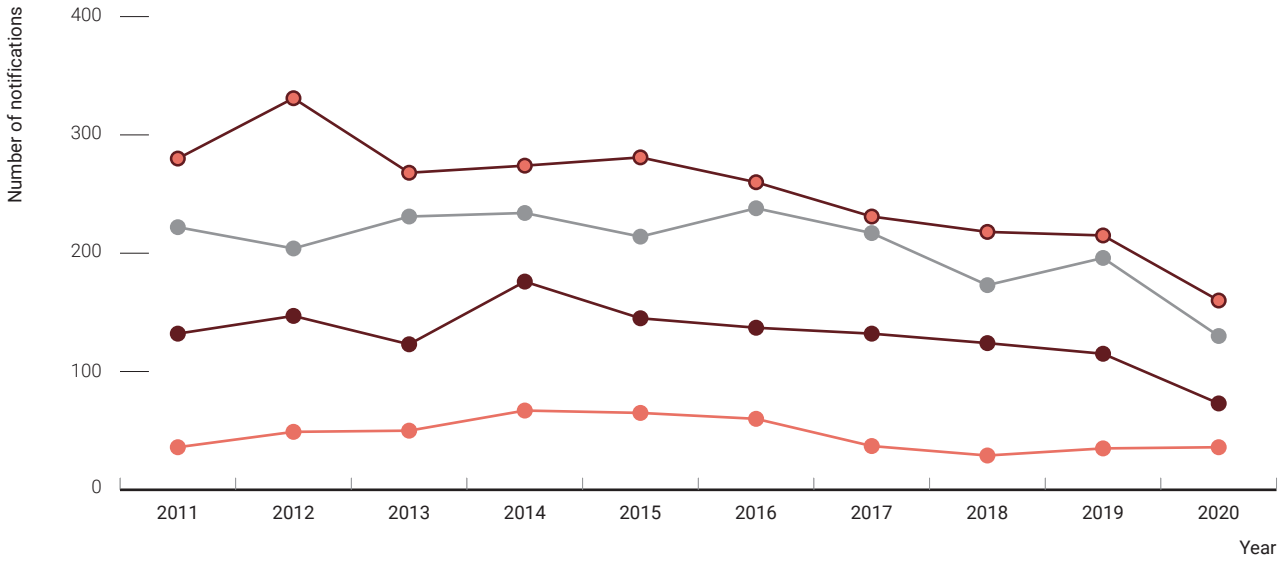
The median age at HIV diagnosis for men reporting male-to-male sex as HIV risk exposure was 34 years in both 2011 and 2020 (data not shown). Of the 426 cases of HIV newly diagnosed in 2020 for whom exposure to HIV included male-to-male sex, 73 (12%) also reported sex with women, up from 7% (66 out of 720 notifications) in 2011. There were 61 men for whom the HIV risk exposure included male-to-male sex and injecting drug use (Figure 3, Table 2).

Between 2011 and 2020, there was a 46% decline in HIV notifications attributed to male-to-male sex. In the same period, all jurisdictions saw a reduction in the number of notifications attributed to male-to-male sex, with the exception of the Western Australia, where the number of notifications remained steady (Figure 4).

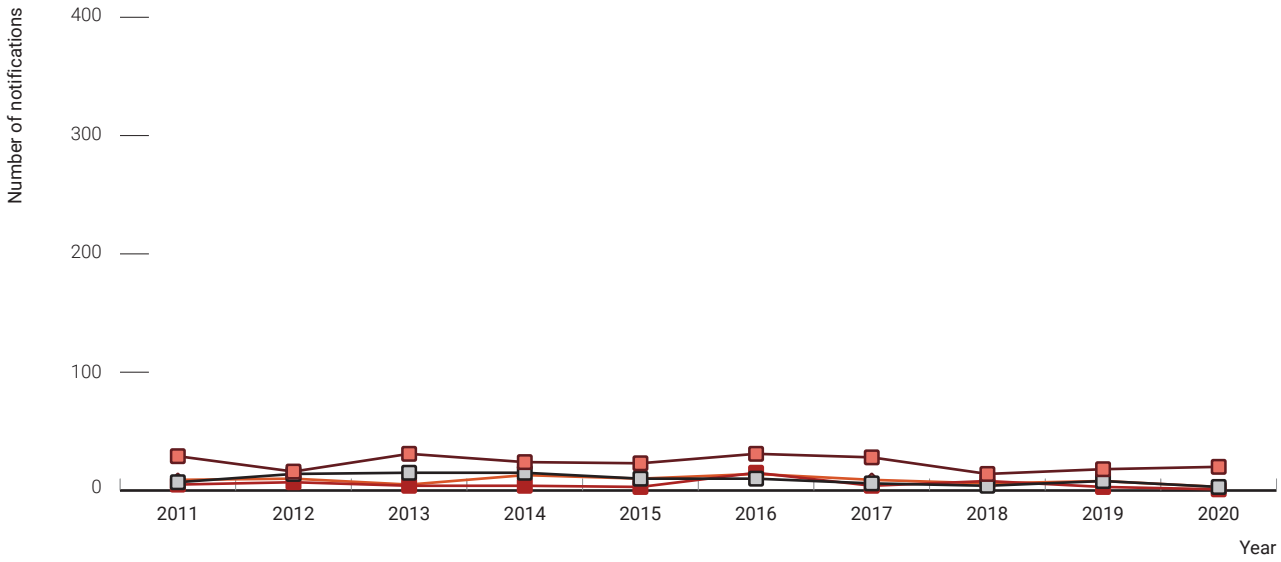
Between 2011 and 2019, the number of HIV notifications among Australian-born men attributed to male-to-male sex decreased 45% from 456 to 253, and then declined by 39% in 2020 to 154. The declines seen among Australian-born men from 2016 onwards are likely due to the availability of pre-exposure prophylaxis (PrEP) (see HIV Prevention on page 42 for further detail). In the same time period, the number of HIV notifications among those who were born in Asia (Southeast Asia, Northeast Asia, and Southern and Central Asia) increased by 78% from 85 to 151, and then declined by 42% in 2020 to

154 notifications. The number of HIV notifications among men born in countries other than Asia remained stable between 2011 and 2019 (range 113–134), but declined by 53% in 2020 to 57 notifications (Figure 5).

Figure 4 HIV notifications among men who reported male-to-male-sex as an exposure risk, 2011–2020, by state/territory



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
NSW	280	331	268	274	281	260	231	218	215	160
QLD	132	147	123	176	145	137	132	124	115	73
VIC	222	204	231	234	214	238	217	173	196	130
WA	36	49	50	67	65	60	37	29	35	36

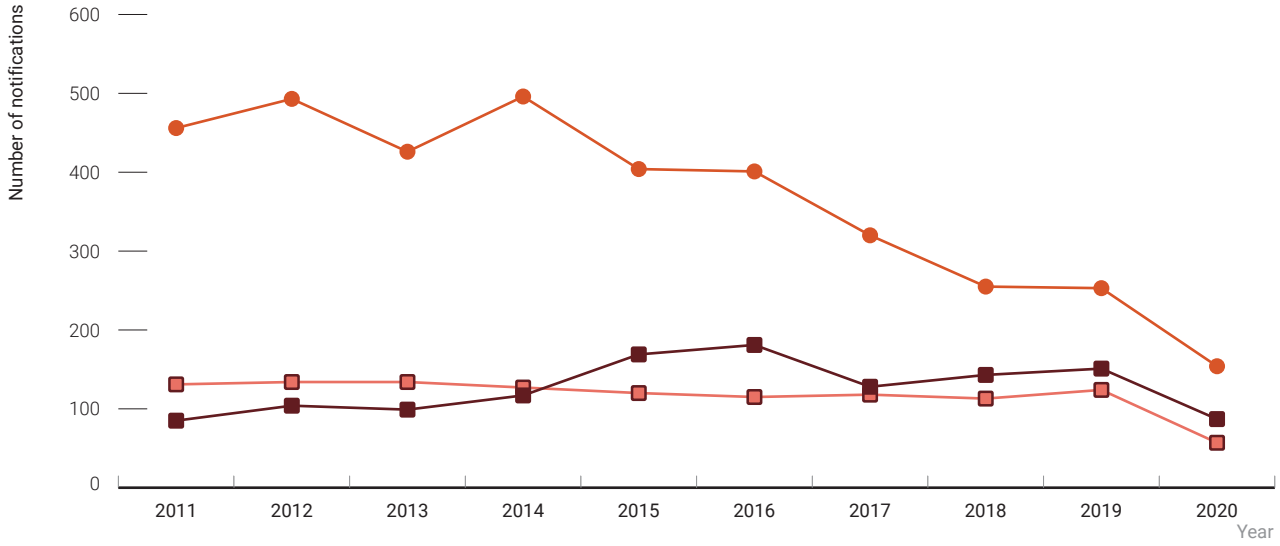


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ACT	7	14	15	15	10	10	6	4	8	3
NT	5	7	4	4	3	15	4	8	3	1
SA	29	16	31	24	23	31	28	14	18	20
TAS	9	10	5	13	10	14	9	6	8	3

Notes: Includes notifications where the exposure classification was reported as male-to-male sexual contact and injecting drug use.

Source: State and territory health authorities; see Methodology for detail.

Figure 5 HIV notifications among men who reported male-to-male sex as an exposure risk, 2011–2020, by region of birth

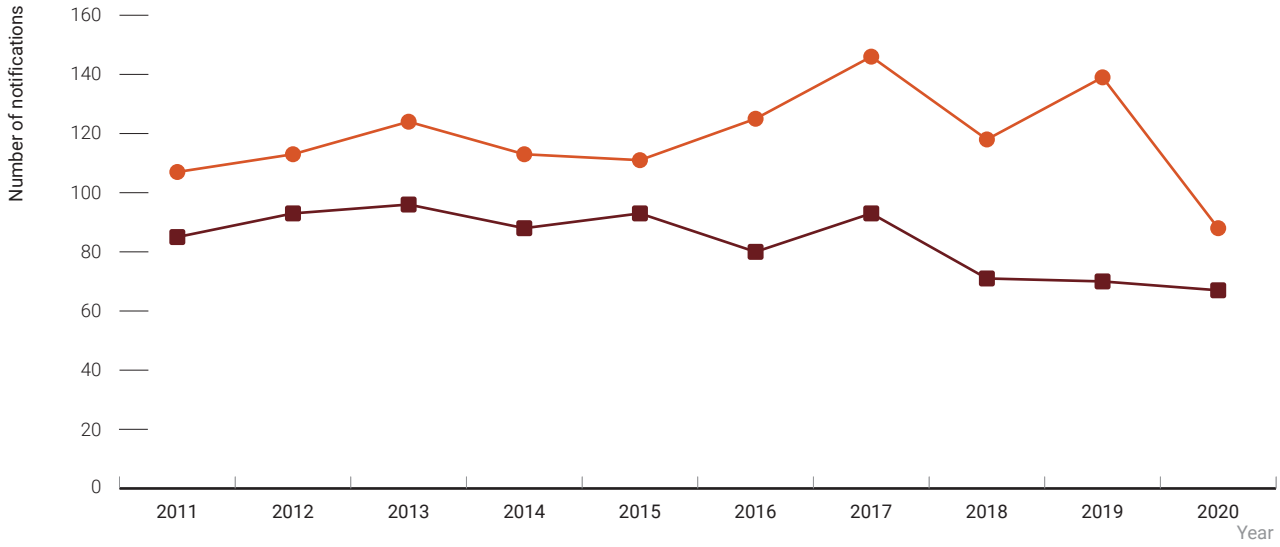


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Born in Australia	456	493	426	496	404	401	320	255	253	154
Born in Asia	85	104	99	117	169	181	128	143	151	87
Born in Other	131	134	134	127	120	115	118	113	124	57

Source: State and territory health authorities; see Methodology for detail.

Heterosexuals: Of the 155 HIV notifications attributed to heterosexual sex in 2020, 88 were among men and 67 among women (Figure 6). The number of notifications attributed to heterosexual sex among women declined by 18% from 85 in 2011 to 67 in 2020. Among men, the number of notifications attributed to heterosexual sex fluctuated between 2011 and 2019 but then declined by 37% from 139 notifications in 2019 to 88 notifications in 2020, likely attributed to the impacts of the COVID-19 pandemic.

Figure 6 Number of HIV notifications reporting exposure as heterosexual sex, 2011–2020, by gender



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Men	107	113	124	113	111	125	146	118	139	88
Women	85	93	96	88	93	80	93	71	70	67

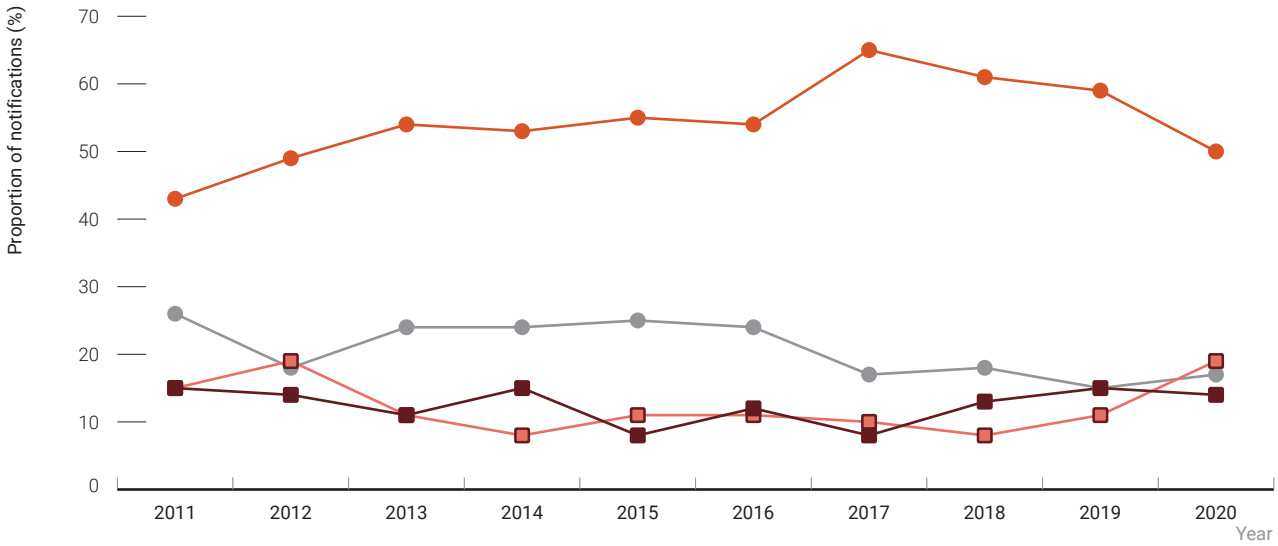
Source: State and territory health authorities; see Methodology for detail.

Over the nine-year period 2011–2019, the number of HIV notifications reporting heterosexual sex has remained relatively stable in most Australian states and territories with some fluctuations. Between 2019 and 2020, the number of HIV notifications attributed to heterosexual sex declined among alljurisdictions except for the Australian Capital Territory, the Northern Territory, and Tasmania, where the number of notifications remained low. Caution should be applied when interpreting these figures due to small numbers of notifications reported by some jurisdictions. Breakdowns of HIV notifications by exposure and jurisdiction can be found on the Kirby Institute data site.

For male HIV notifications attributed to heterosexual sex, the proportion born in Australia has increased from 43% in 2011 to 49% in 2020. In the same period, for female HIV notifications attributed to heterosexual sex, the proportion born in Australia fluctuated and was 28% in 2020.

Between 2011 and 2020, among HIV notifications attributed to heterosexual sex, the proportion of those born in Asia, Sub-Saharan Africa and other countries has fluctuated (Figure 7, Figure 8).

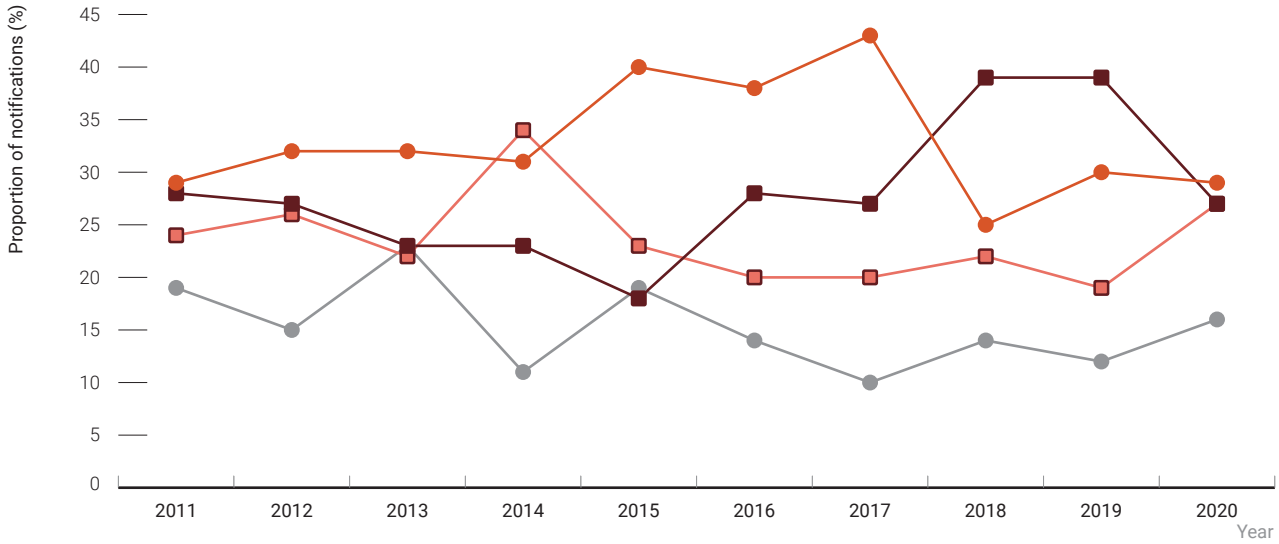
Figure 7 Proportion of HIV notifications in men who report heterosexual sex as exposure risk, 2011–2020, by region/country of birth



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia	43	49	54	53	55	54	65	61	59	50
Asia	15	14	11	15	8	12	8	13	15	14
Sub-Saharan Africa	15	19	11	8	11	11	10	8	11	19
Other	26	18	24	24	25	24	17	18	15	17

Source State and territory health authorities; see Methodology for detail.

Figure 8 Proportion of HIV notifications in women who report heterosexual sex as exposure risk, 2011–2020, by region/country of birth



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia	29	32	32	31	40	38	43	25	30	29
Asia	28	27	23	23	18	28	27	39	39	27
Sub-Saharan Africa	24	26	22	34	23	20	20	22	19	27
Other	19	15	23	11	19	14	10	14	12	16

Source: State and territory health authorities; see Methodology for detail.

Trans and gender diverse people: Between 2011 and 2020, there were 41 HIV notifications among people reported as trans or gender diverse (Table 2). Of these:

- 10% were Aboriginal and/or Torres Strait Islander people
- the median age at diagnosis was 36 years,
- 63% reported male-to-male sex as the risk exposure
- 29% of those with recorded CD4+ T-cell counts taken within three months of diagnosis were diagnosed late with HIV indicated by a CD4+ cell count less than 350 cells/μL at diagnosis (data not shown).

It is likely that these 41 notifications are an underrepresentation of the true number of trans and gender diverse people newly diagnosed with HIV, as the national HIV notification form only has one variable related to gender which captures if the person is male, female or transgender. This single variable is inadequate as trans and gender diverse people may position 'being trans' as a history or experience, rather than an identity, and consider their gender identity as simply being female, male or a non-binary identity. Some trans people connect strongly with their trans experience, whereas others do not. The processes of transition may or may not be part of a trans or gender diverse person's life[1]. Thus, many people who identify as a different gender to what they were registered at birth do not identify as transgender[2]. This means that there is potential for underreporting in the number of transgender people diagnosed with HIV.

Aboriginal and Torres Strait Islander peoples: In 2020, there were 18 HIV notifications among the Aboriginal and Torres Strait Islander population, representing 3% of the total 633 notifications. The majority (83%) of Aboriginal and/or Torres Strait Islander notifications were in males and the median age at diagnosis was 35.5 years (Table 4). For comparison of HIV notification rates between the Aboriginal and Torres Strait Islander and the non-Indigenous populations, the non-Indigenous population is restricted to those born in Australia. This is done to exclude HIV notifications in overseas-born people, in whom trends can fluctuate in response to immigration patterns, and to focus on HIV infection endemic to Australia.

Between 2011 and 2016, the HIV notification rate among Aboriginal and Torres Strait Islander people increased from 3.6 to 6.3 per 100 000 and then declined to 3.1 per 100 000 in 2019. In 2020, the HIV notification rate was 2.2 per 100 000 among Aboriginal and Torres Strait Islander people and 2.3 per 100 000 among Australian-born non-Indigenous people (Figure 9). Trends in HIV notification rates in the Aboriginal and Torres Strait Islander population are based on small numbers and may reflect localised occurrences rather than national patterns (see Figure 2 for the number of notifications by jurisdiction).

For the years 2018–2020, by exposure classification, similar proportions of notifications were seen between Aboriginal and Torres Strait Islander people and Australian-born non-Indigenous people (Figure 10).

Table 4 Characteristics of cases of HIV notifications in Aboriginal and Torres Strait Islander people, 2011–2020

	Year of HIV diagnosis									
Characteristic	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total cases[a]	24	35	26	34	40	46	30	33	25	18
Gender										
Male	18	28	22	25	36	41	22	30	20	15
Female	6	7	4	8	4	4	7	3	5	2
Transgender	0	0	0	1	0	1	1	0	0	1
Median age in years	32.5	27	36	33.5	35.5	30.5	33.5	28	31	35.5
Newly acquired HIV[b]	5	11	9	8	12	14	7	8	9	7
(% of new diagnoses)	21%	31%	35%	24%	30%	30%	23%	24%	36%	39%
Late and advanced HIV infection status at HIV diagnosis (%)[c]										
Late HIV diagnosis, %	34.8%	34.6%	40.0%	32.3%	31.4%	26.2%	30.8%	26.9%	26.3%	12.5%
Advanced HIV diagnosis, %	30.4%	26.9%	25.0%	19.4%	17.1%	14.3%	7.7%	23.1%	10.5%	6.3%
State/Territory[d]										
Australian Capital Territory	0	0	0	1	0	0	0	1	0	0
New South Wales	6	12	8	7	7	10	8	11	7	5
Northern Territory	2	2	1	1	1	5	1	1	0	0
Queensland	8	14	9	14	13	20	11	13	9	7
South Australia	1	1	2	0	2	2	5	1	2	2
Tasmania	1	0	2	2	2	0	1	0	1	0
Victoria	1	5	4	6	8	5	1	4	4	2
Western Australia	5	1	0	3	7	4	3	2	2	2
HIV exposure category, %										
Male-to-male sex[e]	63%	69%	27%	38%	55%	59%	40%	55%	48%	50%
Male-to-male sex and injecting drug use	0%	6%	19%	9%	10%	15%	7%	9%	20%	28%
Heterosexual sex	25%	17%	31%	18%	18%	20%	27%	24%	16%	17%
Injecting drug use	4%	6%	23%	26%	15%	4%	23%	3%	16%	0%
Mother with/at risk of HIV infection	4%	3%	0%	0%	0%	0%	0%	0%	0%	0%
Other/undetermined exposure	4%	0%	0%	9%	3%	2%	3%	9%	0%	6%

a Includes gender of `Other' and `Not reported'.

b Newly acquired HIV was defined as a new HIV diagnosis with a negative or indeterminate HIV antibody test result or a diagnosis of primary HIV within one year before HIV diagnosis.

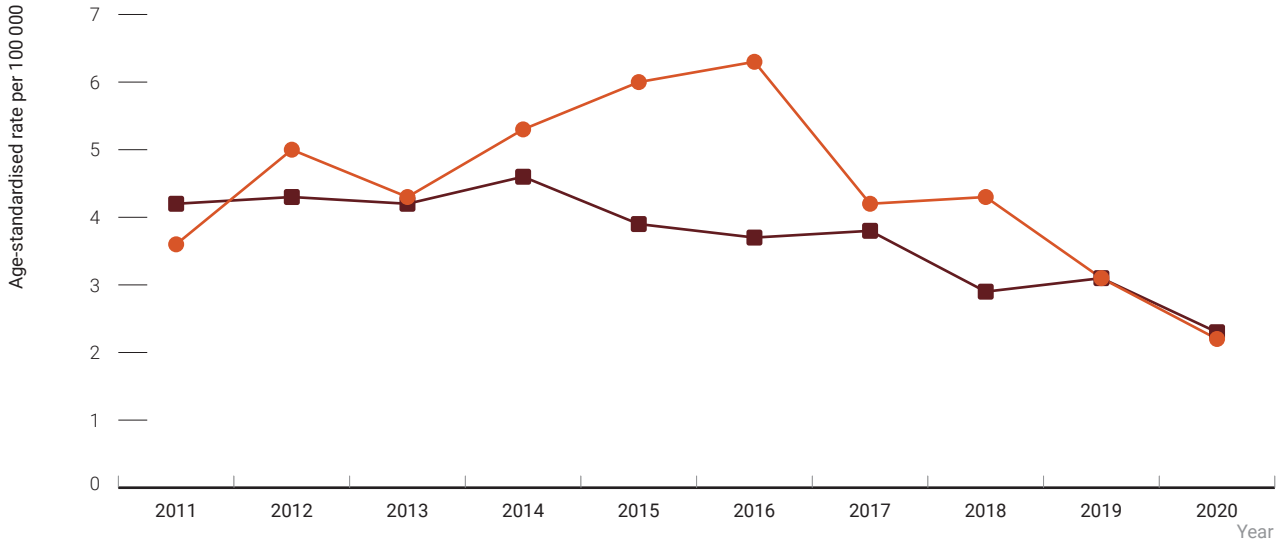
c Late HIV diagnosis was defined as newly diagnosed HIV with a CD4+ cell count of less than 350 cells/μL, and advanced HIV as newly diagnosed infection with a CD4+ cell count of less than 200 cells/μL. Newly acquired HIV was not categorised as a late or advanced diagnosis irrespective of CD4+ cell count.

d Numbers may differ to those reported by state and territory health authorities due to ongoing data cleaning and revision.

e Includes men who had sex with both men and women.

Source: State and territory health authorities.

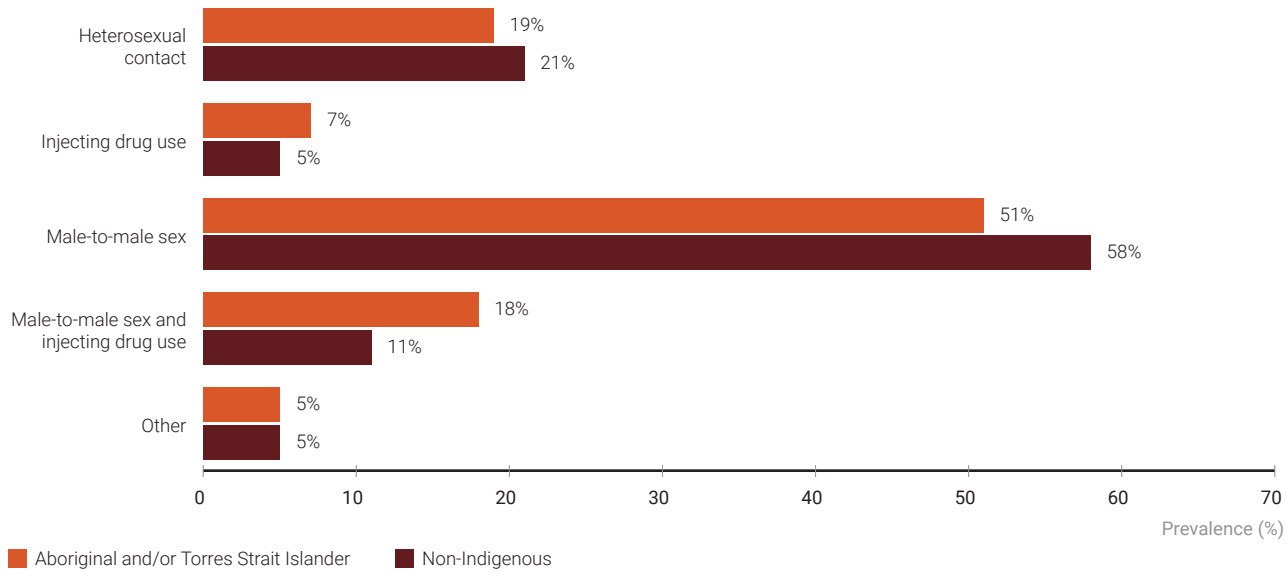
Figure 9 HIV notification rate per 100 000 Australian-born population, 2011–2020, by Aboriginal and Torres Strait Islander status



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Aboriginal and Torres Strait Islander	3.6	5.0	4.3	5.3	6.0	6.3	4.2	4.3	3.1	2.2
Australian-born non-Indigenous	4.2	4.3	4.2	4.6	3.9	3.7	3.8	2.9	3.1	2.3

Source: State and territory health authorities; see Methodology for detail.

Figure 10 HIV notification exposure category, 2016–2020, by Aboriginal and Torres Strait Islander status

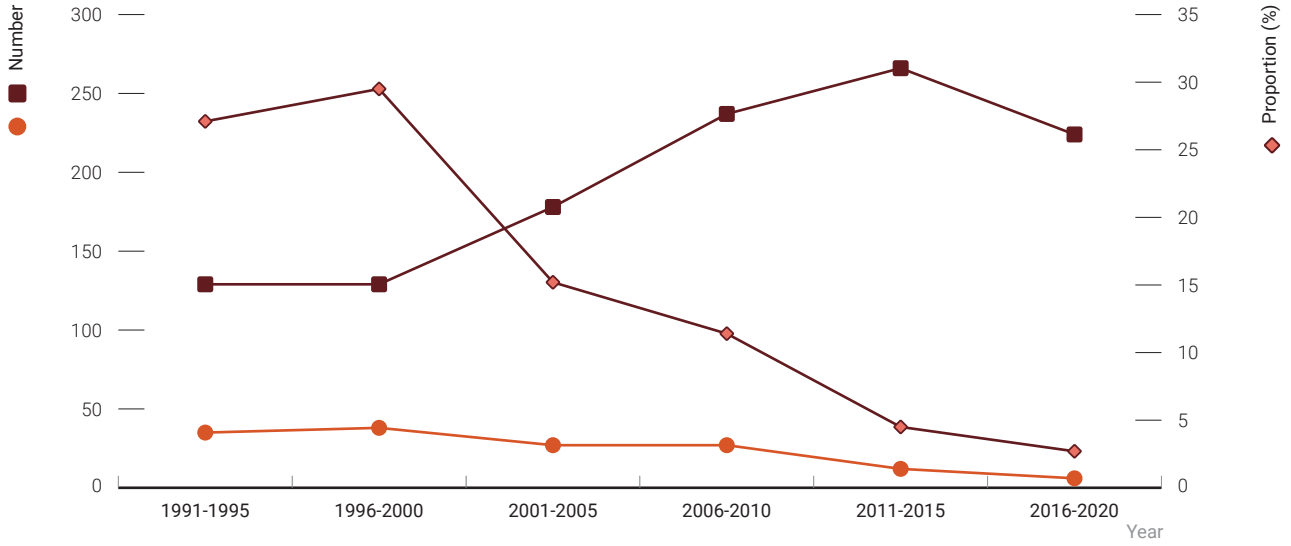


Note: Percentages may not add to 100% due to rounding

Source: State and territory health authorities; see Methodology for detail.

Pregnant women: Between 1991 and 2020, 1163 cases of perinatal HIV exposure among children born in Australia were reported. For the period 2016–2020, the HIV transmission rate was 2.7%, compared with 27.1% in the period 1991–1995 and 29.5% in the period of 1996–2000 (Figure 11).

Figure 11 Number of Australian-born children perinatally exposed to HIV and proportion HIV-positive, 1991–2020, by year of birth



	1991-1995	1996-2000	2001-2005	2006-2010	2011-2015	2016-2020
Perinatally exposed	129	129	178	237	266	224
HIV-positive (n)	35	38	27	27	12	6
HIV-positive (%)	27.1	29.5	15.2	11.4	4.5	2.7

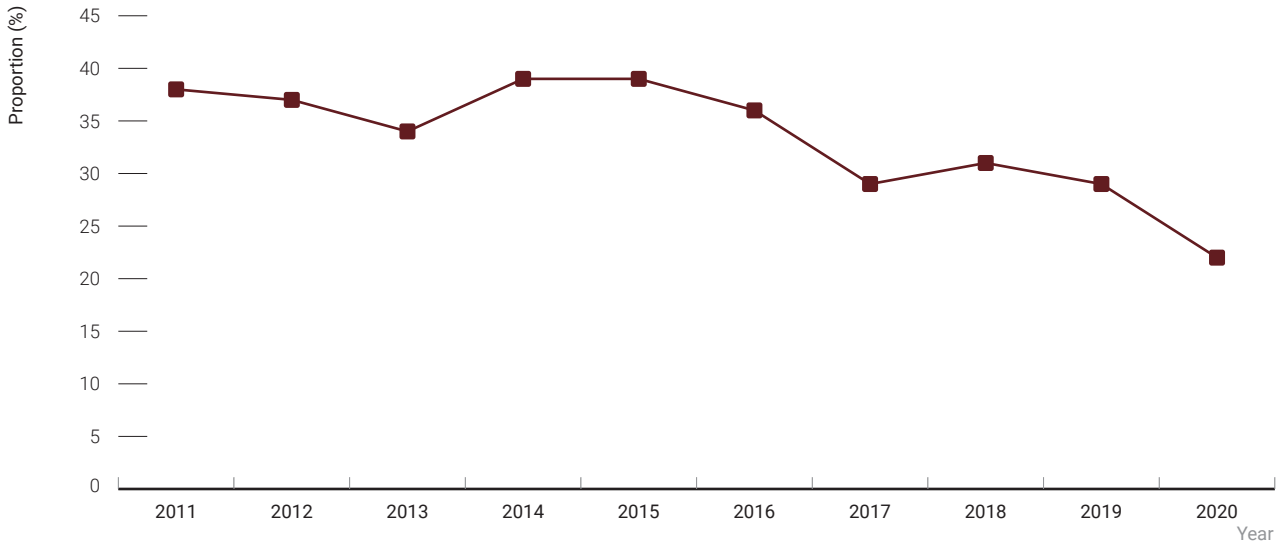
Source: Australian Paediatric Surveillance Unit; see Methodology for detail.

HIV notifications classified as newly acquired

For some newly diagnosed HIV notifications, it is possible to determine whether HIV was acquired in the 12 months prior to diagnosis, on the basis of a recent prior negative or indeterminate HIV test and clinical markers (see Methodology for further details). The proportion of all new notifications that were reported to be newly acquired decreased from 38% in 2009 to 29% in 2019 and was 22% in 2020 (Table 2, Figure 12). Trends in the proportion of HIV notifications classified as newly acquired need to be interpreted cautiously as rises could reflect increases in regular testing (allowing determination of recent infection) rather than an actual increase in the number of newly acquired infections. When considering these data, it is important to also note that that fewer indeterminate results were recorded after 2016 due to changes in testing practices across several jurisdictions. These changes have reduced the number of results which were previously used to provide evidence for newly acquired HIV infections.

The rates of newly acquired HIV notifications in 2020 varied by jurisdiction, with the highest in New South Wales and Victoria (0.8 per 100 000 each) (Figure 13). In the Australian Capital Territory, Tasmania and the Northern Territory the numbers of notifications reported annually are smaller, so trends need to be interpreted with caution.

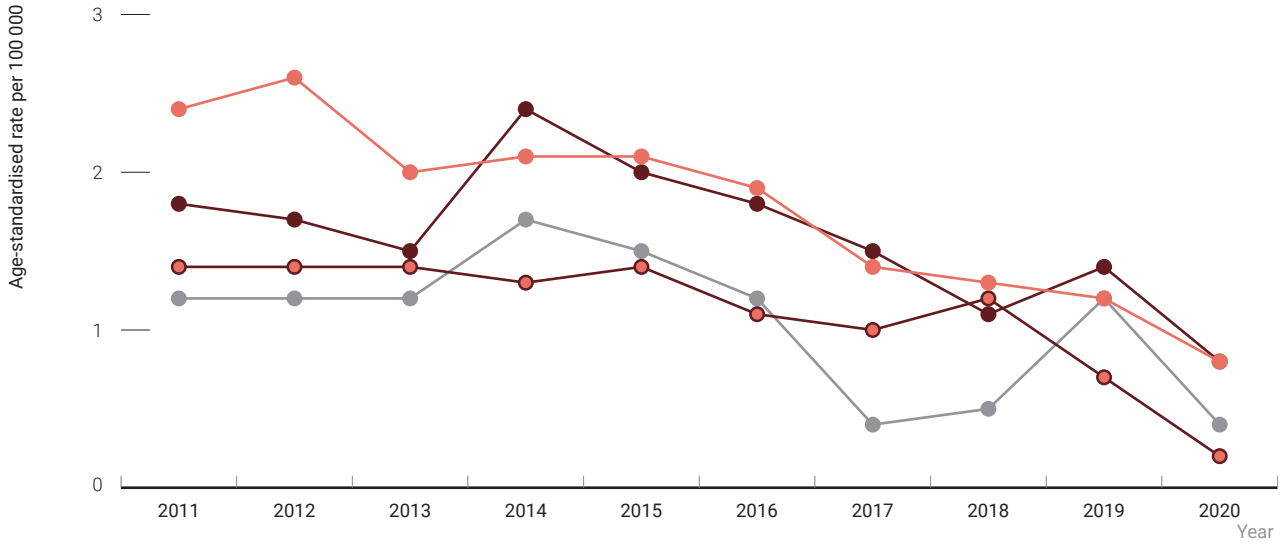
Figure 12 The proportion of HIV notifications in Australia classified as newly acquired, 2011–2020



Note: Newly acquired HIV was defined as newly diagnosed infection with a negative or indeterminate HIV antibody test result or a diagnosis of primary HIV within one year before HIV diagnosis.

Source: State and territory health authorities; see Methodology for detail.

Figure 13 HIV notification rates classified as newly acquired per 100 000 population, by state/territory, 2011–2020



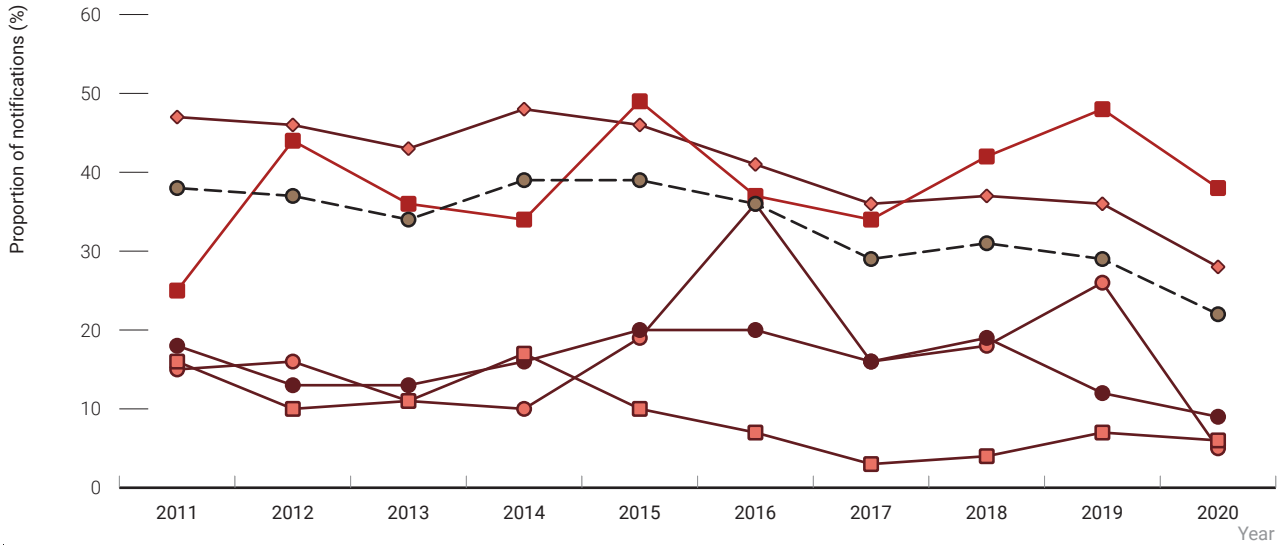
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
NSW	2.4	2.6	2.0	2.1	2.1	1.9	1.4	1.3	1.2	0.8
QLD	1.4	1.4	1.4	1.3	1.4	1.1	1.0	1.2	0.7	0.2
VIC	1.8	1.7	1.5	2.4	2.0	1.8	1.5	1.1	1.4	0.8
WA	1.2	1.2	1.2	1.7	1.5	1.2	0.4	0.5	1.2	0.4

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ACT	1.1	2.2	2.3	2.4	2.0	0.9	0.5	0.0	1.0	0.2
NT	1.2	1.2	1.3	0.6	1.3	3.4	0.3	3.1	0.4	0.0
SA	0.5	0.4	0.5	0.2	0.3	0.5	0.5	0.3	0.5	0.4
TAS	1.1	0.8	0.4	1.2	1.6	1.7	0.7	0.0	0.6	0.5

Source: State and territory health authorities; see Methodology for detail.

Between 2011 and 2020 among HIV diagnoses attributed to male-to-male sex, the proportion classified as newly acquired, declined from 47% to 36%. For other exposure classifications, the proportion classified as newly acquired fluctuated in the same time period (Figure 14).

Figure 14 Proportion of HIV notifications classified as newly acquired, 2011–2020, by HIV exposure category



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male-to-male sex	47	46	43	48	46	41	36	37	36	28
Male-to-male sex and injecting drug use	25	44	36	34	49	37	34	42	48	38
Injecting drug use	15	16	11	10	19	36	16	18	26	5
Heterosexual sex	18	13	13	16	20	20	16	19	12	9
Other exposure	16	10	11	17	10	7	3	4	7	6
Overall	38	37	34	39	39	36	29	31	29	22

Note: Newly acquired HIV was defined as newly diagnosed infection with a negative or indeterminate HIV antibody test result or a diagnosis of primary HIV within one year before HIV diagnosis.

Source: State and territory health authorities; see Methodology for detail.

Clinical and immunological markers of timing of HIV diagnosis

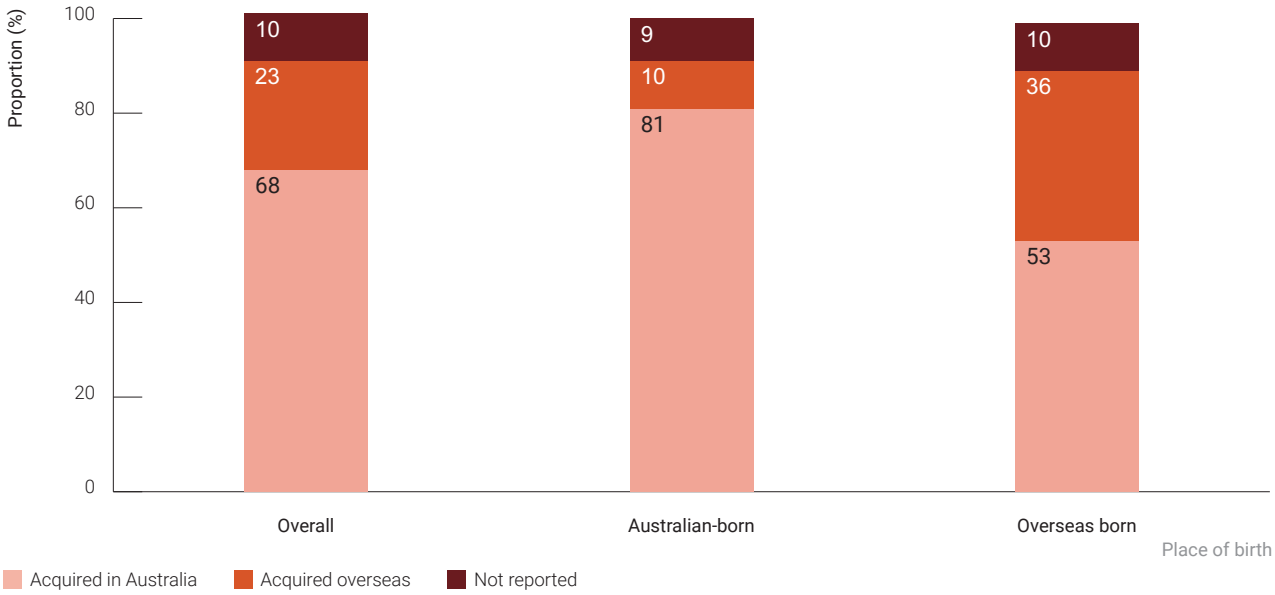
Monitoring the likely place of HIV acquisition and HIV subtype can provide information to assist understanding of the potential influence of travel and migration on HIV diagnosis trends. Since 2014, notifications of HIV have included the likely place of HIV acquisition reported by the clinician, i.e., acquired in Australia, acquired overseas or place of acquisition unknown (see Methodology for further details). Data for place of acquisition are more complete for the years 2018–2020.

Likely place of HIV acquisition

Of HIV notifications attributed to male-to-male sex among Australian-born men between 2018 and 2020, for more than three-quarters (81%), HIV acquisition was likely to have occurred in Australia, and for 10%, HIV acquisition was likely to have occurred overseas. Among men born outside Australia, just over half (53%) were likely to have acquired HIV in Australia and 36% overseas (Figure 15).

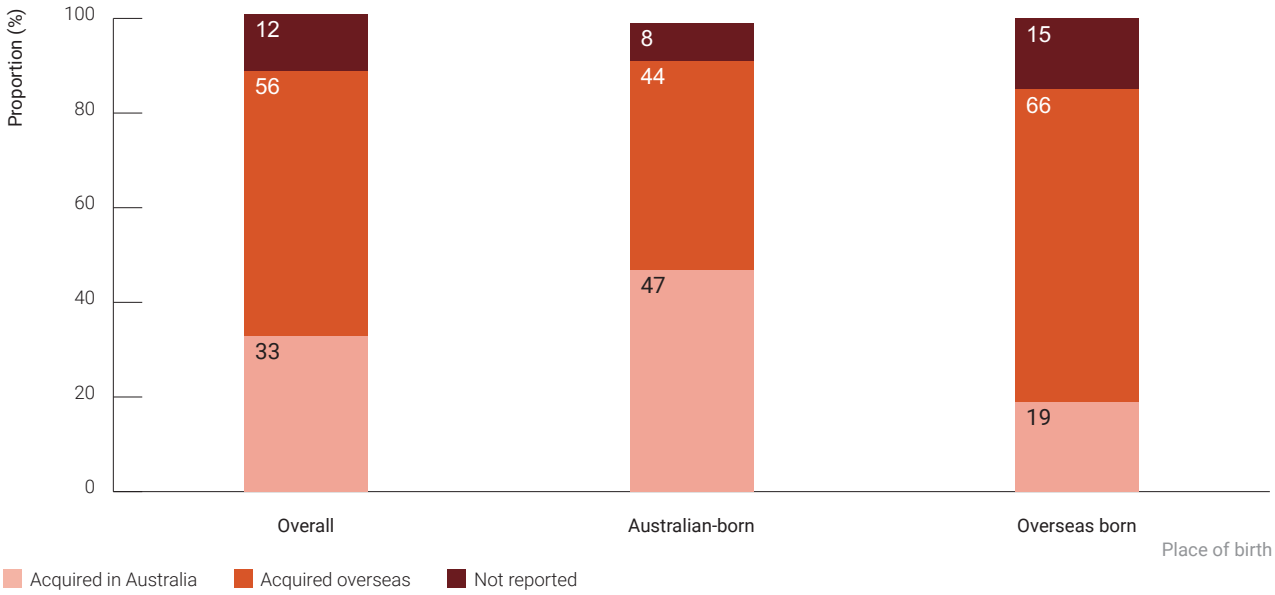
Of HIV notifications among Australian-born people with heterosexual sex as their HIV exposure risk between 2018 and 2020, 47% were likely to have acquired HIV in Australia compared with 19% for people born overseas. Among Australian-born people notified with HIV, 44% were likely to have acquired HIV overseas among compared with 66% for people born overseas (Figure 16).

Figure 15 Likely place of HIV acquisition in HIV notifications among men who reported male-to-male sex as an exposure risk, 2018–2020, by country of birth



Source: State and territory health authorities; see Methodology for detail.

Figure 16 Likely place of HIV acquisition in HIV notifications in people who reported heterosexual sex as exposure risk, 2018–2020, by country of birth



Source State and territory health authorities; see Methodology for detail.

Late and advanced HIV diagnoses

CD4+ cell count at the time of HIV diagnosis can indicate how long a person has had HIV before being diagnosed. CD4+ cell count is above 500 cells/μL in most people without HIV and declines on average by 50 to 100 cells/μL per year in people with HIV[3]. Late HIV diagnosis is defined as CD4+ cell count less than 350 cells/ μL at diagnosis (see Methodology for further details).

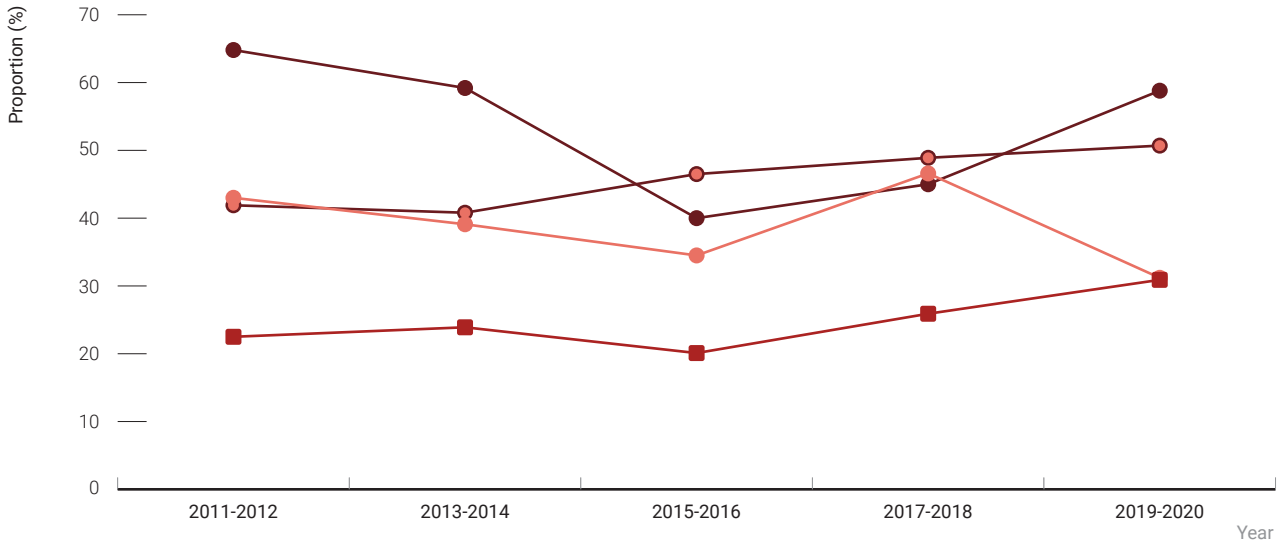
The proportion of newly diagnosed HIV cases with a late diagnosis has increased by 15% from 28.9 % in 2011 to 44.0% in 2020 (see Table 2). For the years 2019 and 2020, among people reporting heterosexual sex as their exposure risk 59% were diagnosed late, compared with 31% among those reporting male-to-male sex (Figure 17).

For the years 2016 to 2019 the proportion of HIV notifications with late diagnosis was highest in people born in Sub-Saharan Africa (54%), Southeast Asia (52%), and Central or South America (36%) (data not shown).

Late HIV diagnoses by key characteristics and exposure category

By exposure category, condensed into two-year groups to account for small numbers of notifications, late diagnoses attributed to heterosexual sex, male-to-male sex and injecting drug user have fluctuated. For the years 2019/2020 and for diagnoses attributed to heterosexual sex and injecting drug use, the proportions diagnosed late remain high at 58.8%, and 50.7%, respectively.

Figure 17 Proportion of late HIV diagnoses, 2011–2020, by selected exposure category



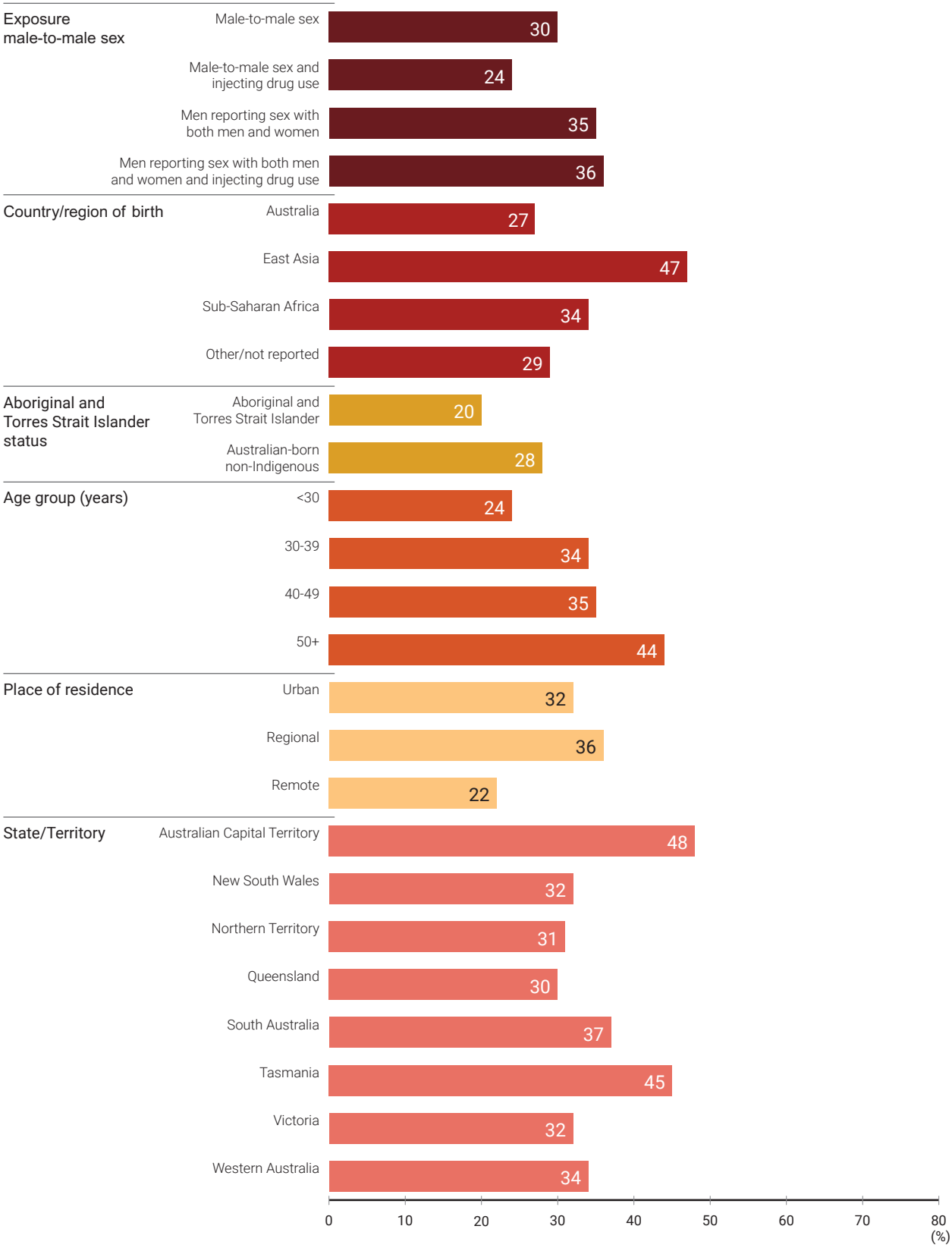
	2011-2012	2013-2014	2015-2016	2017-2018	2019-2020
Male-to-male sex and male-to-male sex and injecting drug use	22.5	23.9	20.1	25.9	30.9
Men reporting sex with both men and women	43.0	39.1	34.5	46.6	31.2
Heterosexual sex	64.8	59.2	40.0	45.0	58.8
Injecting drug use	41.9	40.8	46.5	48.9	50.7

Note: Late HIV diagnosis was defined as new HIV diagnoses with a CD4+ cell count of less than 350 cells/μL. Newly acquired HIV was not categorised as late or advanced diagnoses irrespective of CD4+ cell count. Notifications without a CD4+ cell count available were excluded.

Source: State and territory health authorities

Among HIV notifications attributed to male-to-male sex for the years 2016 to 2020, late diagnosis was more common among men reporting injecting drug use as well as sex with both men and women (36%), men reporting sex with both men and women (35%), men aged 50 years and older (44%), men born in East Asia (47%), and men living in regional areas (36%) (Figure 18).

Figure 18 Proportion of late HIV diagnoses among men reporting an exposure category that included male-to-male sex, 2016–2020, by subcategory (n = 2515)

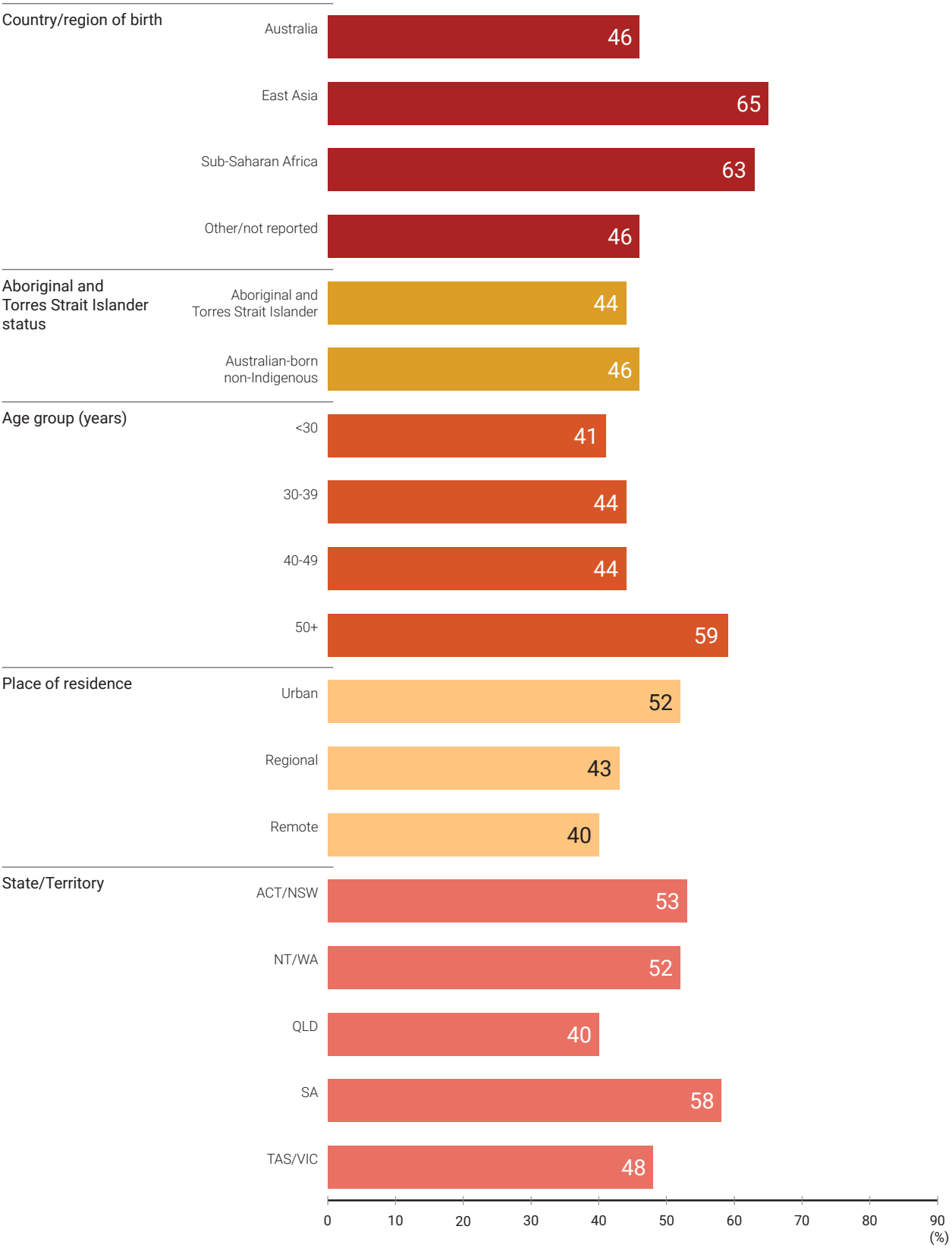


Note: Late HIV diagnosis was defined as an HIV notification with a CD4+ cell count of less than 350 cells/μL. Newly acquired HIV was not categorised as late or advanced diagnoses irrespective of CD4+ cell count. Notifications without a CD4+ cell count available were excluded.

Source: State and territory health authorities.

A high proportion of late diagnoses were reported among people with heterosexual sex as an exposure risk (49% overall, 49% among both men and women), with variation by key demographic characteristics and HIV risk exposure (Figure 19, Figure 20).

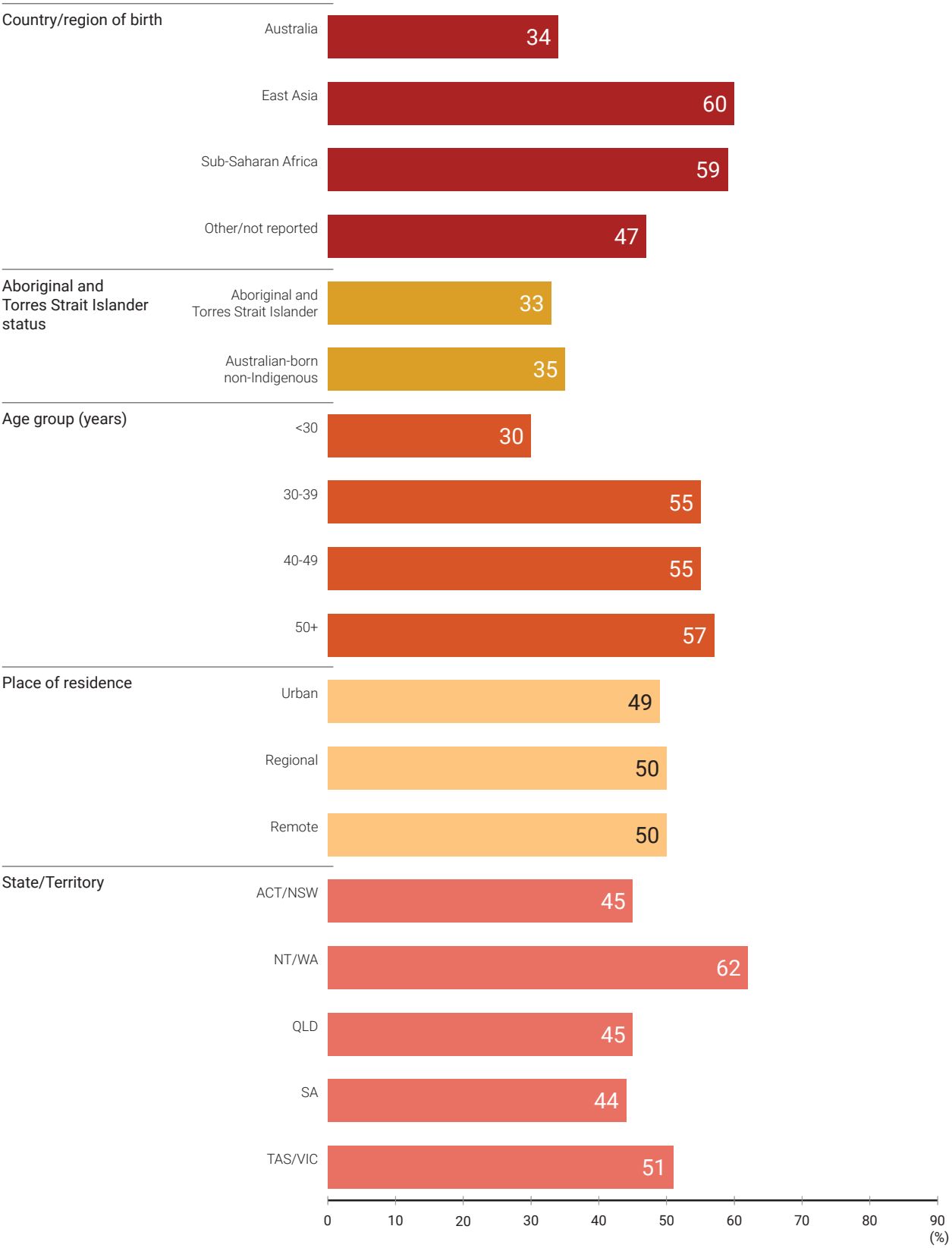
Figure 19 The proportion of late HIV diagnoses among men who reported heterosexual sex as an exposure risk, 2016–2020, by subcategory (*n* = 505)



Note: Late HIV diagnosis was defined as an HIV notification with a CD4+ cell count of less than 350 cells/μL. Newly acquired HIV was not categorised as late or advanced diagnoses irrespective of CD4+ cell count. Notifications without a CD4+ cell count available were excluded.

Source: State and territory health authorities.

Figure 20 The proportion of late HIV diagnoses among women who reported heterosexual sex as an exposure risk, 2016–2020, by subcategory (*n* = 308)



Note: Late HIV diagnosis was defined as an HIV notification with a CD4+ cell count of less than 350 cells/μL. Newly acquired HIV was not categorised as late or advanced diagnoses irrespective of CD4+ cell count. Notifications without a CD4+ cell count available were excluded. Caution should be applied when interpreting these data due to low numbers.

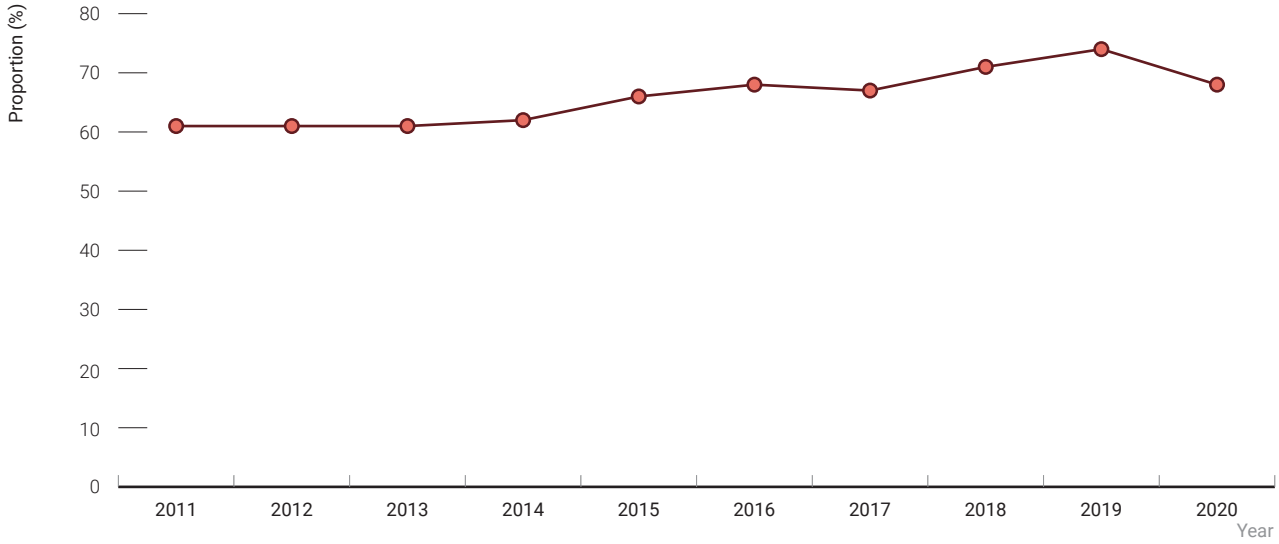
Source: State and territory health authorities

4 HIV testing

National testing guidelines recommend HIV testing in a number of contexts, such as according to exposure risk, during antenatal care and for particular priority populations[4]. Guidelines recommend all sexually active men who have sex with men in the previous three months should be tested every three months[5].

Behavioural surveys show the proportion of people tested in a year in Australia among selected priority populations. In the Gay Community Periodic Surveys, the proportion of non-HIV-positive gay and bisexual men who reported having had an HIV test in the 12 months prior to the surveys increased by 13% from 61% in 2011 to 74% in 2019. Between 2019 and 2020 this proportion dropped by 6% to 68%, likely due to the impacts caused by the ongoing COVID-19 pandemic (Figure 21).

Figure 21 Proportion of non-HIV-positive gay and bisexual men tested for HIV in the 12 months prior to completing the surveys, 2013–2020

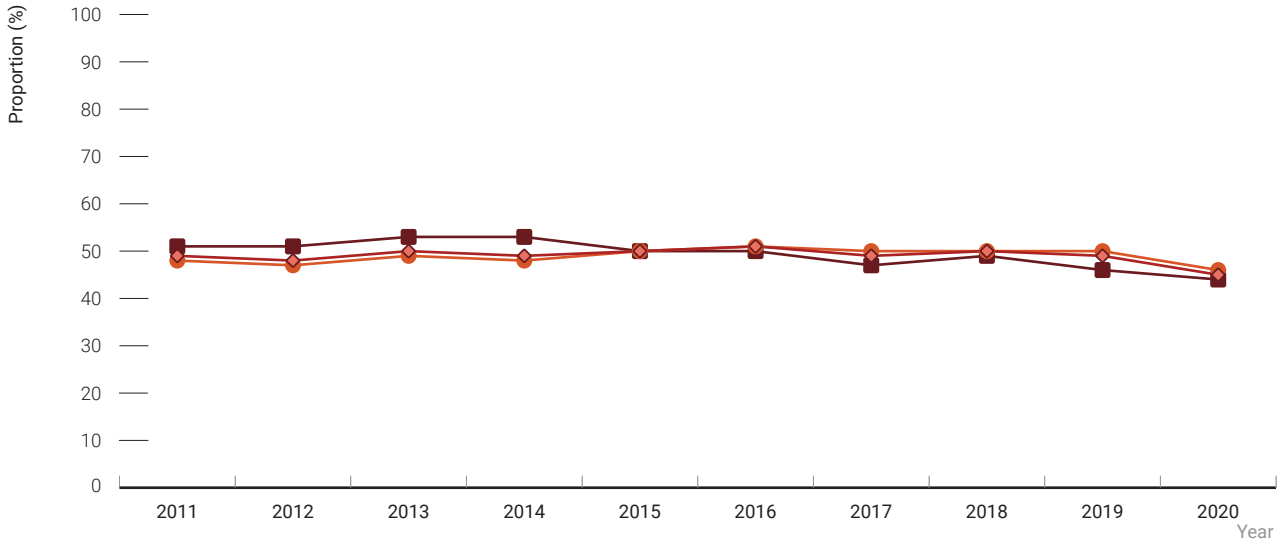


2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
61	61	61	62	66	68	67	71	74	68

Source: Gay Community Periodic Surveys; see Methodology for detail.

According to the Australian Needle Syringe Program Survey, in 2020, 45% of people who inject drugs attending needle and syringe programs self-reported having had an HIV test in the 12 months prior to the survey, similar in men and women (Figure 22).

Figure 22 Proportion of people who inject drugs attending needle and syringe programs who reported an HIV test in the past 12 months, 2011–2020, by sex



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Men (%)	48	47	49	48	50	51	50	50	50	46
Women (%)	51	51	53	53	50	50	47	49	46	44
Total (%)	49	48	50	49	50	51	49	50	49	45

Source: Australian Needle Syringe Program Survey; see Methodology for detail.

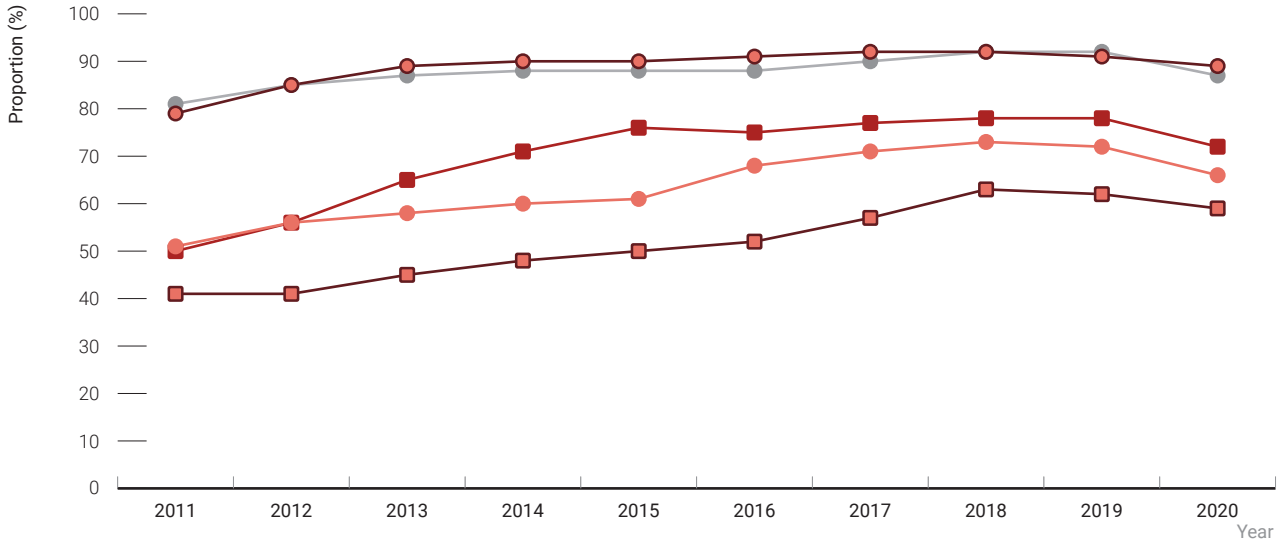
According to the Gay Community Periodic Surveys, the most common locations for their latest HIV testing in the previous 12 months among non-HIV-positive gay and bisexual men in 2020 were a general practice (42%) and a sexual health clinic (33%). Data from these clinical services therefore provide further information about HIV testing patterns.

At the 54 sentinel sexual health clinics across Australia participating in the ACCESS network (see Methodology for further detail), between 2011 and 2019 the proportion of gay and bisexual men who were tested for HIV at least once in the previous 12 months increased from 79% to 91% (Figure 23). Among gay and bisexual men attending high-caseload general practice clinics, the proportion who were tested for HIV at least once in a year increased from 51% in 2011 to 97% in 2019 (Figure 23). The proportion tested at least once in the previous 12 months declined among all populations by between 2% and 6% between 2019 and 2020 for sexual health clinics and high caseload general practices.

There was a 30% increase in the proportion of gay and bisexual men attending sexual health clinics who had a repeat HIV test within 13 months of a previous HIV test, from 41% in 2011 to 71% in 2020, and a 26% increase in the proportion of men who had a repeat HIV test within seven months, from 33% in 2011 to 59% in 2019. In this period, the proportion retested within seven months and thirteen months was 55% and 69% respectively (Figure 24).

Among other priority populations attending sexual health clinics participating in the ACCESS network, the proportion of female sex workers who were tested for HIV at least once in a year remained over 80% for each of the years since 2011, and was 87% in 2020 (Figure 23). In 2020, among people attending sexual health clinics who were recorded as currently injecting drugs, 72% received an HIV test in the previous twelve months. By contrast, among young heterosexuals attending sexual health clinics, only 59% received an HIV test in the previous 12 months in 2020 (Figure 24).

Figure 23 Proportion of sexual health and high-caseload general practice clinic attendees tested for HIV in a year, 2011–2020, by priority population

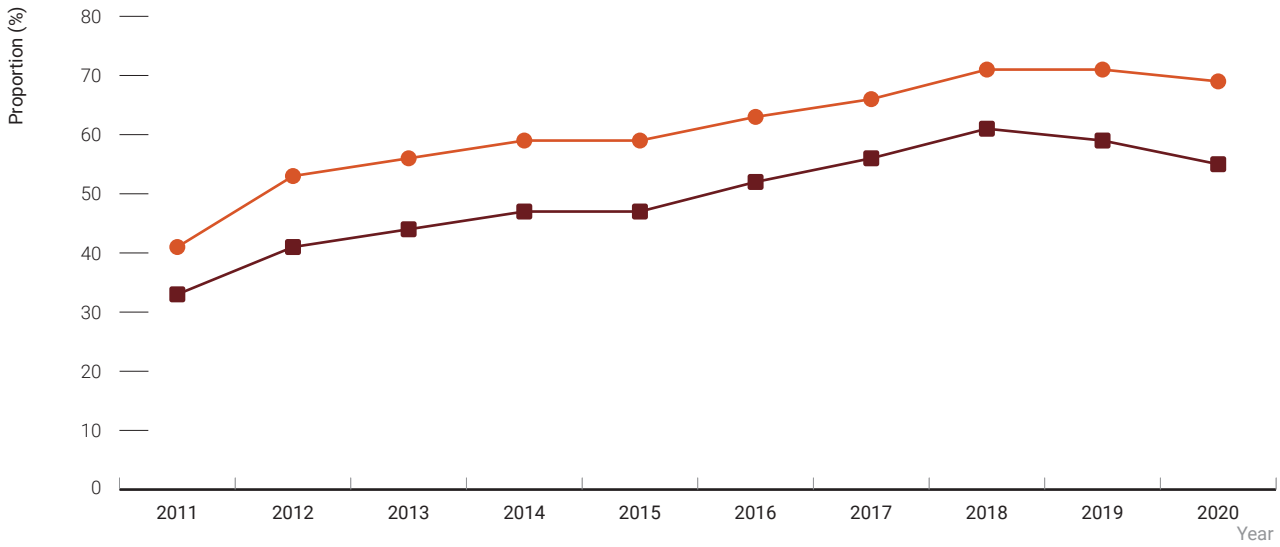


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Heterosexuals aged 16–29y, sexual health clinic (%)	41	41	45	48	50	52	57	63	62	59
Female sex workers, sexual health clinic (%)	81	85	87	88	88	88	90	92	92	87
People who inject drugs, sexual health clinic (%)	50	56	65	71	76	75	77	78	78	72
Gay and bisexual men, sexual health clinic (%)	79	85	89	90	90	91	92	92	91	89
Gay and bisexual men, general practice clinic (%)	51	56	58	60	61	68	71	73	72	66

Note: High-caseload general practice clinics include primary healthcare general practice clinics with a high-caseload of gay and bisexual men.

Source: ACCESS (Australian Collaboration for Coordinated Enhanced Sentinel Surveillance); see Methodology for detail.

Figure 24 HIV retesting among gay and bisexual men attending sexual health clinics, 2011–2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Re-tested at 1–7 months (%)	33	41	44	47	47	52	56	61	59	55
Re-tested at 1–13 months (%)	41	53	56	59	59	63	66	71	71	69

Source: ACCESS (Australian Collaboration for Coordinated Enhanced Sentinel Surveillance); see Methodology for detail.

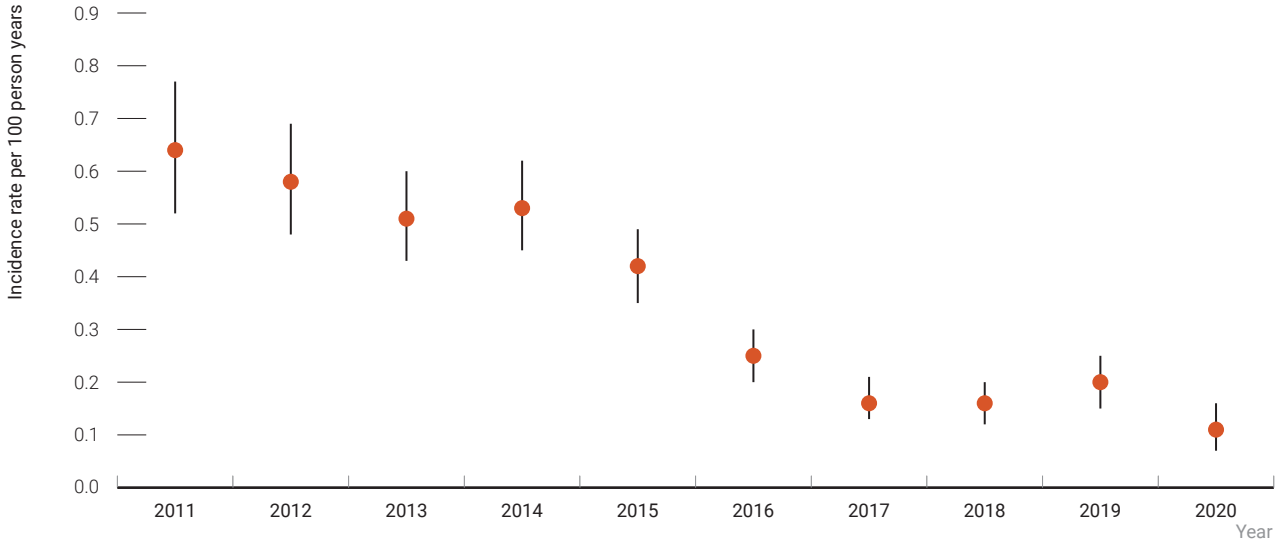
5 HIV incidence

HIV incidence is the best indicator of changes in transmission in a population. HIV incidence is calculated from the ACCESS project by dividing the number of seroconversions among people undergoing repeat HIV testing at sexual health services by the person's time at risk (determined by the time between repeat HIV tests). Further details about the methods used can be found in the Methodology.

For the years 2011–2020, among gay and bisexual men attending sexual health services and primary health care clinics who had at least one repeat HIV test (n = 79 191), there were 959 seroconversions during 231 191 person-years at risk. The HIV incidence rate in 2019 was 0.20 new infections per 100 person-years down from 0.64 per 100 person-years in 2011. In 2020, the HIV incidence rate was 0.11 per 100 person-years (Figure 25).

In the same time period, among female sex workers attending sexual health services and primary health care clinics who had at least one repeat HIV test (n=11 221), there were four seroconversions during 29 950 person-years at risk, equating to an overall HIV incidence rate of 0.02 new infections per 100 person-years. Between 2011 and 2020, the HIV incidence rate among female sex workers remained low, between 0 and 0.6 per 100 person-years and was 0 per 100 person-years in 2020.

Figure 25 HIV incidence rate per 100 person-years among gay and bisexual men attending sexual health clinics, 2011–2020

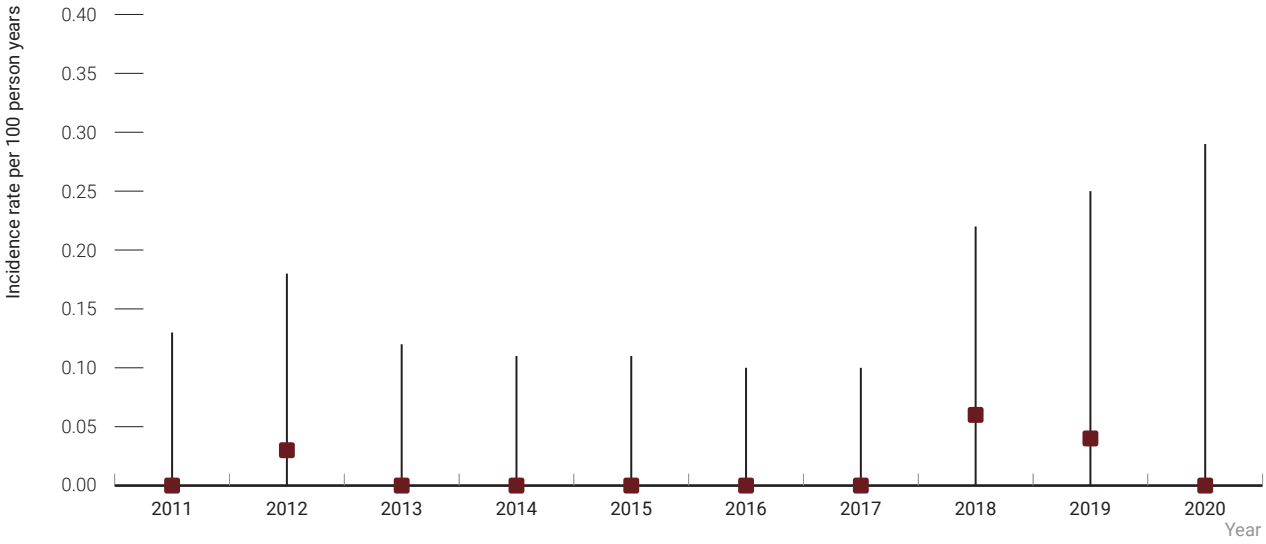


0.64	0.58	0.51	0.53	0.42	0.25	0.16	0.16	0.20	0.11

Note: These incidence estimates represent populations attending sexual health clinics and may not be generalised to broader priority populations.

Source: ACCESS (Australian Collaboration for Coordinated Enhanced Sentinel Surveillance); see Methodology for detail.

Figure 26 HIV incidence rate per 100 person-years among female sex workers attending sexual health clinics, 2011–2020



Incidence rate

0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.06	0.04	0.11

Note: These incidence estimates represent populations attending sexual health clinics and may not be generalised to broader priority populations.

Source: ACCESS (Australian Collaboration for Coordinated Enhanced Sentinel Surveillance); see Methodology for detail.

6 Number of people living with HIV and prevalence

Number of people living with HIV

At the end of 2020, among the 29 090 people estimated to be living with HIV in Australia, 21 550 people likely acquired HIV through to male-to-male sex, 6810 through heterosexual sex, 650 through injecting drug use, and 180 through 'other' exposures (vertical transmission to newborn infants, blood/tissue recipient, healthcare setting) (Table 5, Table 1).

There were an estimated 570 Aboriginal and Torres Strait people living with HIV in Australia at the end of 2020. After adjusting for missing country of birth data, there were 3100 people living with HIV born in Southeast Asia, 1760 born in Sub-Saharan Africa, and 880 people born in Latin America (Table 5).

HIV prevalence

The estimated HIV prevalence in Australia (the proportion of people who are living with HIV) in 2020 was 0.14% among adults aged older than 15 years (Table 5). The prevalence in Australia is low compared with that reported to UNAIDS by other high-income countries including the United States (0.4% in 2019) and countries in the Asia-Pacific region (0.2% in 2020). HIV prevalence among Aboriginal and Torres Strait Islander peoples was estimated to be 0.10% in 2018 (Table 5).

Undiagnosed HIV infection

In 2020, there were an estimated 2610 people (9% of all people living with HIV) living with HIV who were unaware of their HIV status (undiagnosed). The proportion undiagnosed was similar between females (10%) and males (10%) and similar between Aboriginal and Torres Strait Islander people (5%) and Australian-born non-Indigenous people (5%). People born in Southeast Asia had the highest proportion with undiagnosed HIV (27%), followed by people born in Latin America (22%), people born in Sub-Saharan Africa (13%) and people born in other countries (10%) (Figure 27 ,Table 5).

The proportion with undiagnosed HIV was lower among men with male-to-male sex as an exposure risk (8%) than in people with heterosexual risk exposure (14%) and people who inject drugs (14%) (Table 5, Figure 27).

Table 5 Estimated number of people living with HIV and HIV prevalence, 2020, by selected exposure classification and subpopulation

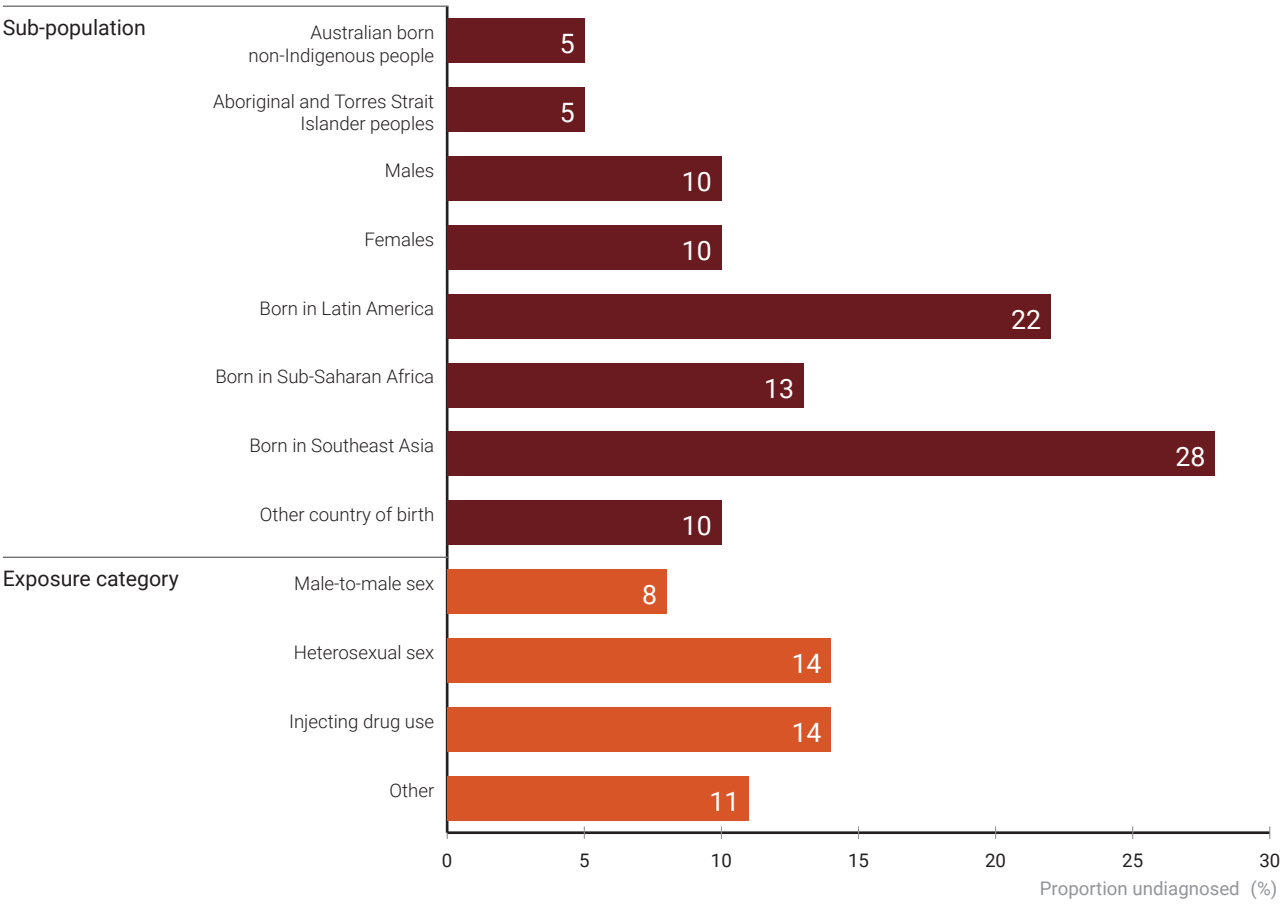
	People living with HIV (range)	Number diagnosed (range)	Number undiagnosed (range)	Proportion undiagnosed	HIV prevalence (range)	Population size[2] (>15 years of age)
Demographics						
Total[1]	29 090 (25 150 to 33 240)	26 480 (23 070 to 29 960)	2 610 (2 080 to 3 280)	9%	0.14% (0.12% to 0.16%)	20 916 179
Exposure risk category						
Men who have sex with men	21 550 (18 230 to 25 170)	19 850 (16 970 to 22 820)	1 700 (1 260 to 2 350)	8%		
Heterosexuals	6 810 (5 730 to 7 930)	5 880 (5 100 to 6 720)	930 (630 to 1 210)	14%		
People who inject drugs	650 (460 to 1 010)	560 (440 to 750)	90 (20 to 260)	14%		
Other	180 (140 to 280)	160 (130 to 250)	20 (10 to 30)	11%		
Sub-population						
Males	25 520 (21 910 to 29 490)	23 090 (19 990 to 26 270)	2 430 (1 920 to 3 220)	10%	0.25% (0.21% to 0.29%)	10 280 959
Females	3 620 (3 180 to 4 060)	3 260 (2 930 to 3 580)	360 (250 to 480)	10%	0.03% (0.03% to 0.04%)	10 635 220
Australian born non-Indigenous	16 690 (14 400 to 19 030)	15 840 (13 790 to 17 840)	850 (610 to 1 190)	5%	0.13% (0.11% to 0.15%)	13 094 435
Aboriginal and Torres Strait Islander peoples	570 (490 to 640)	540 (480 to 590)	30 (10 to 50)	5%	0.10% (0.09% to 0.11%)	578 695
Born in Latin America	880 (710 to 1 080)	690 (620 to 780)	190 (90 to 300)	22%	0.42% (0.34% to 0.52%)	208 160
Born in Sub-Saharan Africa	1 760 (1 450 to 2 140)	1 530 (1 310 to 1 770)	230 (140 to 370)	13%	0.46% (0.38% to 0.56%)	383 900
Born in Southeast Asia	3 100 (2 530 to 3 740)	2 240 (1 940 to 2 570)	860 (590 to 1 170)	28%	0.30% (0.24% to 0.36%)	1 038 240
Other country of birth	6 980 (5 350 to 9 140)	6 310 (4 930 to 8 150)	670 (420 to 990)	11%	0.12% (0.10% to 0.16%)	5 612 920

1 Sum of subpopulations will not add to the total estimated people living with HIV due to different death rate assumptions for Aboriginal and Torres Strait Islander people.

2 Population estimates not available for men who have sex with men, heterosexuals or people who inject drugs

Source: See Methodology for details of mathematical modelling used to generate estimates.

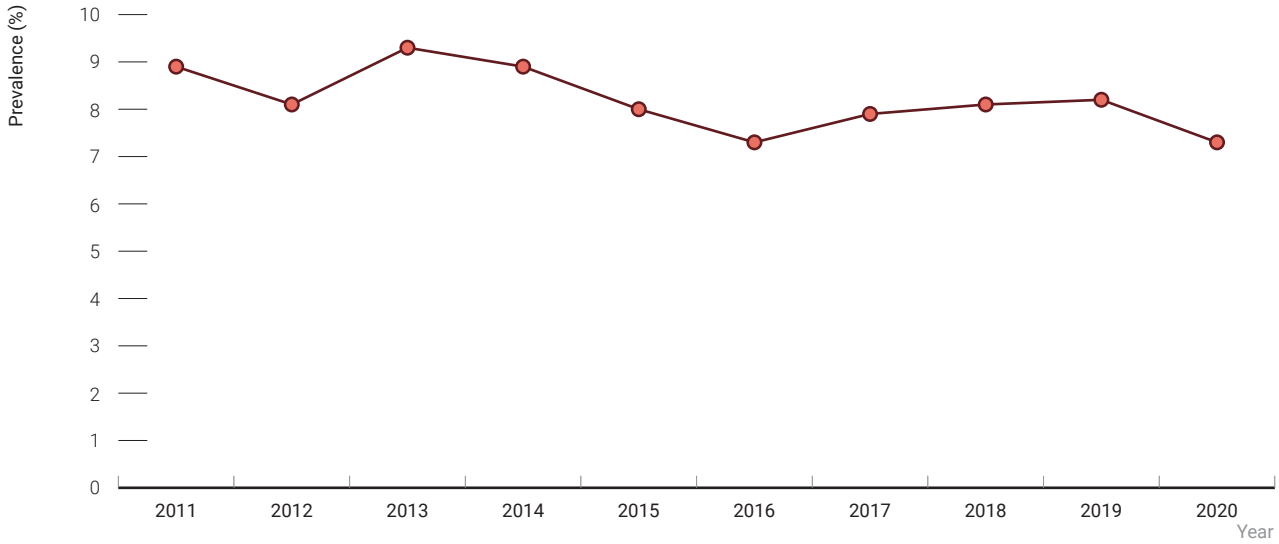
Figure 27 Estimated proportion of people living with HIV who are undiagnosed, 2020, by demographic group and exposure



Source: See Methodology for details of mathematical modelling used to generate estimates.

According to the Gay Community Periodic Surveys, between 2011 and 2020, the unadjusted prevalence of HIV among men in the surveys fluctuated between 7.3% and 9.3% (Figure 28). These data reflect community-attached gay and bisexual men and are based on self-reported HIV status and therefore need to be interpreted with caution.

Figure 28 Self-reported HIV prevalence among men participating in the Gay Community Periodic Surveys, 2011–2020

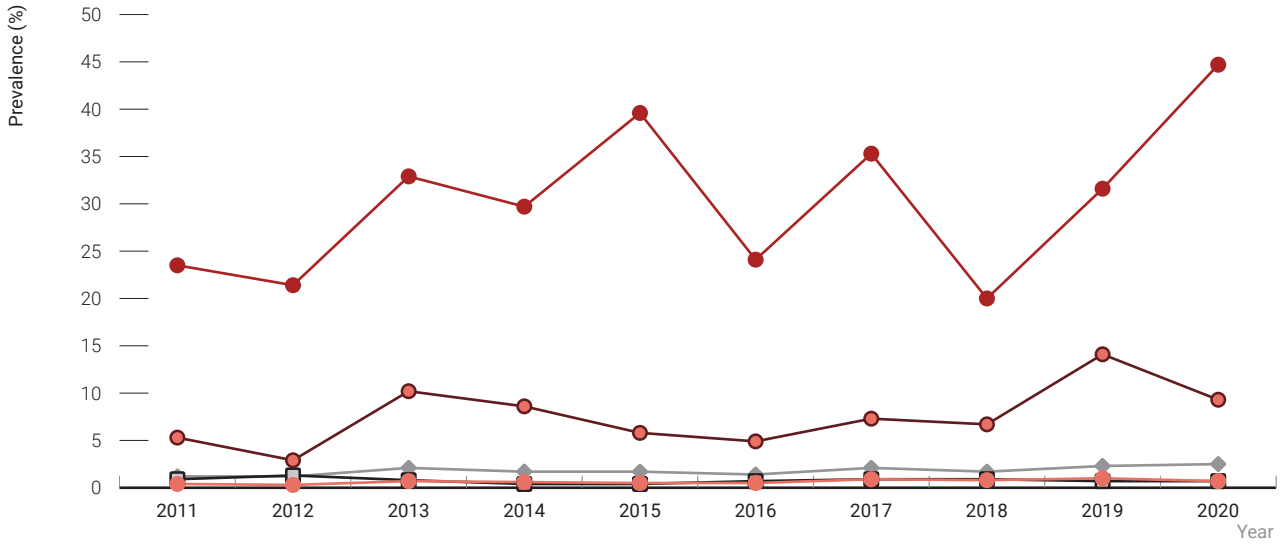


Prevalence (%)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	8.9	8.1	9.3	8.9	8.0	7.3	7.9	8.1	8.2	7.3

Source: Gay Community Periodic Surveys; see Methodology for detail.

HIV prevalence is low among people who inject drugs, ranging between 1.2% and 2.5% among people attending needle and syringe programs in the past 10 years and was 2.5% in 2020 (0.9% if gay and bisexual men are excluded from the sample) (Figure 29)

Figure 29 HIV prevalence among people who attend needle and syringe programs by gender and sexual identity, 2011–2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male homosexual (%)	23.5	21.4	32.9	29.7	39.6	24.1	35.3	20.0	31.6	44.7
Male bisexual (%)	5.3	2.9	10.2	8.6	5.8	4.9	7.3	6.7	14.1	9.3
Male heterosexual (%)	0.4	0.3	0.7	0.6	0.5	0.5	0.9	0.8	1.0	0.7
Females (%)	0.9	1.3	0.8	0.4	0.4	0.7	0.9	0.9	0.7	0.7
Total (%)	1.2	1.2	2.1	1.7	1.7	1.4	2.1	1.7	2.3	2.5

Source: Australian Needle Syringe Program Survey, see Methodology for detail.

7 The HIV diagnosis and care cascade

This report includes the 'HIV diagnosis and care cascade', which estimates the number of people living with HIV in Australia, the number and proportion who are diagnosed, receiving antiretroviral treatment, retained in care (having had a viral load or CD4+ cell count in the past year) and have a suppressed viral load (<200 HIV-1 RNA copies/mL). These estimates are used to support the improvement of the delivery of services to people with HIV across the entire continuum of care. Using available data and accounting for uncertainties, the number of people in each stage of the cascade in Australia was estimated (Table 6, Figure 30). Methods and the associated uncertainties are described in detail in the Methodology. The approach and presentation have been refined from previous years based on recommendations from a national stakeholder reference group (see Acknowledgments section), and therefore estimates reported this year cannot be directly compared with estimates reported in previous years.

UNAIDS has set targets for HIV diagnosis and treatment by the year 2020: 90% of all people living with HIV to be diagnosed, 90% of all people with diagnosed HIV to be on antiretroviral therapy, and 90% of all people receiving antiretroviral therapy to have suppressed viral load. This corresponds to 73% of all people living with HIV having suppressed viral load. Australia met these targets in 2020. UNAIDS also has set targets of 95% for each of the steps by 2030.

At the end of 2020, there were an estimated 29 090 people living with HIV in Australia. Of these an estimated 91% (26 480) had been diagnosed, increasing from 88% in 2016 (23 270), meaning that Australia has met the UNAIDS 2020 target. Of those diagnosed, an estimated 96% (25 490) were retained in care, unchanged from 96% (22 230) in 2016. Also, of those diagnosed 91% (24 220) were receiving antiretroviral therapy, unchanged from 91% (21 150) in 2016 and 97% (23 410) of those on antiretroviral therapy had a suppressed viral load increasing from 95% (20 050) since 2016. (Table 6, Figure 30). This also corresponds to 80% of all people living with HIV having a suppressed viral load in 2020, exceeding the 2020 UNAIDS target of 73%, but not yet meeting the 2030 UNAIDS target of 86%.

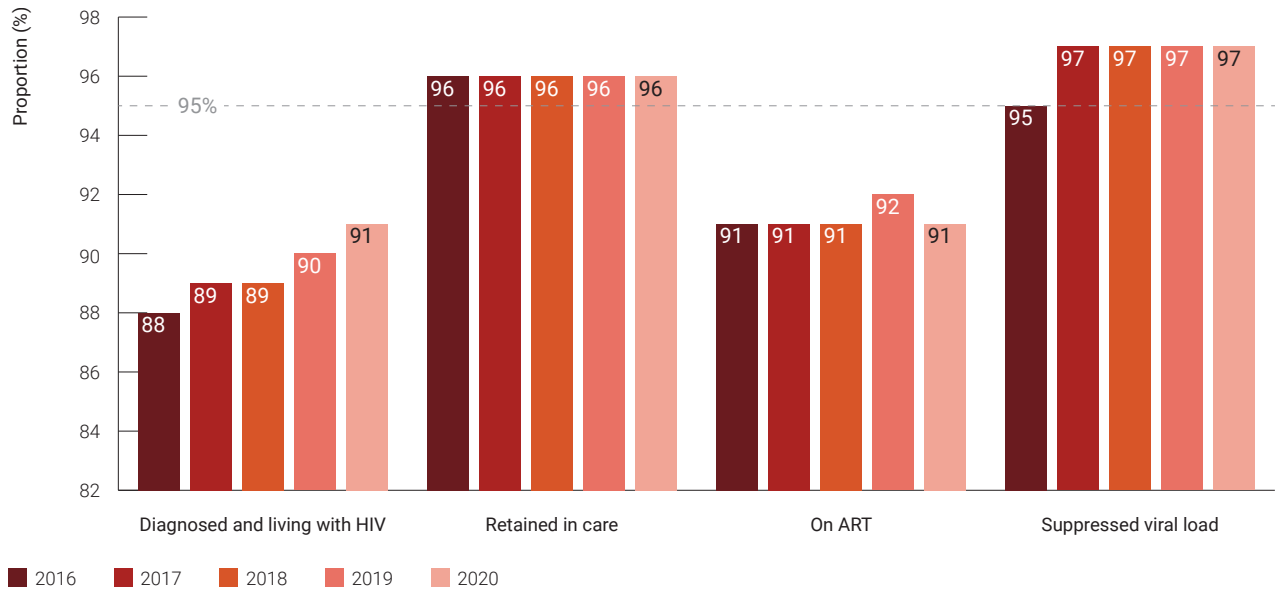
The cascade also shows the gaps at the end of 2020. An estimated 5680 (20%) of all people living with HIV did not have a suppressed viral load at the end of 2020. Of these, an estimated 46% were undiagnosed, 17% were diagnosed but not in care, 22% were in care but not on antiretroviral therapy, and 14% were on antiretroviral therapy but had not achieved suppressed viral load (Figure 31). More detailed cascade estimates, including by gender can be found on the Kirby Institute data site.

Table 6 The HIV diagnosis and care cascade estimates, 2016–2020

Year	Living with HIV (range)	Living with HIV and diagnosed (range)	Retained in care (range)	Receiving antiretroviral therapy (range)	Suppressed viral load (range)
2016	26 490 (23 380 to 29 800)	23 270 (20 620 to 25 950)	22 230 (18 990 to 25 660)	21 150 (20 980 to 21 200)	20 050 (19 680 to 20 310)
2017	27 320 (24 010 to 30 810)	24 210 (21 380 to 27 080)	23 170 (19 730 to 26 790)	22 030 (21 880 to 22 080)	21 290 (20 980 to 21 520)
2018	27 920 (24 400 to 31 610)	24 960 (21 930 to 28 030)	23 930 (20 300 to 27 730)	22 780 (22 620 to 22 840)	22 120 (21 790 to 22 350)
2019	28 680 (24 970 to 32 590)	25 880 (22 670 to 29 140)	24 860 (21 030 to 28 840)	23 720 (23 560 to 23 770)	22 980 (22 630 to 23 220)
2020	29 090 (25 150 to 33 240)	26 480 (23 070 to 29 960)	25 490 (21 460 to 29 660)	24 220 (24 010 to 24 270)	23 410 (22 990 to 23 700)

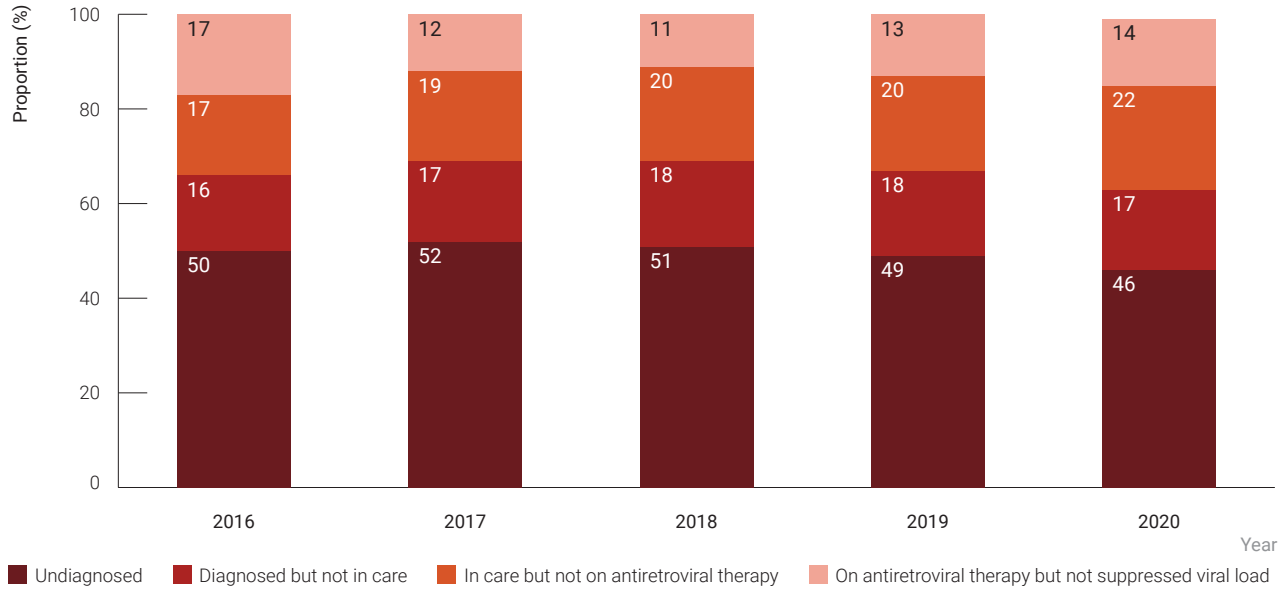
Source: See Methodology for details of mathematical modelling used to generate estimates.

Figure 30 HIV diagnosis and care cascade, 2016–2020



Source: See Methodology for details of mathematical modelling used to generate estimates.

Figure 31 People living with HIV who have not achieved suppressed viral load by cascade stage, 2016–2020



Source: See Methodology for details of mathematical modelling used to generate estimates.

8 HIV treatment

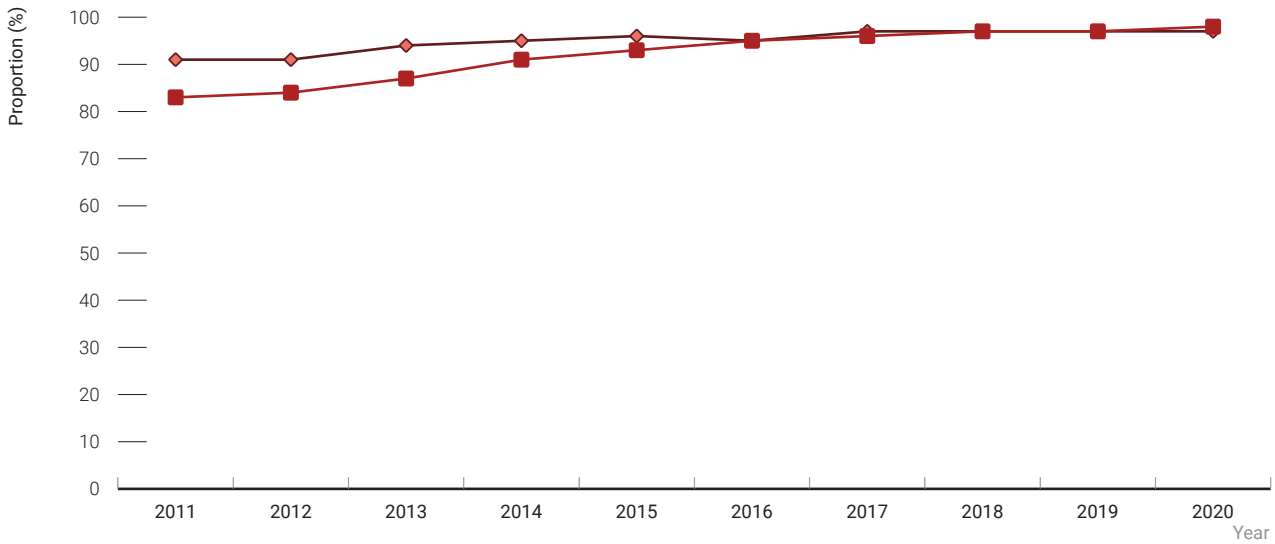
There has been a large increase over the past 10 years in the number of people living with HIV, the proportion taking effective treatments and the proportion achieving suppressed viral load. HIV treatments do not cure the infection but prevent it from causing illness. HIV treatment that maintains an undetecTable viral load also reduces the risk of onward transmission through sexual contact to zero and is referred to as 'treatment as prevention' (TasP) [6].

The estimated treatment coverage among people diagnosed with HIV in Australia is presented in the diagnosis and care cascades: 91% of people with diagnosed HIV were receiving antiretroviral therapy overall in 2020 (92% of males and 93% of females) (refer to Figure 30).

Suppressed viral load

HIV viral load represents the amount of HIV in a person's blood, with higher levels increasing the chances of HIV transmission during risk exposures. Studies have shown that regularly taking combination antiretroviral treatment sustains a suppressed viral load and reduces the likelihood of HIV transmission to zero[7]. As treatment coverage has increased in Australia, there has been a corresponding increase in the proportion of people with suppressed viral load (<200 copies/mL). This increase has been observed consistently in two difference data sources: from 91% in 2011 to 97% in 2020 in the Australian HIV Observational Database and from 83% in 2011 to 98% in 2020 at 44 sexual health clinics across Australia participating in the ACCESS network (Figure 32). All priority populations accessing sexual health clinics had high proportions with a suppressed viral load (>97%) in 2020; however, the number accessing care through the ACCESS network declined in 2020, likely related to the impacts of the ongoing COVID-19 pandemic (data not shown). See Methodology for further detail.

Figure 32 Proportion of patients with suppressed viral load from patients in the Australian HIV Observational Database, people attending sexual health clinics and high case load GP clinics in ACCESS, 2011–2020



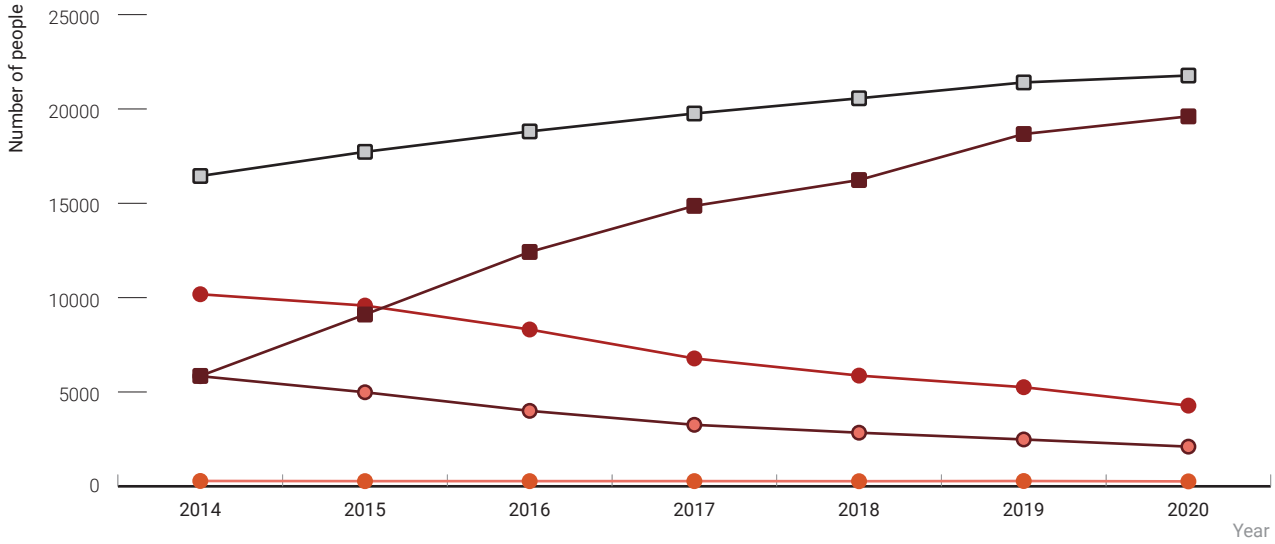
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
AHOD (%)	91	91	94	95	96	95	97	97	97	97
ACCESS (%)	83	84	87	91	93	95	96	97	97	98

Note: Suppressed viral load equals 200 copies/mL or less.

Source: Australian HIV Observational Database, ACCESS (Australian Collaboration for Coordinated Enhanced Sentinel Surveillance); see Methodology for detail.

Antiretroviral treatment guidelines are updated annually in Australia as over time, new drugs and formulations become available. This results in changes to recommended drug combinations. Antiretroviral drugs have differing potency and side-effect profiles, and it is important to monitor their use. Between 2014 and 2020, the number of people receiving integrase inhibitors increased more than three-fold from 5 850 to 18 916. Conversely the number of people receiving non-nucleoside reverse transcriptase inhibitors decreased by nearly two-thirds from 10 180 in 2014 to 3 697 2020. In the same period, the number of people receiving any PBS subsidised antiretroviral therapy increased from 17 763 to 22 048 (Figure 33).

Figure 33 Number of people dispensed ART by drug class, 2014–2020



	2014	2015	2016	2017	2018	2019	2020
Any NRTI	16 447	17 727	18 809	19 759	20 565	21 406	21 771
Any NNRTI	10 180	9 579	8 311	6 777	5 868	5 253	4 277
Any Protease Inhibitor	5 839	4 985	3 999	3 259	2 841	2 483	2 103
Any Integrase Inhibitor	5 850	9 105	12 421	14 864	16 233	18 672	19 607
Any other ART (enfuvirtide or maraviroc)	283	274	274	275	270	280	261

Note: Excludes temporary residents who are ineligible for Medicare.

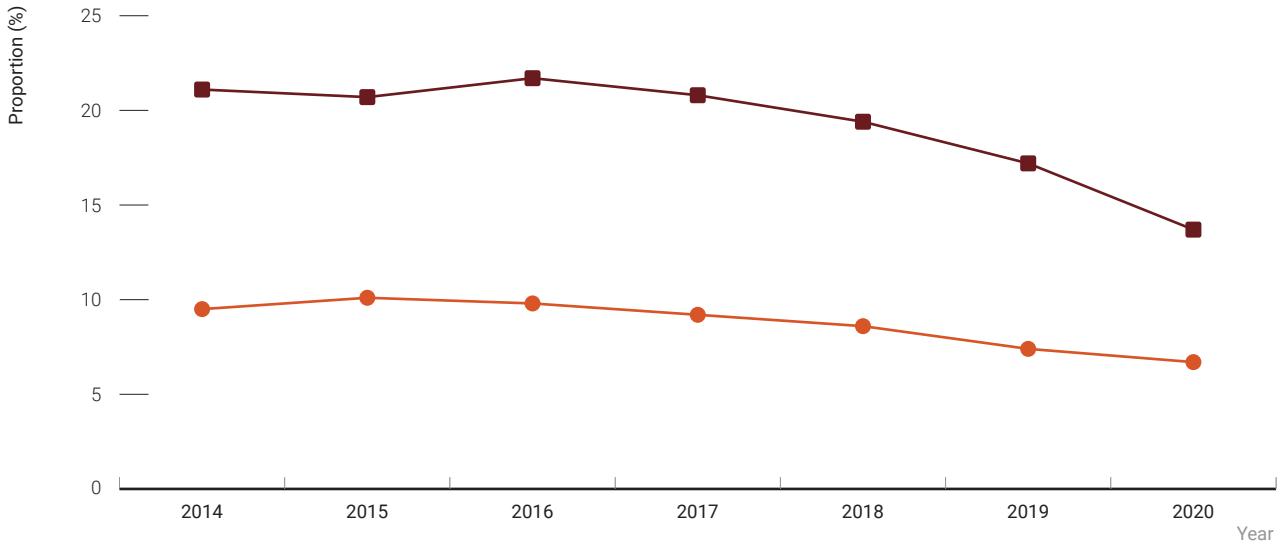
Source: Pharmaceutical Benefits Scheme

9 HIV prevention

Primary prevention strategies aim to protect people from acquiring HIV. They include: condom use; harm reduction strategies such as needle and syringe programs, opioid substitution therapy and peer interventions to reduce injecting risk behaviour[8,9]; and biomedical prevention strategies such as post-exposure prophylaxis (PEP) and PrEP. Testing and treatment are secondary prevention strategies, as they prevent transmission to others due to behavioural changes after diagnosis or starting treatment and achieving undetectable (suppressed) viral load, which reduces the risk of onward transmission to zero.

According to the Gay Community Periodic Surveys, the majority (79.6%) of HIV-negative/unknown-HIV-status gay and bisexual men who had casual partners were regularly using strategies in 2020 (avoiding anal sex, using condoms, or biomedical prevention), to protect themselves against acquiring HIV. Inversely, 21.4% of HIV-negative gay and bisexual men engaging in anal intercourse (insertive or receptive) with casual partners in the past six months, reported not consistently using condoms or biomedical preventions with casual partners of unknown HIV or PrEP status, down from 30.6% in 2014.

Figure 34 HIV risk behaviour in men with casual partners, 2014–2020



	2014	2015	2016	2017	2018	2019	2020
CLAIC (any receptive): HIV negative not on PrEP/HIV status unknown (%)	21.1	20.7	21.7	20.8	19.4	17.2	13.7
CLAIC (insertive only): HIV-negative not on PrEP/HIV status unknown (%)	9.5	10.1	9.8	9.2	8.6	7.4	6.7

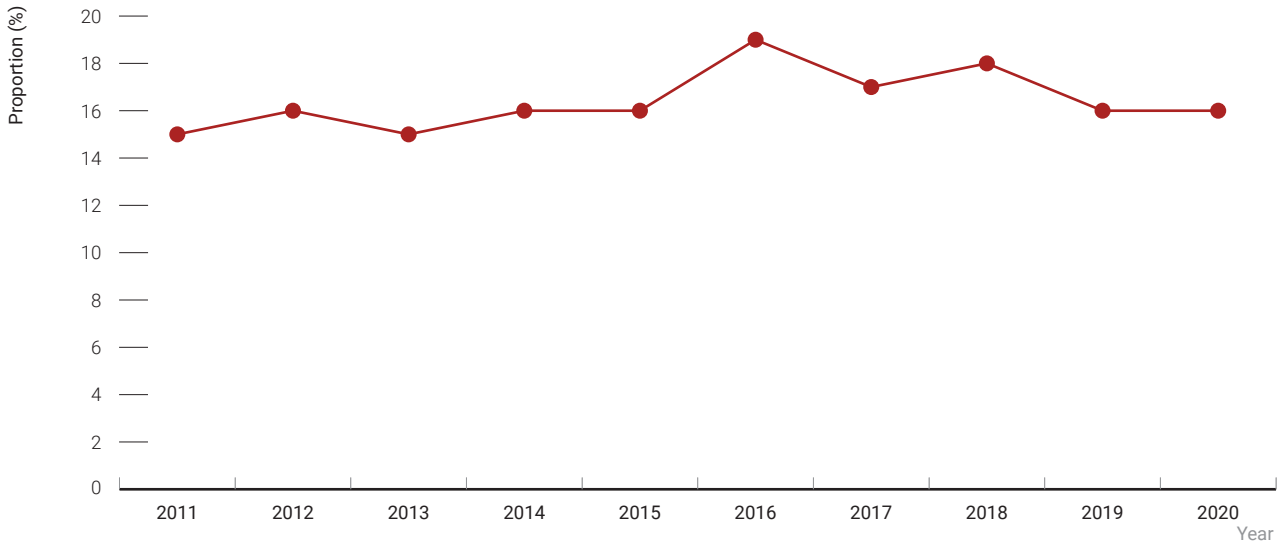
Source: Gay Community Periodic Surveys; see Methodology for detail.

A greater proportion of men in the past five years reported using biomedical prevention strategies, including treatment as prevention (TasP) and pre-exposure prophylaxis (PrEP) (see section on pre-exposure prophylaxis below).

Use of sterile needles and syringes

The reuse of needles and syringes that have been used by others (receptive syringe sharing) is the major risk factor for the transmission of HIV, hepatitis B, and hepatitis C among people who inject drugs. Harm reduction strategies such as needle and syringe programs, opioid substitution therapy and peer interventions can reduce injecting risk behaviour[8,9]. Opioid substitution has been shown to reduce the incidence of HIV and hepatitis C among people who inject drugs[10–12]. Health promotion is important to enhance the effectiveness of these harm reduction strategies and to support people to inject more safely. Each year over the past 10 years, between 15% and 19% of people who inject drugs attending needle and syringe programs reported receptive syringe sharing in the last month, with similar rates among men and women (Figure 35).

Figure 35 Figure 35 Proportion of people seen at needle and syringe programs reporting receptive syringe sharing in the past month, 2011–2020



Proportion (%)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	15	16	15	16	16	19	17	18	16	16

Source: Australian Needle Syringe Program Survey; see Methodology for detail.

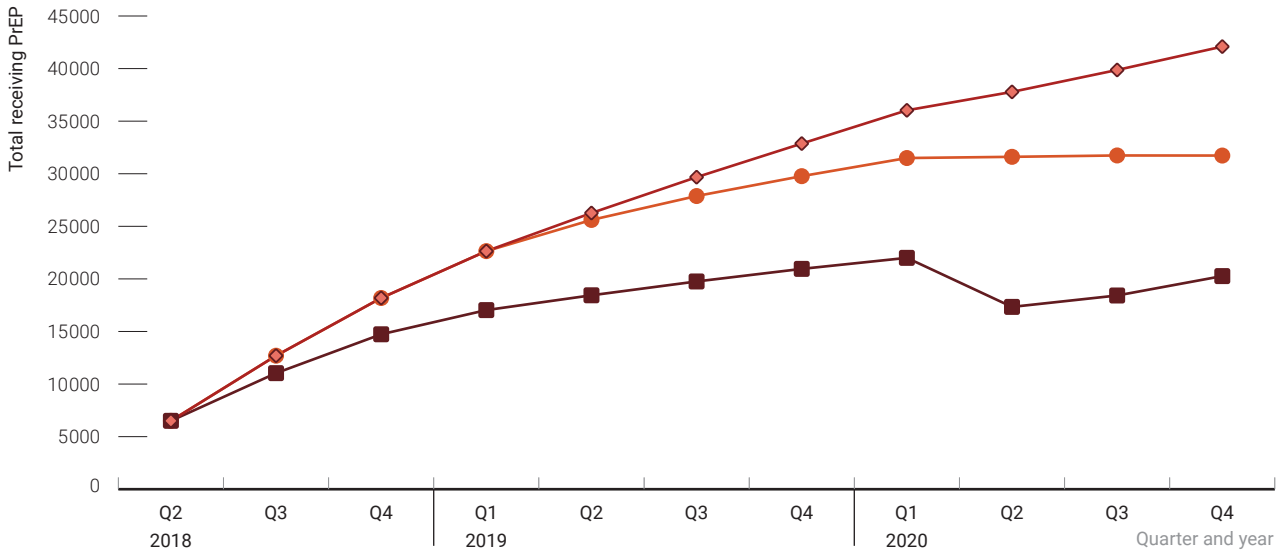
Blood screening

Since 1985, all blood donors have been screened for HIV to prevent onward transmission to recipients of blood products. There has been no known case of HIV acquisition through blood transfusion in Australia since the late 1990s. For further information, see Transfusion-transmissible infections in Australia: 2021 Surveillance Report, prepared by the Kirby Institute, UNSW Sydney and Australian Red Cross Lifeblood[13].

Pre-exposure prophylaxis (PrEP)

PrEP is the use of antiretroviral treatment by HIV-negative people to reduce their risk of acquiring HIV. PrEP is highly effective in people who use it according to guidelines. PrEP became available to eligible individuals through the Australian Pharmaceutical Benefits Scheme (PBS) on 1 April 2018. Between the start of April 2018 to the end of December 2020, 42 090 people have taken PrEP. In the same period, the number of people who had taken PrEP in the previous three months has increased from 6 503 to 20 267. Also, the number of people who have taken PrEP in the previous 12 months has increased from 6 503 to 31 729 (Figure 36).

Figure 36 Number of people taking PrEP by recency and quarter, 2018–2020

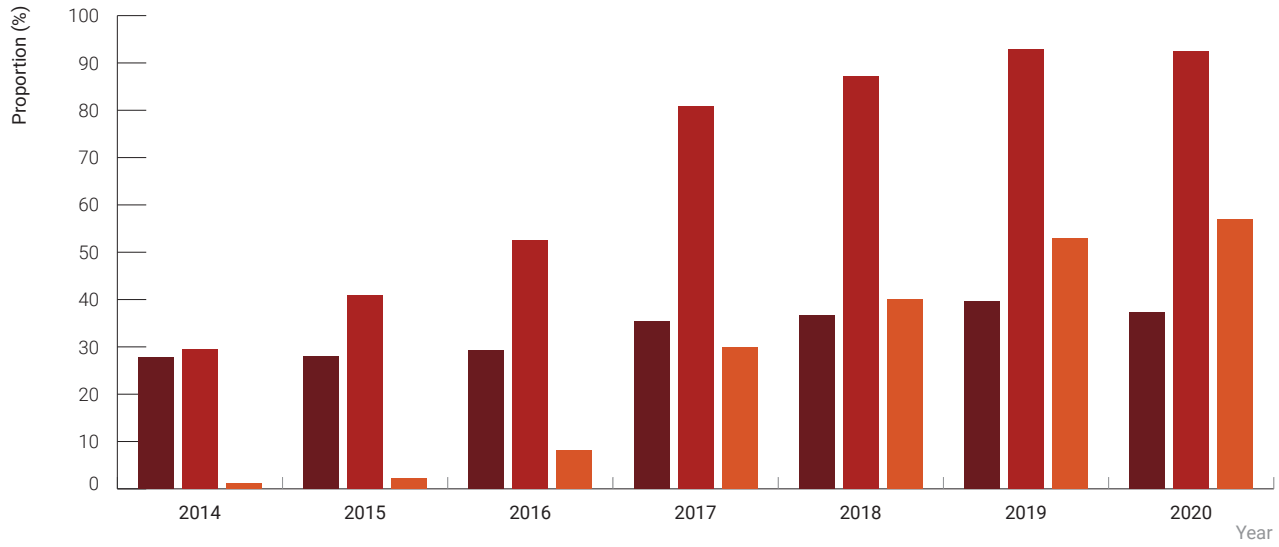


	Q2 2018	Q3	Q4	Q1 2019	Q2	Q3	Q4	Q1 2020	Q2	Q3	Q4
Ever	6 503	12 696	18 184	22 641	26 265	29 674	32 869	36 032	37 782	39 868	42 090
Past three months	6 503	11 038	14 733	17 033	18 441	19 756	20 953	22 001	17 338	18 422	20 267
Past 12 months	6 503	12 696	18 184	22 641	25 607	27 880	29 770	31 494	31 608	31 738	31 729

Source: Monitoring HIV pre-exposure prophylaxis (PrEP) uptake in Australia, Kirby Institute

Among participants of the Gay Community Periodic Surveys, over a third (37.4%) were eligible for PrEP in 2020, up from 36.7% in 2018 when subsidised PrEP became available through the PBS in 2014. Of those eligible for PrEP, 92.5% were aware of PrEP, up from 87.1% in 2018, and 57.0% reported using prescribed PrEP in the previous six months, up from 40.1% in 2018. Despite the ongoing COVID-19 pandemic, the proportion of eligible men who reported using prescribed PrEP increased between 2019 and 2020 (from 53.0% to 67.0%) (Figure 37).

Figure 37 PrEP cascade for non-HIV-positive men, 2014–2020



	2014	2015	2016	2017	2018	2019	2020
Eligible for PrEP* (%)	27.8	27.9	29.3	35.4	36.7	39.6	37.4
Proportion eligible who were aware of PrEP** (%)	29.5	40.9	52.6	80.8	87.2	92.9	92.5
Proportion eligible who used prescribed PrEP in the previous 6 months***, **** (%)	1.1	2.2	8.2	29.9	40.1	53.0	57.0

Note:

* The eligibility criteria were operationalised as follows:
- Any receptive condomless anal intercourse (CLAI) with casual male partners in the previous six months
- Any CLAI with a HIV-positive regular male partner who did not have an undetectable viral load in the previous six months
- Tested and diagnosed with any sexually transmissible infection (STI) other than HIV in the previous 12 months
- Any use of crystal methamphetamine in the previous six months

** Awareness of PrEP was assessed with the question, "What do you know about pre-exposure prophylaxis (PrEP)?". Participants who answered "It's available now" were classified as aware of PrEP.

*** PrEP use was assessed with the question, "In the last 6 months, did you take anti-HIV medication regularly to protect yourself from HIV (PrEP)?". Participants who answered "Yes, I was prescribed anti-HIV medication to take every day" were classified as using PrEP. In 2019, updated answers included "Yes, I took it daily / most days" (i.e., regular users) and "Yes, I took it around the time of sex (but not daily)" (i.e., on-demand users).

**** Later guidelines have expanded the eligibility criteria for PrEP

Source: Mao L, Holt M, Newman C, Treloar C. Annual report of trends in behaviour 2021: HIV and STIs in Australia. Sydney: Centre for Social Research in Health, UNSW Sydney; 2021.

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