NSW HIV Strategy 2021 – 2025

Quarter 1 2021

Data Report

The NSW HIV Strategy 2021 – 2025

New ways to prevent, test and treat mean that the virtual elimination of HIV transmission in NSW, once inconceivable, is now a realistic and achievable goal. The HIV Strategy is a plan for the virtual elimination of HIV transmission in NSW for all. The goals of the strategy are to prevent transmission, normalise testing, start and maintain treatment soon after diagnosis and reduce stigma.

Communique

NSW made further progress towards the virtual elimination of HIV transmission in Q1 2021 and reducing the time from HIV diagnosis to treatment. HIV Testing and PrEP use continues to recover from the impact of COVID-19 but public clinics have reduced service capacity due to resources being diverted to the COVID response. New initiatives in 2021 focus on increasing testing and PrEP use in priority populations.

Executive summary

NSW made further progress towards the virtual elimination of HIV transmission, although the ongoing effects of the COVID-19 pandemic are not yet fully understood

- In Q1 2021, 48 NSW residents were newly diagnosed with HIV, a 34% drop compared to the Q1 average for the last five years.
- One quarter of new diagnoses had evidence their infection occurred within the last 12 months, 56% less than the Q1 average for the last five years.
- As overall testing is approaching pre-COVID-19 levels and remains well targeted, the decline in early stage infections suggests HIV transmission is decreasing.

HIV Testing and PrEP use continues to recover in 2021 but public clinics have reduced service capacity due to resources being diverted to the COVID response

- HIV testing in public and general practice in Q1 2021 has recovered to similar levels to this time last year, after a sharp decline in April 2020 during heavier COVID-19 restrictions.
- Testing in public sexual health clinics continues to recover in Q1 2021 compared to reduced testing in Q2 2020. However, testing is still 20-30% lower compared to Q1 2020 partly because clinics are operating at reduced capacity due to resources being diverted to the COVID-19 response.
- PrEP use increased by 5% in Q1 2021 compared to the previous quarter, and is roughly the same as this time last year (Q1 2020). PrEP initiations increased by 20% in Q1 2021 compared to the previous quarter, but is still 10% less than this time last year.

New initiatives focus on increasing testing and PrEP use in priority populations in 2021

- A new website for international students living and studying in NSW was launched on 10 March 2021. The website is a 'one-stop-shop' of sexual and reproductive health information with links to services and health funds.
- 'Take Me' is a PrEP awareness campaign by ACON that ran between January and March 2021 to promote three effective ways of taking PrEP: daily, on-demand, and periodic. Campaign channels include digital, print, out of home and radio. In June 2021, a new PrEP campaign for Chinese MSM will run for 4 weeks.
- The NSW HIV PrEP Prescribing Decision Making Tool is now updated and published for prescribers. On-demand or event-driven PrEP use means taking PrEP pills only around the time of sex according to the prescribed dosing schedule.
- HIV Testing week (1 to 7 June) activities promote testing including DBS home testing through promotional materials for health professionals and people at risk.

The time from HIV diagnosis to treatment initiation continues to improve

- Half of the NSW residents diagnosed with HIV between January to September 2020 have initiated treatment within two weeks of being diagnosed.
- The median number of days from diagnosis to treatment remains 14 days.
- Of those on treatment, 84% had an undetectable viral load by the six-month follow-up.

Key data – Q1, 2021

HIV INFECTIONS	Target group	Jan-Mar 2021	Compared with Jan-Mar 2016-2020 average
All NSW residents	All new diagnoses	48	34% less (av. n = 73)
	MSM	39	32% less (av. n = 57.4)
	Australian-born MSM	19	24% less (av. n = 25)
	Overseas-born MSM	20	38% less (av. n = 32.4)
	HET	7	46% less (av. n = 13)
NSW residents with evidence of early stage infection	All new diagnoses	12	56% less (av. n = 27.4)
	MSM	12	52% less (av. n = 25)
	Australian-born MSM	6	52% less (av. n = 12.4)
	Overseas-born MSM	6	52% less (av. n = 12.6)
	HET	0	100% less (av. n = 2.2)
NSW residents with evidence of late diagnosis	All new diagnoses	20	25% less (av. n = 26.8)
	MSM	16	17% less (av. n = 19.2)
	Australian-born MSM	6	14% less (av. n = 7)
	Overseas-born MSM	10	18% less (av. n = 12.2)
	HET	3	55% less (av. n = 6.6)
PREVENT	**Target group**	**Apr 2018 – March 2021**	
People dispensed PrEP through PBS at least once	People at risk	18,966	
TEST	**Target group**	**Jan-Mar 2021**	**Compared with Jan-Mar 2020**
HIV serology tests performed in NSW	All	152,885	1% less (n = 153,884)
HIV tests performed in NSW public sexual health clinics.	All	9,401	32% less* (n=13,923)
	MSM	5,631	32% less* (n=8,338)
*** Actual testing is higher and the reduction is less severe because WS and CC data is not available in Q1 2021 due to data system issues.**			
HIV DBS tests (Nov 2016 – Mar 2021)		713 (0 HIV positive)	
TREAT	**Target group**	**Jan-Mar 2021**	**Target**
Patients with diagnosed HIV infection in care, who were on treatment	Sexual Health and HIV Clinic attendees	99%	95%
	Select high caseload general practices	95%	95%
New diagnoses who initiated ART within two weeks of diagnosis	Newly diagnosed Jan-Sep 2020 (n=156)	50%	90%
New diagnoses reporting viral suppression at 6-month follow-up	Newly diagnosed Jan-Sep 2020 (n=156)	81%	100%

Annual Targets

HIV INFECTIONS	Target group	Baseline 2008-12	2020	Target	Next update due
90% reduction in the rate of HIV infection preventable in NSW	Australian-born; Overseas-born in Australia > 4 years; Overseas-born in Australia for 4 years or less, and not late HIV diagnosis.	3.8 / 100000	2.2 / 100000	0.38 / 100000	Q4 2021
PREVENT	**Target group**		**2020**	**Target**	
MSM who have sex with male casual partners report at least one form of prevention for safe sex	MSM at risk in the Sydney Gay Community Periodic Survey		79%	90%	Q2, 2021
HIV negative MSM who have sex with male casual partners without a condom, take PrEP	MSM at risk in the Sydney Gay Community Periodic Survey		67%	90%	Q2, 2021

TEST	Target group	2019	Target	Next update due
People living with HIV in NSW are diagnosed (2019)	People at risk	91%	95%	Q2orQ3, 2021
TREAT	**Target group**	**2020**	**Target**	
New diagnoses who initiated ART within two weeks of diagnosis	Newly diagnosed Jan-Sep 2020 (n=156)	50%	90%	Q2 2021
Patients with diagnosed HIV in care, who were on treatment	Sexual Health and HIV Clinic attendees	98.8%	95%	Q1, 2022
	Select high caseload general practices	96.5%	95%	Q1, 2022
NSW residents on treatment have an undetectable viral load	People diagnosed	95% (2019)	95%	Q2orQ3, 2021
	People on treatment	95% (2019)	95%	Q2orQ3, 2021
People living with HIV in NSW report good quality of life	All	TBC	75%	Q2, 2021
STIGMA	**Target group**			**Target**
Experience of stigma by people at risk and living with HIV in NSW healthcare settings	People at risk and living with HIV in HIV Futures			75% (Reduction) Q2, 2021
Discriminatory attitudes held towards people at risk and living with HIV	People at risk and living with HIV in HIV Futures			75% (Reduction) Q2, 2021

Table of Contents

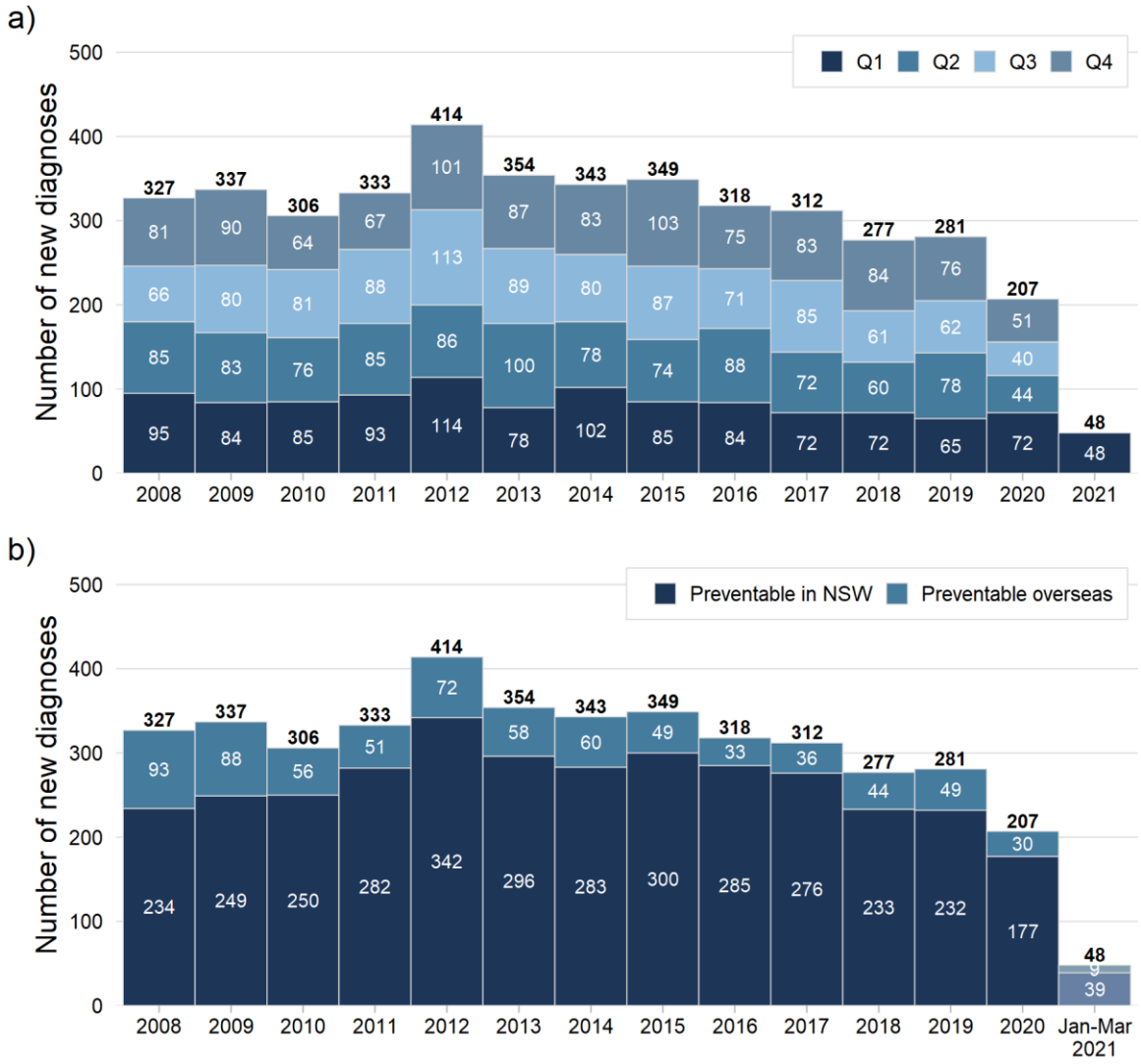
Glossary of Terms

ART	Antiretroviral therapy
CAIC	Condomless anal intercourse with casual partners
CTG	Closing the Gap
GBM	Gay and bisexual men
HIV	Human Immunodeficiency Virus
LHD	Local Health District
MSM	Men who have sex with men
HET	People with heterosexual risk exposure
NSP	Needle and syringe program
NSW	New South Wales
PBS	Pharmaceutical Benefits Scheme
PFSHC	Publicly Funded Sexual Health Clinic
PrEP	Pre-exposure prophylaxis
PWID	People who inject drugs
Quarter 1 / Q1	1 January – 30 March
Quarter 2 / Q2	1 April – 30 June
Quarter 3 / Q3	1 July – 30 September
Quarter 4 / Q4	1 October – 31 December
SVHN	St Vincent's Health Network

1. Reduce HIV transmission

1.1 How many cases are notified?

Figure 1: Number of NSW residents with newly diagnosed HIV infection, January 2008 to March 2021

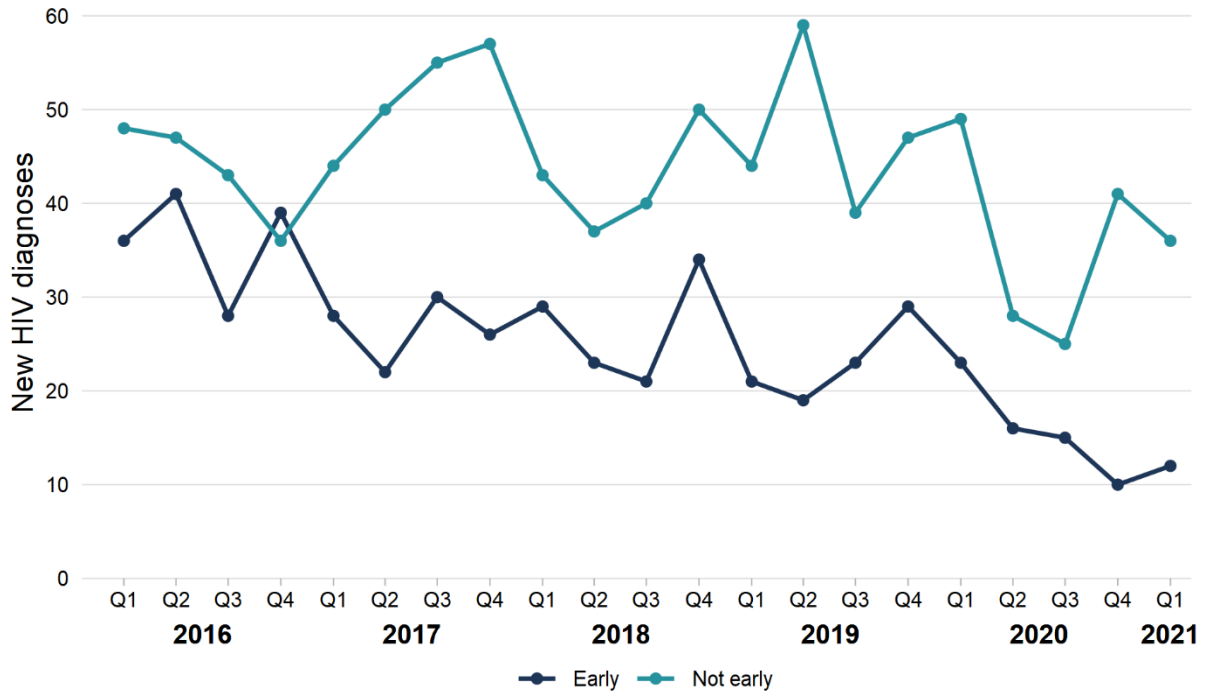


Source: Notifiable Conditions Information Management System, Health Protection NSW, 19 May 2021

In January to March (Q1) 2021:

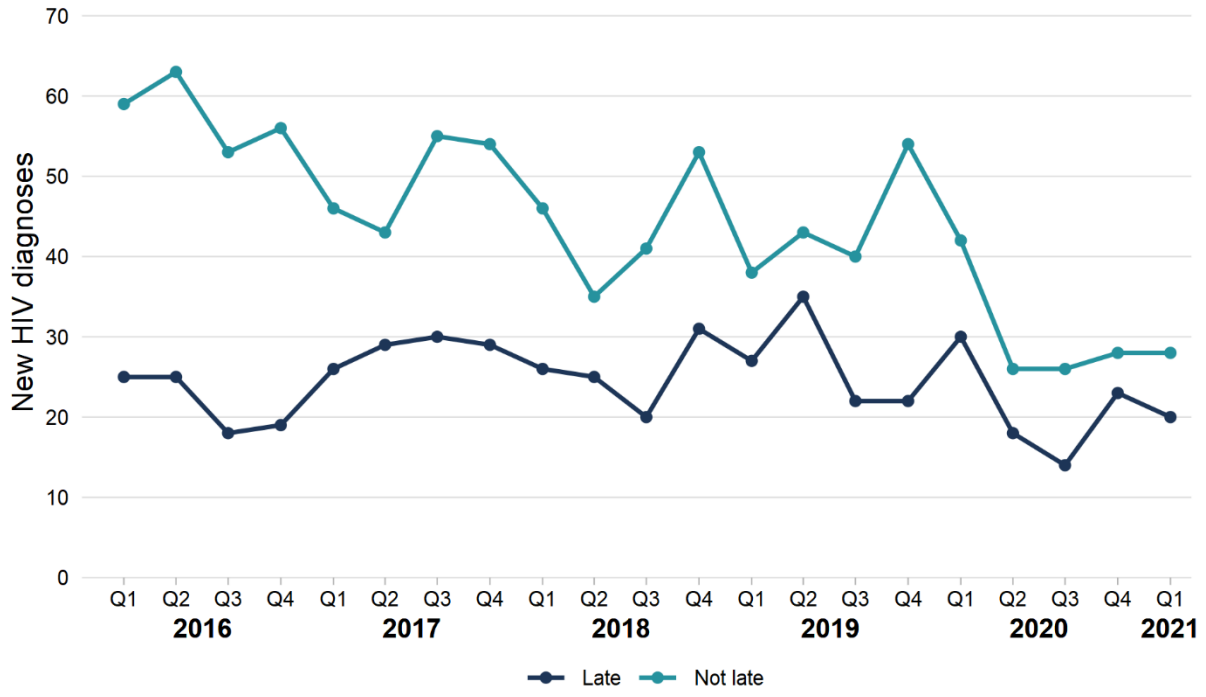
- Forty-eight NSW residents were notified to NSW Health with a newly diagnosed HIV infection, 34% less than the Q1 2016-2020 average of 73.0 (Figure 1a).
- Of 48, 39 (81%) HIV diagnosis were preventable in NSW, 38% less than the comparison period average of 62.4 (Figure 1b).
- Of 48, 12 (25%) had evidence their infection was acquired within one year of diagnosis (early stage infection), 56% less than the Q1 2016-2020 average of 27.4 (Figure 2).
- Of 48, 20 (42%) had evidence of late diagnosis, a decrease of 25% compared with the Q1 2016-2020 average count of 26.8 (Figure 3).

Figure 2: New HIV diagnoses by evidence of early stage infection, January 2016 to March 2021



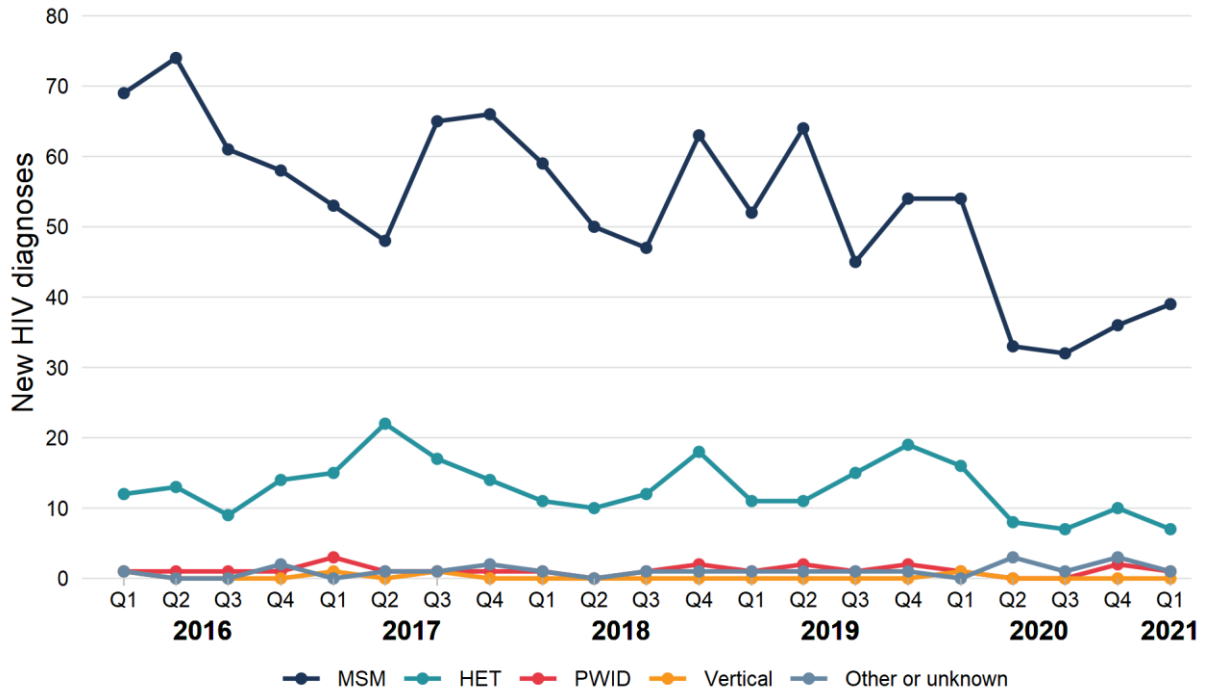
Early stage infection: a sero-conversion like illness or negative or indeterminate HIV test within 12 months of diagnosis, irrespective of CD4 or presentation with an AIDS defining illness at diagnosis

Figure 3: New HIV diagnoses by evidence of late diagnosis, January 2016 to March 2021



Late diagnosis: a CD4 count of less than 350 or an AIDS defining illness at the time or within three months of diagnosis, in the absence of 'early' criteria.

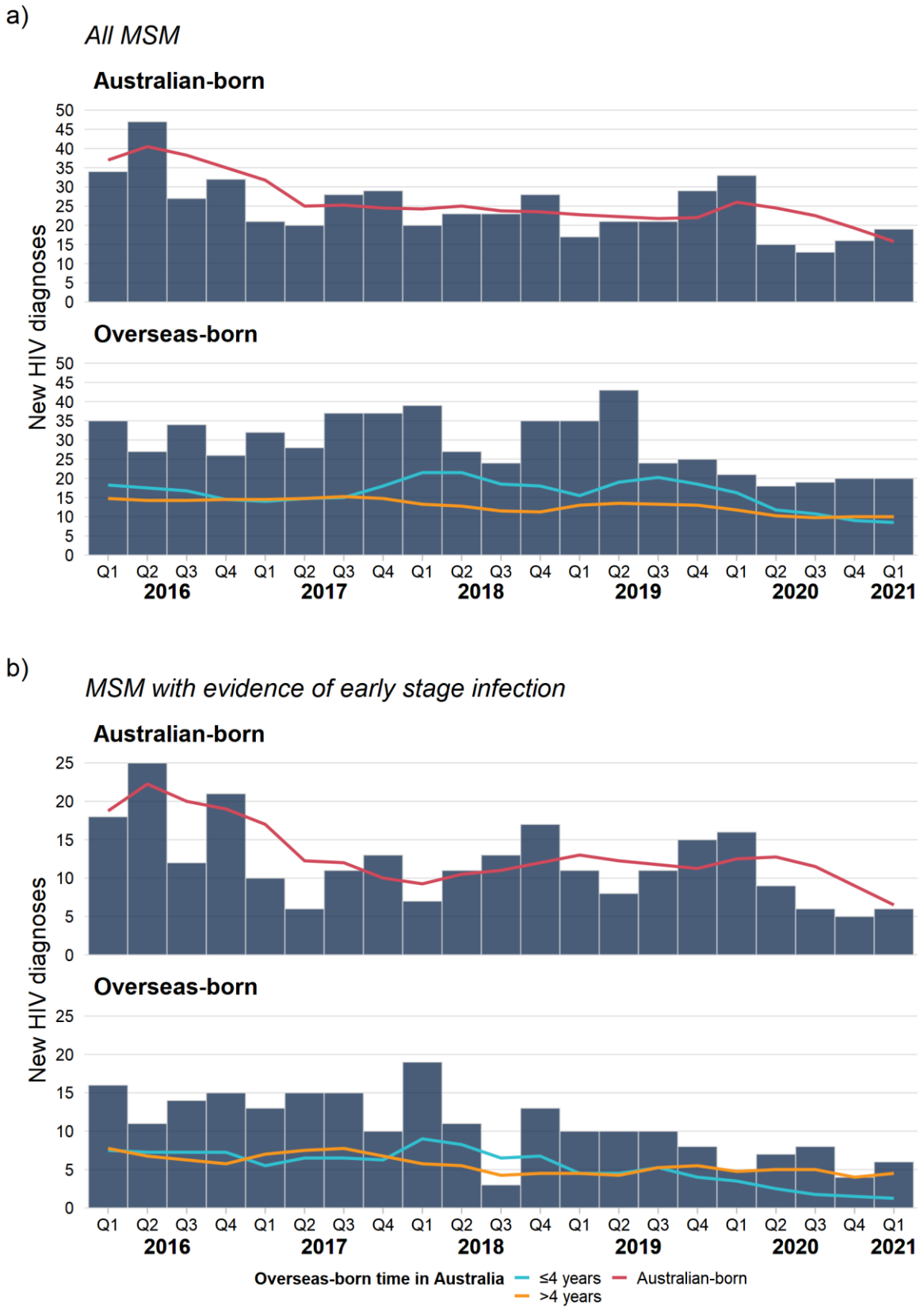
Figure 4: New HIV diagnoses by reported risk exposure, January 2016 to March 2021



In January to March (Q1) 2021:

- Thirty-nine (81%) were men who have sex with men (MSM) and seven (15%) were people with heterosexual exposure only (HET). This is 32% fewer MSM, and 46% fewer HET compared with the new diagnosis averages of Q1 2016-2020 (av. n MSM = 57.4; av. n HET = 13.0).
- Of 7 HET, four were female and three were male. This is 23% fewer females and 62% fewer males when compared to the new diagnosis averages of Q1 2016-2020 (av. n female = 5.2; av. n male = 7.8)

Figure 5: New HIV diagnoses in MSM by place of birth, with overseas-born by years living in Australia, January 2016 to March 2021



Note: Bars represent diagnoses per quarter and lines represent a rolling four quarter average of diagnoses.

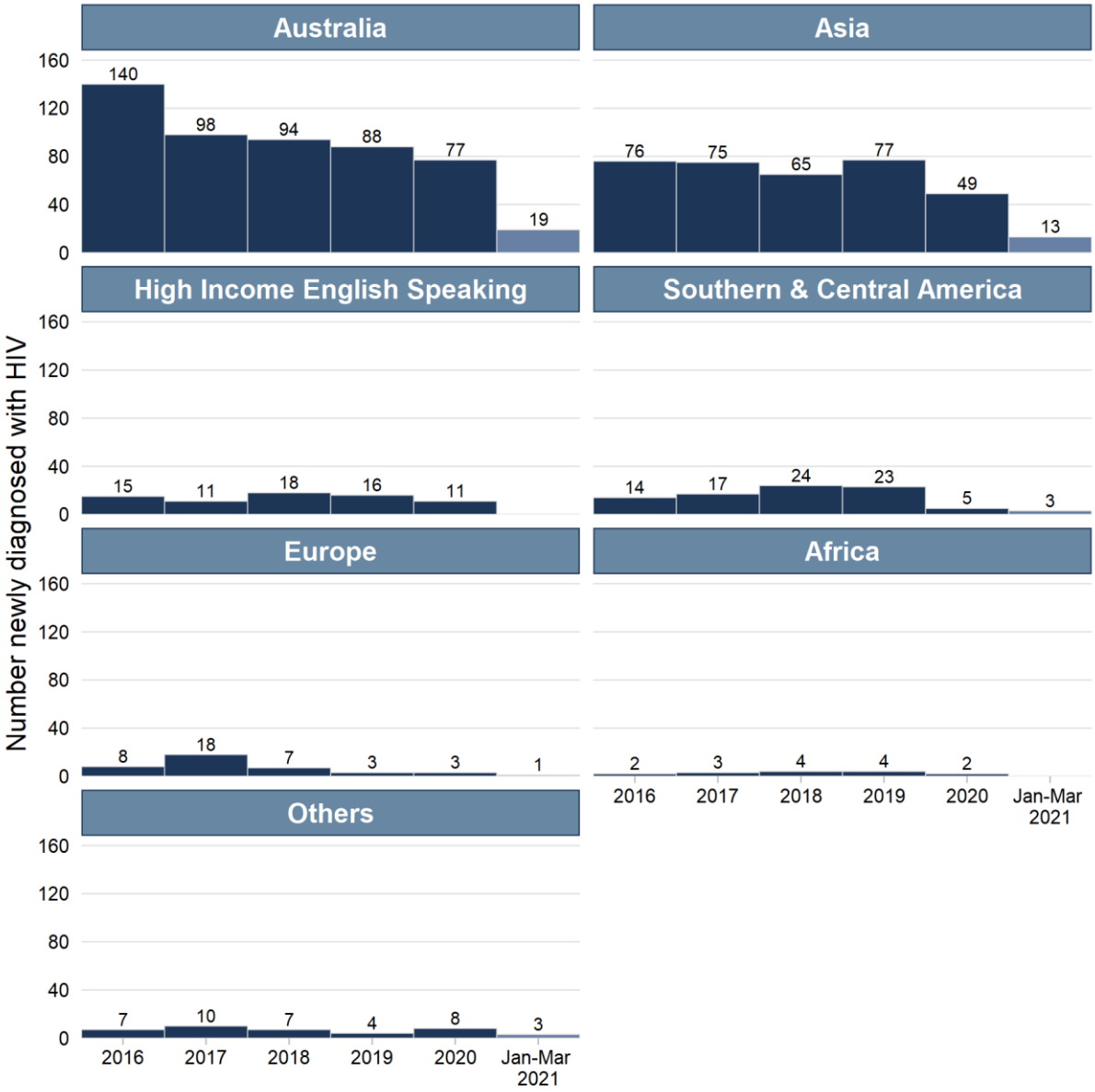
In January to March (Q1) 2021:

- Nineteen of the 39 (49%) newly diagnosed MSM were Australian-born, 24% less than the average for Q1 2016-2020 (av. n=25.0). Six of 19 (32%) Australian-born newly diagnosed MSM had evidence their infection was acquired within one year of diagnosis (early stage infection), 52% less than the Q1 2016-2020 average of 12.4.

- Twenty of the 39 (51%) newly diagnosed MSM were overseas-born, 38% less than the average for Q1 2016-2020 (av. n=32.4). Seven of these MSM had lived in Australia for four years or less at the time of HIV diagnosis, 59% less than the Q1 2016-2020 average of 17.0, 12 had lived in Australia for more than four years, 15% less than the comparison period average of 14.2 and one for an unknown length of time. Six of 20 (30%) overseas-born newly diagnosed MSM had evidence of early stage infection, 52% less than the Q1 2016-2020 average of 12.6.

- One overseas-born trans-woman was included in the broader MSM exposure category due to current limitations in data collection and overall exposure classification. However, work is progressing to update how gender is collected and recorded for new HIV diagnoses. A national review of exposure classification for HIV surveillance is also ongoing.

Figure 6: New HIV diagnoses in MSM by world area of birth, January 2016 to March 2021



High-Income English-Speaking countries include Canada, USA, United Kingdom, Ireland and New Zealand

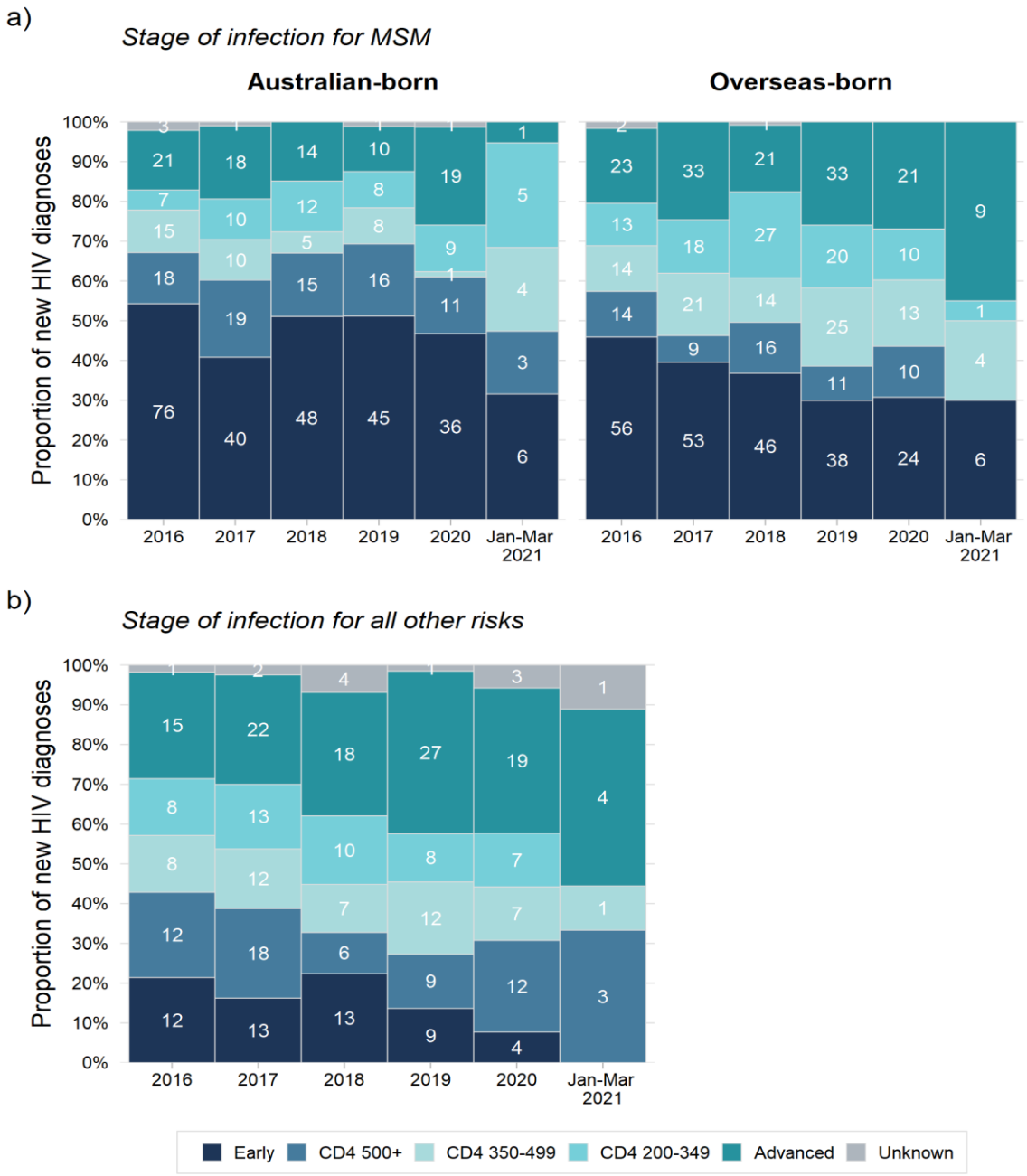
Comments on Figure 6

- Of 39 MSM newly diagnosed in NSW during January to March 2021, 49% were born in Australia, 21% in South-East Asia, 10% in North-East Asia, 8% in Southern & Central America, 5% in North Africa & the Middle East and less than 5% in Oceania, Southern & Central Asia and Southern & Eastern Europe (Figure 6).

1.2 What is the stage of infection at diagnosis?

Early stage infection is evidence of HIV infection acquired within 12 months of diagnosis, such as a sero-conversion illness or negative or indeterminate HIV test within 12 months of diagnosis, irrespective of CD4 or an AIDS defining illness at diagnosis. **Advanced stage** is a CD4 count less than 200 or an AIDS defining illness in absence of 'Early' criteria. Categories of **CD4 500+, 350-499, 200-349** exclude early and advanced stage cases. Cases with a CD4 count less than 350 or are advanced stage are considered to have evidence of **late diagnosis**.

Figure 7: Stage of infection in newly diagnosed NSW residents, January 2016 to March 2021



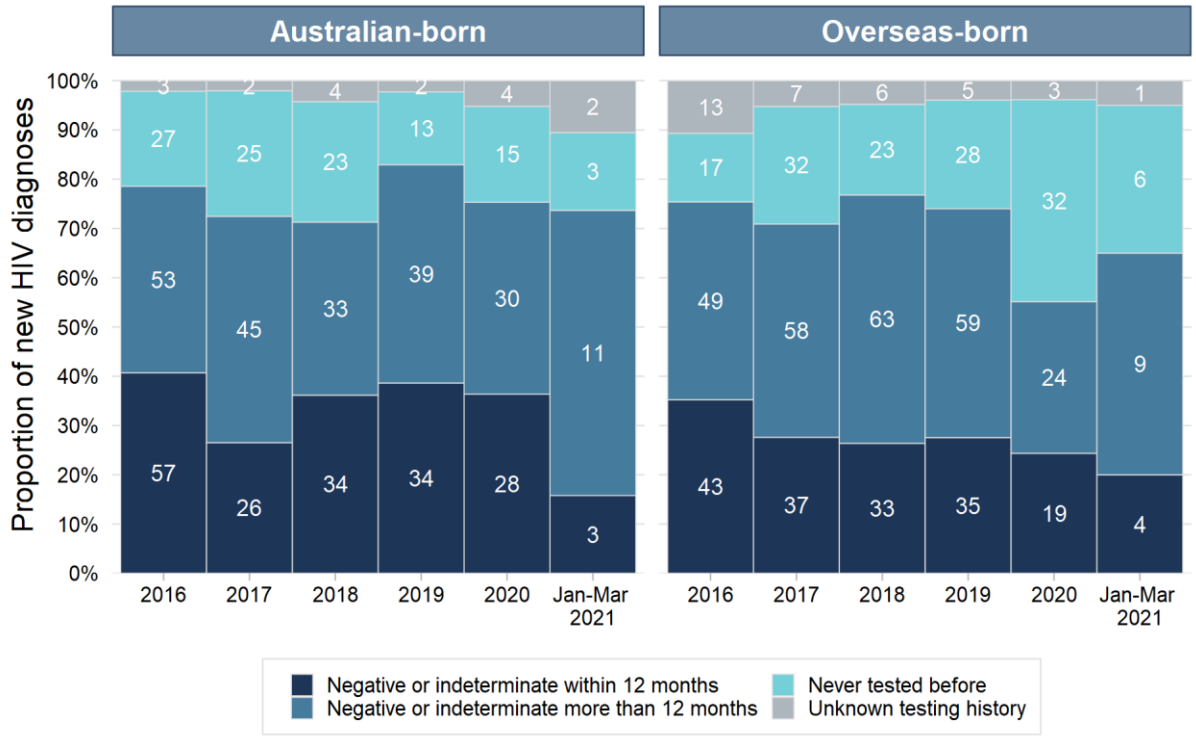
Comment on Figure 7

- Of 19 Australian-born MSM newly diagnosed in January to March 2021, six (32%) had evidence of early stage infection, 52% less than the Q1 2016-2020 average of 12.4. Six (32%) had evidence of late diagnosis, 14% less than the comparison period average (av. n=7.0) (Figure 7a).

- Of 20 overseas-born MSM newly diagnosed in January to March 2021, six (30%) had evidence of early stage infection, 52% less than the comparison period average of 12.6. Ten (50%) had evidence of late diagnosis, 18% less than the comparison period average of 12.2 (Figure 7a).

- The number of new diagnoses in NSW residents who were not MSM was 42% lower in January to March 2021 (n=9) compared to the five-year average for the same period (n=15.6). There were four with evidence of late diagnosis, 47% less than the Q1 2016-2020 average of 7.6 (Figure 7b).

Figure 8: HIV testing history in newly diagnosed MSM, January 2016 to March 2021



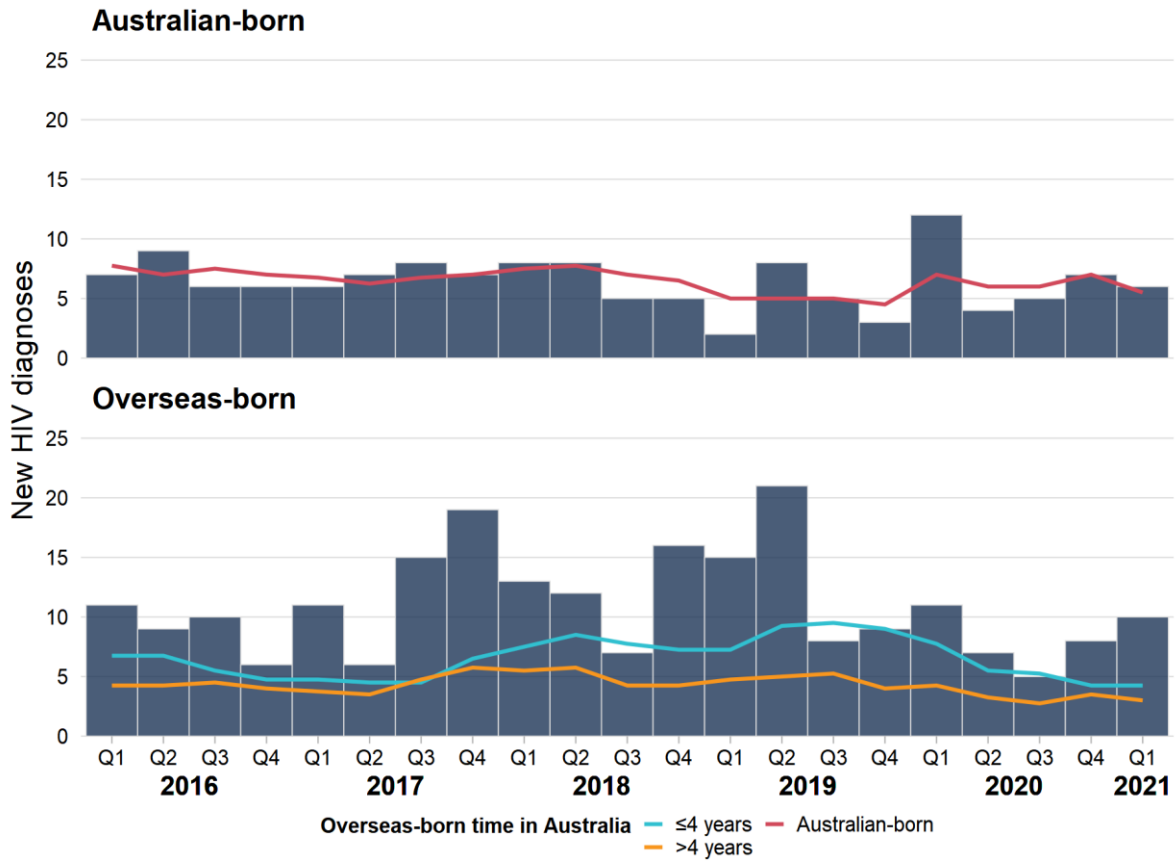
Of 19 Australian-born MSM newly diagnosed during January to March 2021:

- Three (16%) were reported (by a laboratory, a doctor, or the patient) to have had a negative or indeterminate HIV test within 12 months of diagnosis.
- Eleven (58%) were reported to have had a negative or indeterminate HIV test sometime in the past, but not within 12 months of diagnosis.
- Three (16%) reported not ever having had an HIV test prior to diagnosis.
- Almost three quarters had not been testing according to guidelines.
- Six (32%) had evidence of late diagnosis.

Of 20 overseas-born MSM newly diagnosed during January to March 2021:

- Four (20%) were reported (by a laboratory, a doctor, or the patient) to have had a negative or indeterminate HIV test within 12 months of diagnosis.
- Nine (45%) were reported to have had a negative or indeterminate HIV test sometime in the past, but not within 12 months of diagnosis.
- Five (25%) reported not ever having had an HIV test prior to diagnosis.
- Almost three quarters had not been testing according to guidelines.
- Ten (50%) had evidence of late diagnosis.

Figure 9: New HIV diagnoses with evidence of late diagnosis in MSM by place of birth, with overseas-born by years living in Australia, January 2016 to March 2021



Note: Bars represent diagnoses per quarter and lines represent a rolling four quarter average of diagnoses.

In January to March 2021:

- Of 20 NSW residents with evidence of late HIV diagnosis, 16 (80%) were MSM, 17% less than the Q1 2016-2020 average count of 19.2.
- Six (37.5%) of the 16 MSM with evidence of late diagnosis were Australian-born, 14% less than the Q1 2016-2020 average count of 7.0 (Figure 9).
- Ten (62.5%) of the 16 MSM with evidence of late diagnosis were overseas-born, an 18% decrease relative to the Q1 2016-2020 average count of 12.2 (Figure 9). Five of these 10 MSM had lived in Australia for four years or less at the time of their HIV diagnosis, 32% less than the Q1 2016-2020 average of 7.4, while four had lived in Australia for more than four years, 13% less than the comparison period average of 4.6 and one was unknown.

1.3 What are some of the characteristics of people newly diagnosed?

Table 1: Characteristics of Australian-born and overseas-born MSM newly diagnosed in January to March 2021 vs the 2016-2020 average count, and the count difference

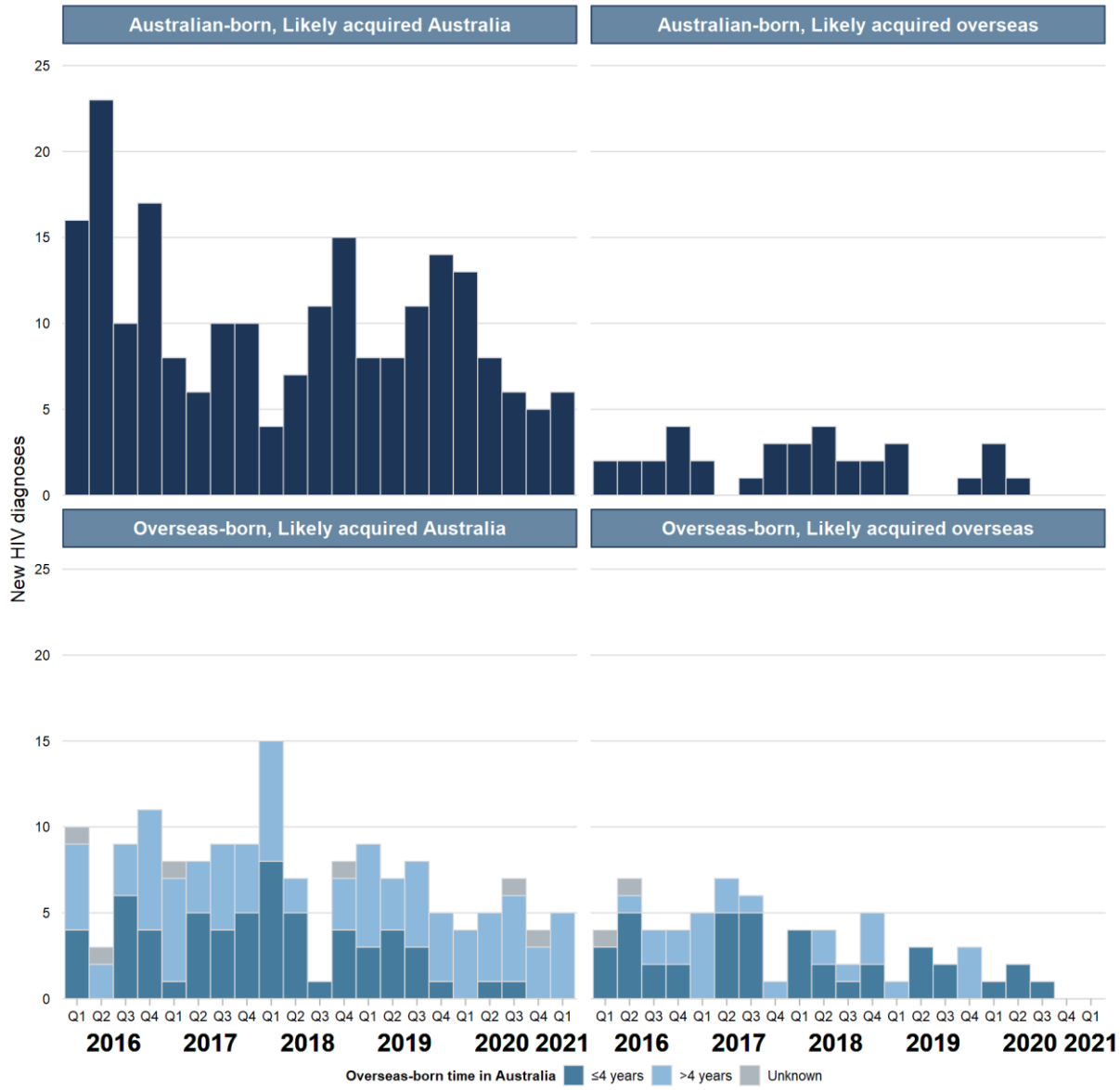
Case characteristics	Australian-born MSM			Overseas-born MSM		
	Jan-Mar 2016-2020 average	2021	Count (%) diff.	Jan-Mar 2016-2020 average	2021	Count (%) diff.
Number	**25**	**19**	**-6 (-24%)**	**32.4**	**20**	**-12.4 (-38%)**
Gender						
Male	25	19	-6 (-24%)	30.8	19	-11.8 (-38%)
Transgender[1]	0	0	0 (0%)	1.6	1	-0.6 (-38%)
Age at diagnosis						
0 to 19	0.2	0	-0.2 (-100%)	0.8	0	-0.8 (-100%)
20 to 29	5.6	4	-1.6 (-29%)	12.6	8	-4.6 (-37%)
30 to 39	7.2	4	-3.2 (-44%)	10.8	10	-0.8 (-7%)
40 to 49	6.2	4	-2.2 (-35%)	5.4	2	-3.4 (-63%)
50 and over	5.8	7	+1.2 (+21%)	2.8	0	-2.8 (-100%)
Evidence of early stage infection[2]						
Yes	12.4	6	-6.4 (-52%)	12.6	6	-6.6 (-52%)
No	12.6	13	+0.4 (+3%)	19.8	14	-5.8 (-29%)
Evidence of late diagnosis[3]						
Yes	7	6	-1 (-14%)	12.2	10	-2.2 (-18%)
No	17.4	13	-4.4 (-25%)	20.2	10	-10.2 (-50%)
Unknown	0.6	0	-0.6 (-100%)	0	0	0 (0%)
Place most likely acquired HIV						
Australia	20.8	17	-3.8 (-18%)	18.2	7	-11.2 (-62%)
Overseas	3.8	1	-2.8 (-74%)	12.8	6	-6.8 (-53%)
Unknown	0.4	1	+0.6 (+150%)	1.4	7	+5.6 (+400%)
Reported HIV risks						
MSM	21.4	17	-4.4 (-21%)	30.2	19	-11.2 (-37%)
MSM and IDU	3.6	2	-1.6 (-44%)	2.2	1	-1.2 (-55%)

[1]This case was a trans-woman whose most likely risk exposure was sex with cisgender men. This was confirmed by case review, as further detail is not yet routinely collected.

[2]Evidence of early stage infection/being infected in the 12 months prior to diagnosis: a sero-conversion illness or negative or indeterminate HIV test within 12 months of diagnosis, irrespective of CD4 or an AIDS defining illness at diagnosis.

[3]Evidence of a late diagnosis: a CD4 count less than 350 or an AIDS defining illness or AIDS death within three months of diagnosis, in the absence of sero-conversion illness and/or a negative or indeterminate HIV test in the 12 months prior to diagnosis.

Figure 10a: New HIV diagnoses with evidence of early stage infection in MSM by place of birth and place of likely HIV acquisition, with overseas-born by years living in Australia, January 2016 to March 2021



Of 19 Australian-born MSM newly diagnosed in January to March 2021:

- Seventeen (89%) likely acquired HIV in Australia, 18% less than the Q1 2016-2020 average of 20.8, and one (5%) likely acquired HIV overseas, 74% less than in the comparison period (av. n=3.8). One was unknown.
- Of the 17 who acquired HIV in Australia, six (35%) had evidence of early stage infection, 39% less than the Q1 2016-2020 average of 9.8 (Figure 10a). Six (35%) had evidence of late diagnosis, similar to the January to March 2016-2020 average of 6.4 (Figure 10b).
- The one who likely acquired HIV overseas did not have evidence of early stage infection (Figure 10a) or late diagnosis (Figure 10b).

Of 20 overseas-born MSM newly diagnosed in January to March 2021:

- Seven (35%) likely acquired HIV in Australia, 62% less than the average for January to March 2016-2020 (av. n=18.2), and seven (35%) likely acquired HIV overseas, 45% less than the comparison period (av. n=12.8). Six were unknown.
- Of seven who acquired HIV in Australia, five (71%) had evidence of early stage infection, 46% less than the January to March 2016-2020 average of 9.2 (Figure 10a). One (14%) had evidence of late diagnosis 79% less than the January to March 2016-2020 average of 4.8 (Figure 10b).
- Of seven who acquired HIV overseas none (0%) had evidence of early stage infection (Figure 10a), compared to the comparison period average of 3.0. Five (71%) had evidence of late diagnosis, 24% less than the January to March 2016-2020 average of 6.6 (Figure 10b).
- For those diagnosed late, the majority who likely acquired HIV in Australia had lived here for more than four years, while most of those who likely acquired HIV overseas had lived here for four years or less (Figure 10b).

Figure 10b: New HIV diagnoses with late diagnosis in MSM by place of birth and place of likely HIV acquisition, with overseas-born by years living in Australia, January 2016 to March 2021

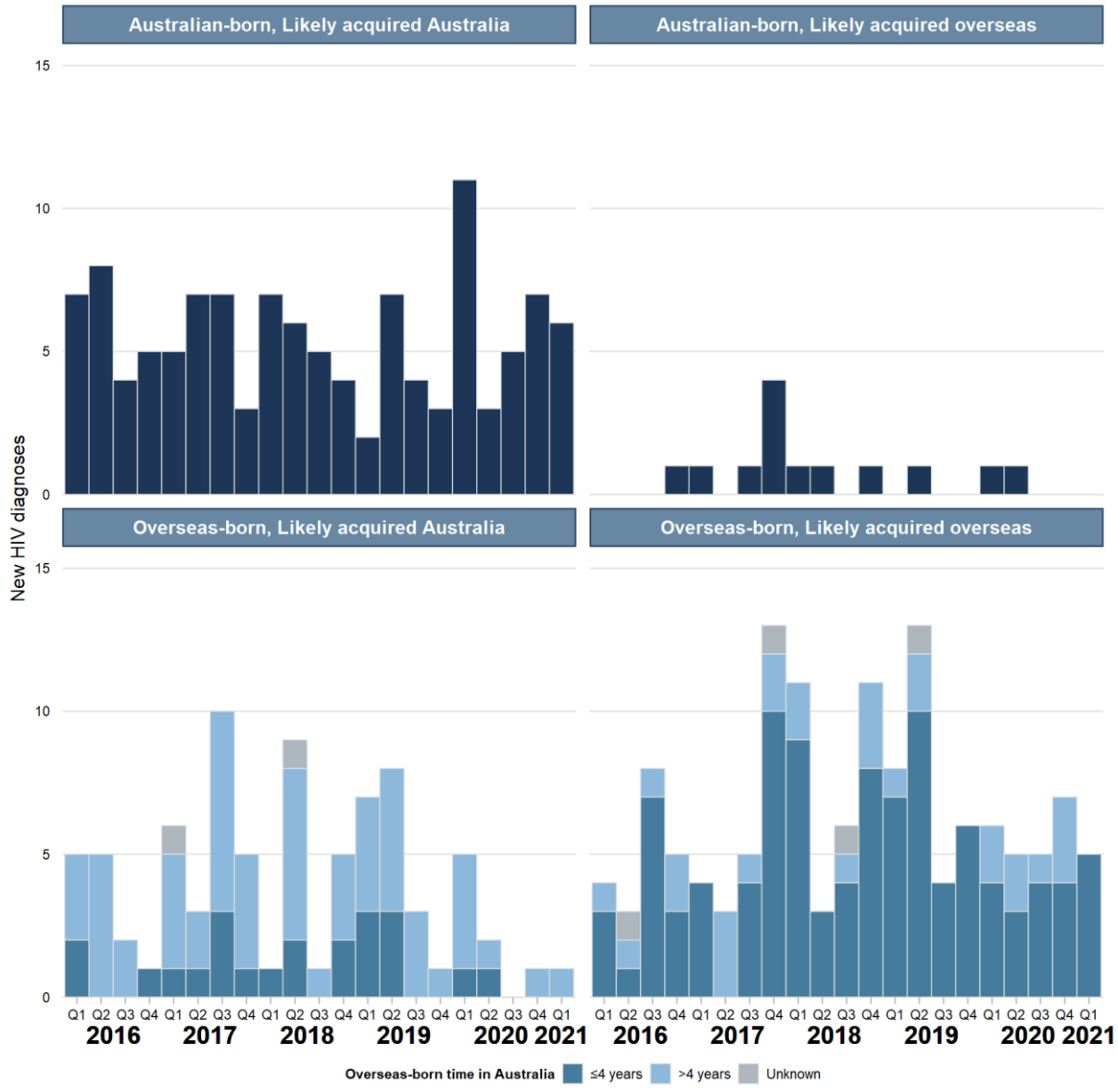
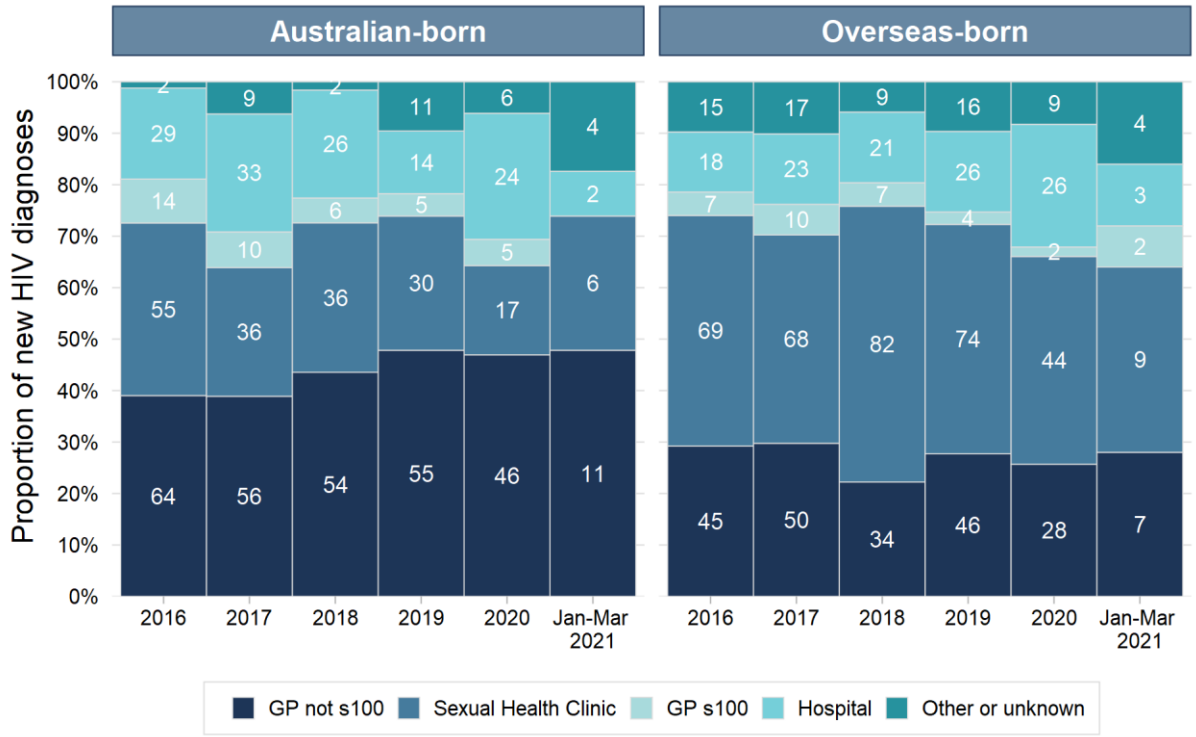


Figure 11: Type of diagnosing doctor for new HIV diagnoses, January 2016 to March 2021



Of 23 Australian-born NSW residents with newly diagnosed HIV infection in January to March 2021 (Figure 11):

- Eleven (48%) were diagnosed by general practitioners (GPs) not accredited to prescribe antiretroviral therapy (GP not-s100), 28% less than the comparison period (av. n=15.2);
- Six (26%) were diagnosed by sexual health centres including community testing sites, 32% less than the January to March 2016-2020 average (av. n=8.8);
- Two (9%) were diagnosed by hospital doctors, 66% less than the comparison period (av. n=5.8);
- None (0%) were diagnosed by GP s100 doctors (HIV specialised and accredited to prescribe ART), compared to 1.6, the average for January to March 2016-2020, and;
- Four (17%) were diagnosed by other doctor types, 300% more than the average for January to March 2016-2020 (av. n=1.0).

Of 25 overseas-born NSW residents with newly diagnosed HIV infection in January to March 2021 (Figure 11):

- Seven (28%) were diagnosed by non s100 GPs, 24% less than the comparison period (av. n=9.2);
- Nine (36%) were diagnosed by sexual health centres including community testing sites, 53% less than the January to March 2016-2020 average (av. n=19.0);
- Three (12%) were diagnosed by hospital doctors, 52% less than the comparison period (av. n=6.2);
- Two (8%) were diagnosed by GP s100 doctors, 23% less than 2.6, the average for January to March 2016-2020;
- Four (16%) were diagnosed by other doctor types, 11% more than the average for January to March 2016-2020 (av. n=3.6).

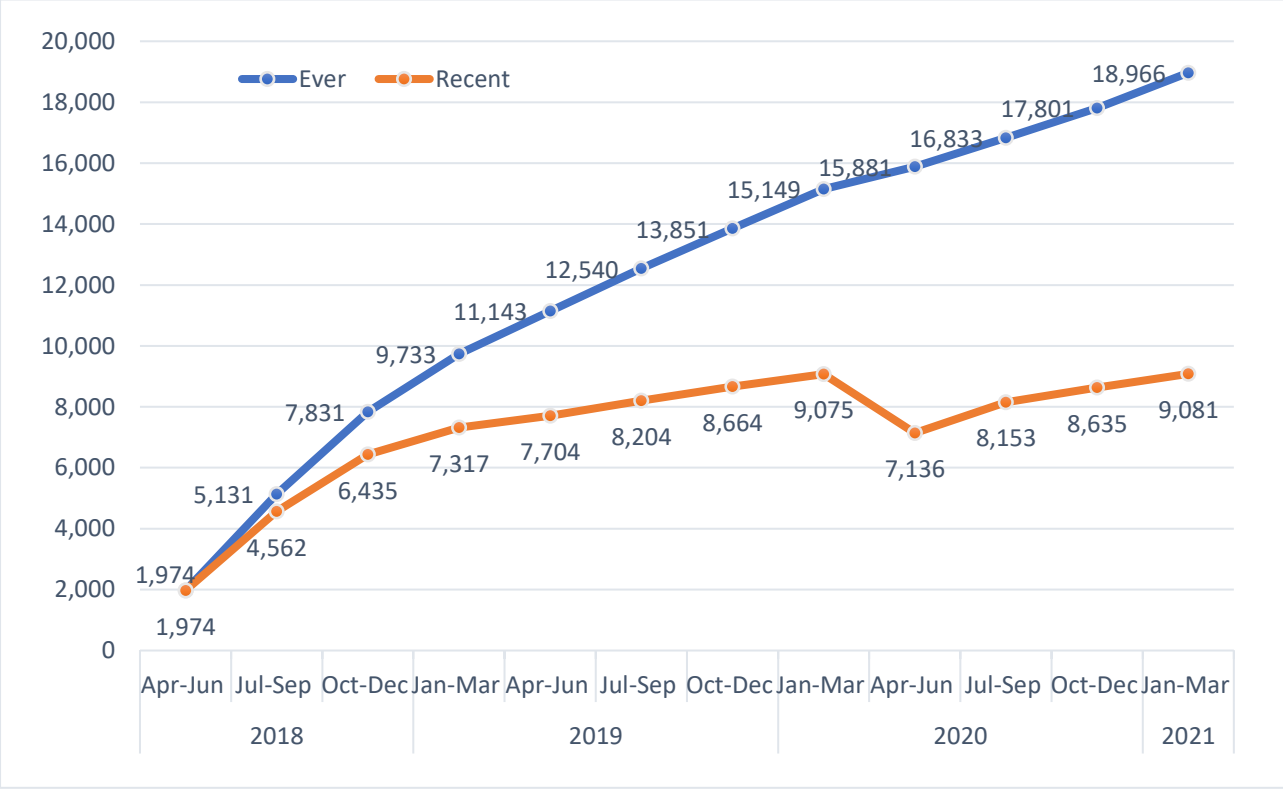
2. Expand HIV Prevention

2.1 How many people were prescribed PrEP on the Pharmaceutical Benefits Scheme (PBS)?

Between 1 April 2018 and 31 March 2021:

- A total of 18,966 (unique number) NSW residents were dispensed PrEP at least once under the PBS for HIV prevention.
- Of the 18,966residents on PrEP, 98.1% were male.
- Among those who initiated PrEP, 75.6% were prescribed by GP; 97.8% were dispensed by a community pharmacy.
- A total of 253 (1.33%) NSW residents were eligible and prescribed under the Closing the Gap (CTG) program.
- The number of new people dispensed PrEP under the PBS has declined gradually over time. A significant decline (732) was observed in April to June 2020. However, an increase was observed from July 2020 to March 2021 (**Figure 14**).

Figure 12: Total number of unique clients dispensed PrEP between April 2018 (blue line) to March 2021 compared to the quarterly number of unique clients dispensed PrEP (orange line)

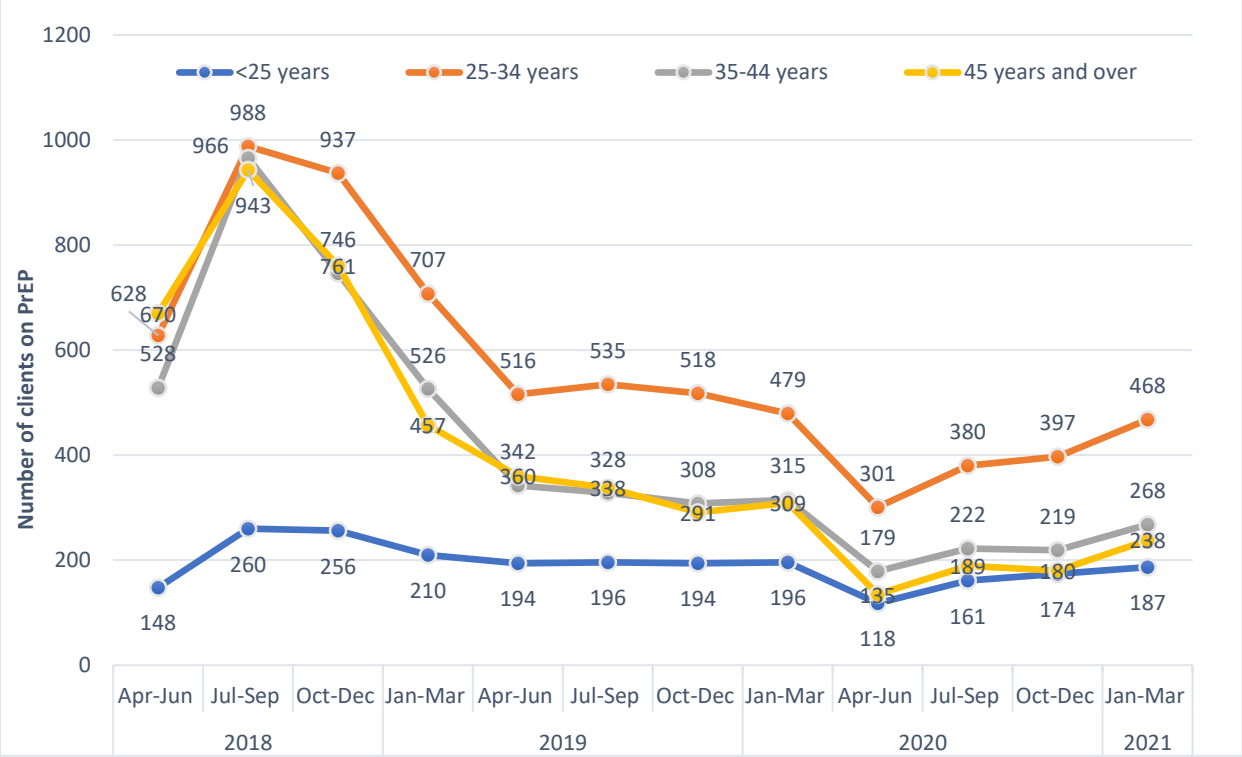


Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme (PBS) data from April 2018 to March 2021.
Note: Based on the quantity and date dispensed, it is estimated that 7,425 unique residents were taking PrEP between January and March 2021. The quarterly number of unique residents (orange line) is lower than the total number of unique clients (blue line). The reasons for this could include: people discontinuing PrEP; moving interstate or internationally; accessing PrEP from other sources including self-importation; or changes to dosing regimens such as on-demand use.

Comment on Figure 12

- Between April 2018 and March 2021, the total number of unique NSW residents prescribed PrEP under the PBS for HIV prevention increased steadily overtime to 18,966 people (blue line).
- Between January and March 2021, the quarterly number of unique NSW residents prescribed PrEP under the PBS for HIV prevention increased by 5.2% from 8,635 in Q4 2020 to 9,081 people in Q1 2021. This is roughly equal to Q1 2020.

Figure 13: Number of people in each age group dispensed PrEP for the first time between April 2018 to March 2021

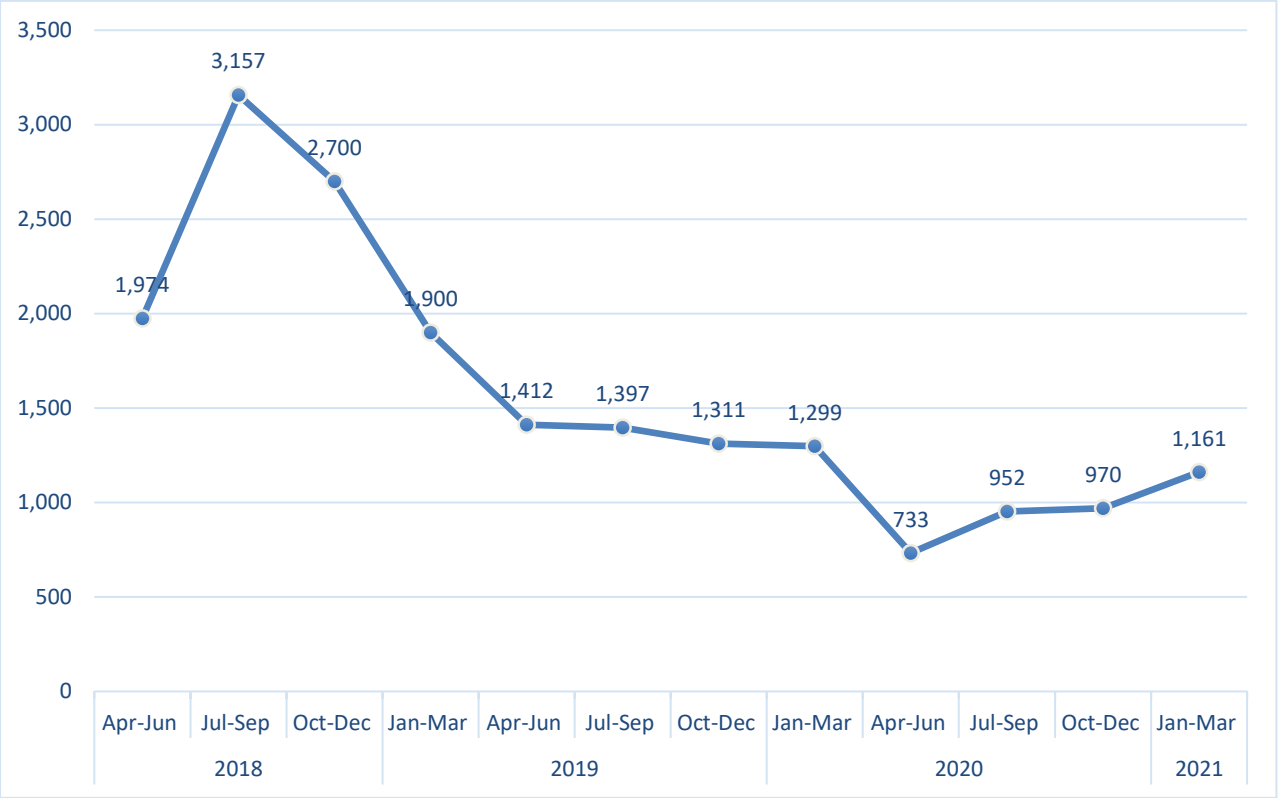


Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme (PBS) data from April 2018 to March 2021.

Comments on Figure 13

- Since April 2018, 2,294 (12.1%) unique clients dispensed PrEP were aged under 25 years, 6, 854 (36.1%) were between the ages of 25 and 34 years, 4,947 (26.1%) were between 35 and 44 years and 4,871 (25.7%) aged 45 years and older.
- PrEP initiation was highest among those aged between 25 and 34 years, followed by aged 35 and 44 years, 45 years and older and aged under 25 years.
- PrEP initiation had increased in all age groups in the quarter from January to March 2021.

Figure 14: Number of people dispensed PrEP under the PBS for the first time by quarter between April 2018 to March 2021

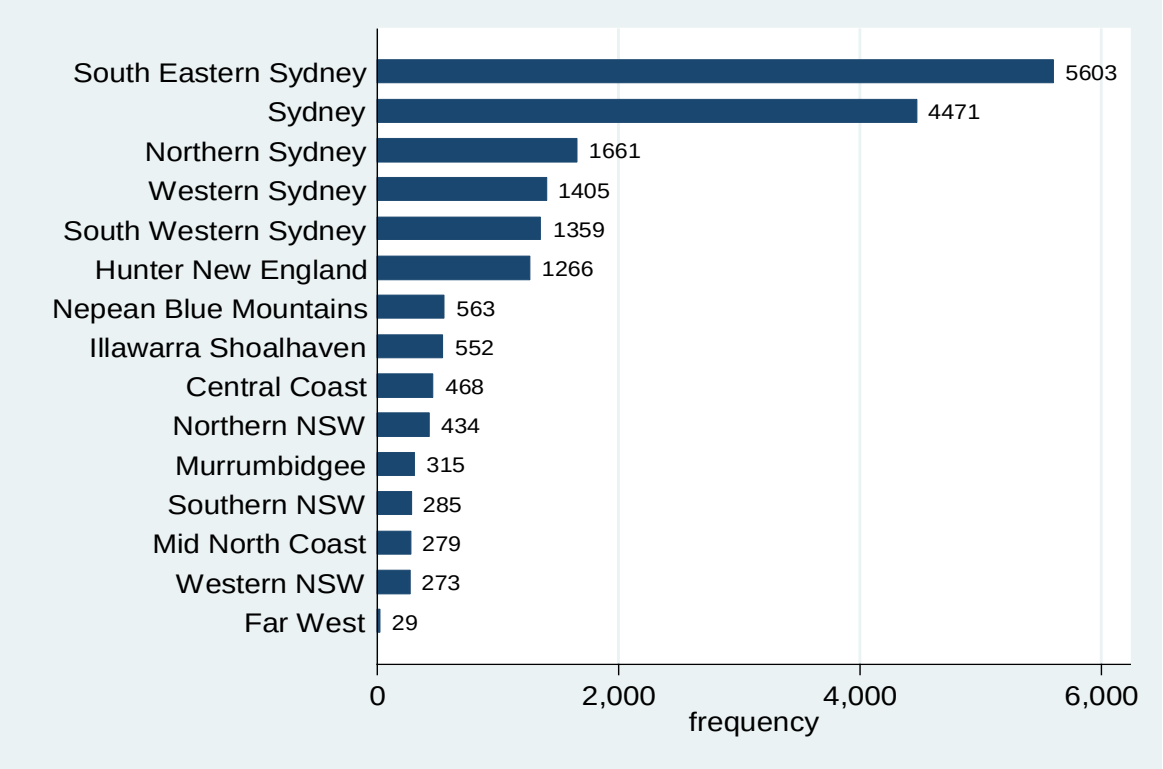


Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme (PBS) data from April 2018 to March 2021.

Comments on Figure 14

- The number of people dispensed PrEP under the PBS for the first time increased significantly between July-September 2018. This was partly due to people transitioning from the EPIC-NSW study to the PBS.
- The number of new people dispensed PrEP under the PBS has declined gradually over time. A significant decrease was observed in April to June 2020 during heavier COVID restrictions. The number of people initiating PrEP each quarter has increased steadily since July 2020.
- Between January to March 2021, 1,161 people initiated PrEP, which is an increase of 19.7% compared October to December 2020, but still 10.6% less than the same period in 2020.

Figure 15: Number of NSW residents dispensed PrEP by LHDs of patient residence from April 2018 to March 2021[1]



Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme (PBS) data from April 2018 to March 2021.
Note: The number of patients dispensed via community and public hospital pharmacies may add to a figure greater than the overall unique patients as some patients receive treatment from more than one pharmacy type within a year. Due to boundary changes or movements in and or out of NSW, the overall unique number of individuals presented in the above graph may differ slightly from previous reports.

Comments on Figure 15

Between April 2018 to March 2021:

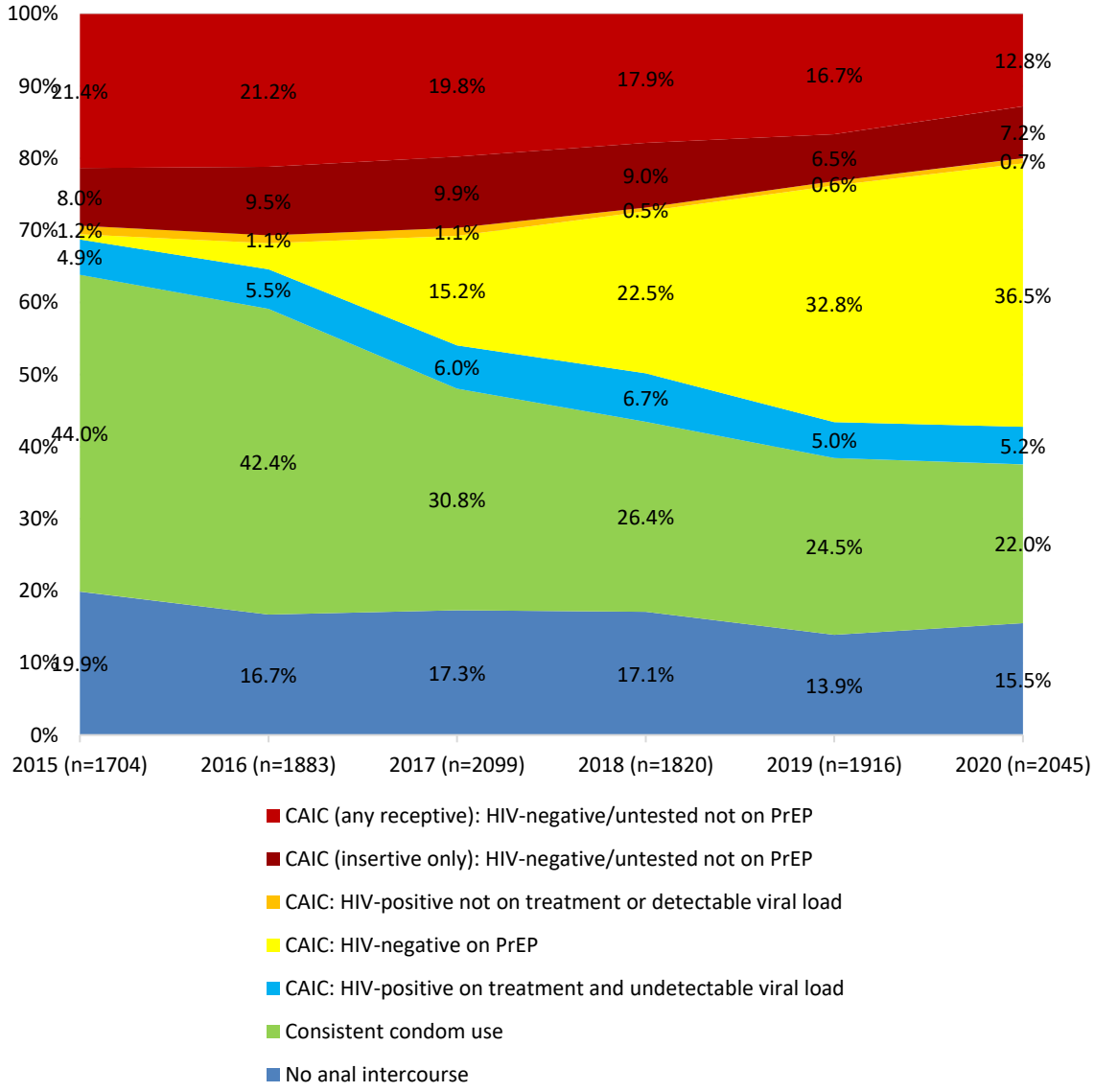
- Almost 83% of people dispensed PrEP under the PBS in NSW were residents of South Eastern Sydney (29.5%) and Sydney LHDs (23.6%), followed by Northern Sydney (8.7%), Western Sydney (7.4%), South Western Sydney (7.1%), and Hunter New England (6.7%).

[1] PrEP was available under the PBS from April 2018.

2.2 How many men who have sex with men use condoms and other HIV risk reduction practices?

Condom use and other HIV risk reduction strategies used by gay and bisexual men are measured through the annual Sydney Gay Community Periodic Survey (SGCPS), conducted each year during February/March. With the introduction of pre-exposure prophylaxis (PrEP) in NSW and the focus on the preventative benefits of HIV treatment in the NSW HIV Strategy, we have modified reporting of condomless anal intercourse with casual partners (CAIC) to distinguish between HIV-positive men who are virally suppressed or not and HIV-negative men who are protected by PrEP or not.

Figure 16: Proportion of gay and bisexual men with casual partners reporting consistent condom use, biomedical prevention and any condomless anal intercourse in the previous six months, 2015 to 2020



Data source: Sydney Gay Community Periodic Survey, Centre for Social Research in Health, UNSW Sydney.

Note: CAIC = condomless anal intercourse with casual male partners. Consistent condom use includes men who report condom use for anal sex with casual male partners in the 6 months prior to survey and no condomless anal intercourse with those partners.

Comment on Figure 16

- The SGCPS data show a rapid increase in PrEP use, particularly from 2017 onwards. PrEP has become the most commonly used HIV prevention strategy by gay and bisexual men with casual partners. The proportion of gay men with casual male partners who reported PrEP use and condomless anal intercourse reached 36.5% in 2020, compared to 15.2% in 2017.

- As PrEP use has increased, consistent condom use has fallen. In 2020, 22.0% of gay men with casual partners reported consistent condom use, compared to 44.0% in 2015.

- The proportion of gay men with casual partners who reported being HIV-positive, having an undetectable viral load and condomless anal intercourse has remained stable between 2015 and 2020 at around 5-7%.

- The proportion of gay men with casual partners who reported being HIV-positive, not on treatment or having a detectable viral load and who reported CAIC has fallen over time to 0.7% of men with casual partners in 2020, compared to 1.2% in 2015.

- In 2020, the proportion of gay men with casual partners who were HIV-negative or untested, not on PrEP and who reported any CAIC (insertive or receptive) decreased to 20.0%, compared to 29.4% in 2015. This suggests the proportion of gay men who are susceptible to HIV infection has decreased in Sydney as PrEP use has increased.

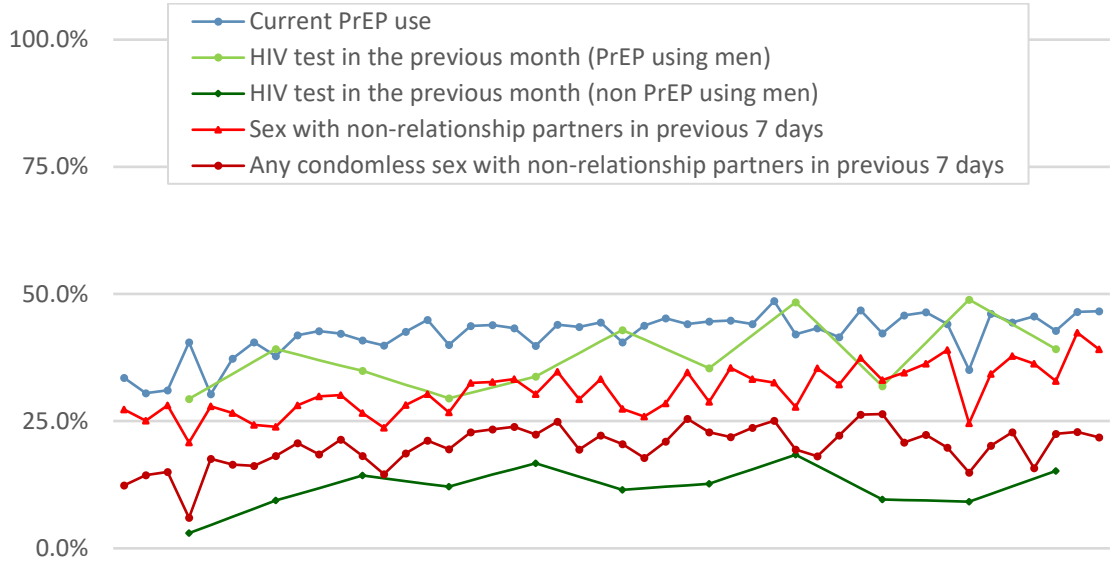
- 'Net prevention coverage', i.e. the proportion of gay men with casual partners who report any form of safe sex, such as avoiding anal intercourse, condom use, PrEP use or undetectable viral load, has increased from 70.0% in 2015 to 79.2% in 2020.

- SGCPS data were collected in February 2020, before any social distancing came into place under the COVID-19 pandemic.

2.3 Effect of COVID-19 on ongoing trends in sexual behaviour, PrEP use, and HIV/STI testing among gay and bisexual men

The Following Lives Undergoing Change (Flux) cohort study of gay and bisexual men has collected data on sexual behaviour, PrEP use, and HIV testing during the COVID-19 pandemic commencing in early May 2020. Beginning in late June 2020, new participants commenced being enrolled into the study each week to supplement the continuing cohort. Figure 17a shows the weekly results for sexual behaviour, PrEP use, and HIV testing since 3rd May 2020 among NSW respondents.

Figure 17a: Sex with casual partners, PrEP use and HIV testing (3rd May 2020 – 27th May 2021)



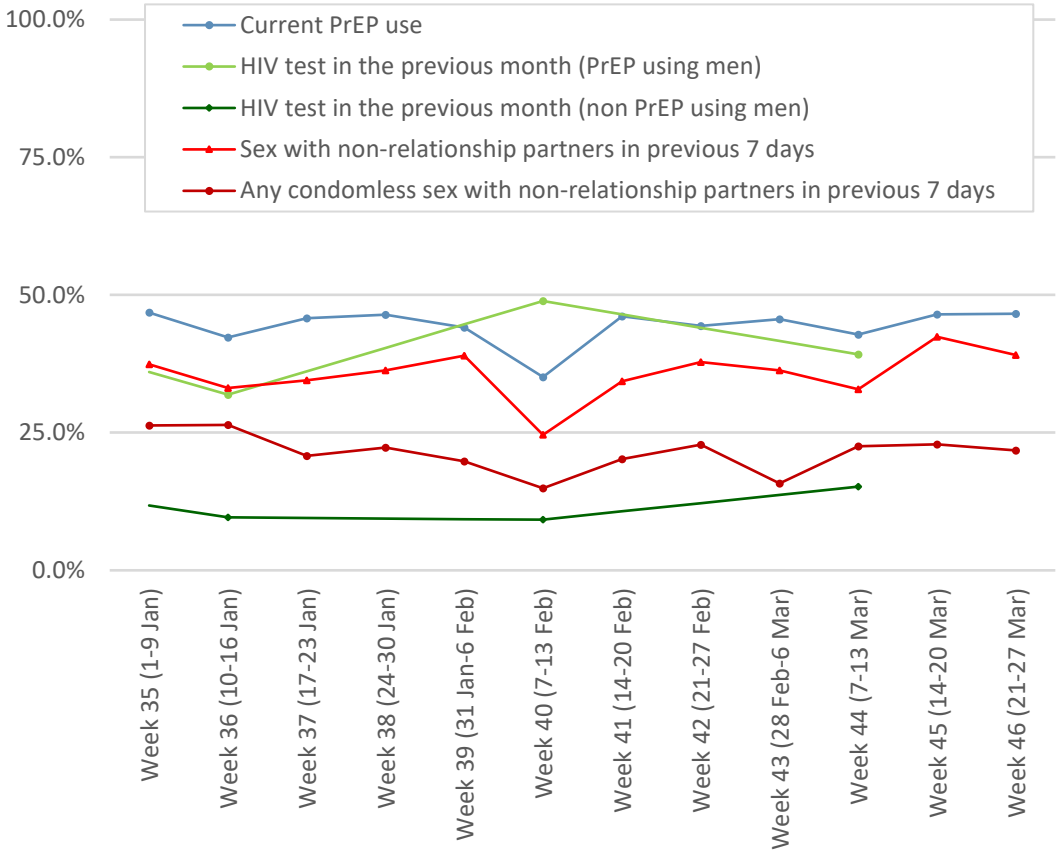
Data source: Following Lives Undergoing Change Study, Kirby Institute, UNSW Sydney. Note: Data are reported for non HIV-positive respondents in NSW. Sex with non-relationship male partners refers to any sexual contacts with casual partners or other partners with whom respondents were not in a relationship, as reported for the previous seven days, i.e. during the specified reporting week. PrEP use was for current use at the time of survey and is recorded for all participants who did not report being HIV-positive. Testing in previous four weeks is reported for non HIV-positive men according to their current use of PrEP at the time of survey in each of Weeks 4, 8, 12, 16, 20, 24, 18, 32, 36, 40, and 44. The range of weekly responses was 326-556.

Comment on Figure 17a

- Since May 2020, current PrEP use increased between Quarters 2 and 3 of 2020, but has since remained fairly stable at over 40%.
- Gradual increases were observed for men reporting sex with non-relationship partners in the previous week. The proportion of men reporting non-relationship sex increased from about one in five during the second quarter of 2020 to about two in five in recent weeks.
- Rates of condomless sex with non-relationship partners have slightly increased between quarters three and four in 2020 and have remained fairly steady since then.
- HIV and STI testing in the previous 4 weeks was reported every fourth week. Rates of testing for non-HIV-positive men, regardless of PrEP use, increased slightly between quarters 2 and 3 in 2020, but have remained fairly steady since then Almost half of non-HIV-positive men who were currently using PrEP reported having been recently tested since quarter 4 2020. Roughly one in five men not currently using PrEP have reported being tested for HIV since quarter 4 2020.

Figure 17b shows the weekly results for sexual behaviour, PrEP use, and HIV testing between 1st January 2021 and 27th March 2021 among NSW respondents.

Figure 17b: Sex with non-relationship partners, PrEP use and HIV testing by week (1st January 2021 – 27th March 2021)



Data source: Following Lives Undergoing Change Study, Kirby Institute, UNSW Sydney. Note: Data are reported for non HIV-positive respondents in NSW. Sex with non-relationship male partners refers to any sexual contacts with casual partners or other partners with whom respondents were not in a relationship, as reported for the previous seven days, i.e. during the specified reporting week. PrEP use was for current use at the time of survey and is recorded for all participants who did not report being HIV-positive. Testing in previous four weeks is reported for non HIV-positive men according to their current use of PrEP at the time of survey in each of Weeks 36, 40, and 44. The range of weekly responses was 429-456.

Comment on Figure 17b

- Current PrEP has remained fairly stable during quarter one at over 40%, reaching the highest proportion of 46.8% in week 35 (1st January 2021 and 9th January 2021).
- About one in three men reported sex with non-relationship partners in the previous week, and this proportion has remained fairly stable during this quarter.
- Rates of condomless sex with non-relationship partners has remained fairly stable.
- HIV and STI testing in the previous 4 weeks was reported every fourth week. Rates of testing has remained fairly stable. Almost half of non-HIV-positive men who were currently using

PrEP reported having been tested in early 2021. Among men not currently using PrEP, one in five men reported being tested for HIV in quarter one of 2021.

2.4 Community mobilisation "Ending HIV"

Since 2013, ACON has monitored the knowledge and attitudes of gay men in regards to key messages in the NSW 'Ending HIV' campaign. Key findings and a description of the evaluation is provided in Appendix B.

2.5 How accessible is the Needle and Syringe Program in NSW?

From April 2020 to March 2021,

- 14,937,196 units of injecting equipment were distributed in NSW.
- The LHDs with the highest number of units of injecting equipment distributed were Hunter New England, Sydney, South Western Sydney, Western Sydney and South Eastern Sydney.

2.6 What proportion of people re-use other people's needles and syringes (receptive syringe sharing) in NSW?

- In 2020, 16% of respondents reported receptive syringe sharing in the previous month (NSW Needle and Syringe Program Enhanced Data Collection, 2020)[2].

[2] Geddes, L, Iversen J, and Maher L. NSW Needle and Syringe Program Enhanced Data Collection Report 2020, The Kirby Institute, UNSW Australia, Sydney 2020.

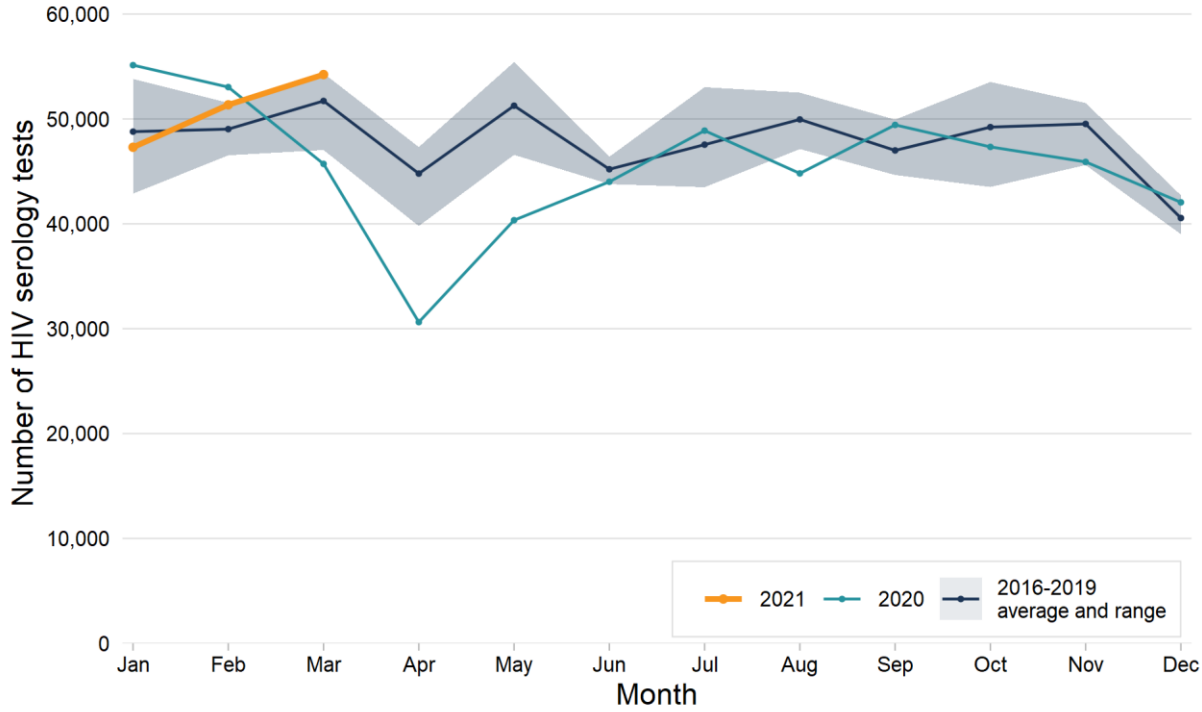
3. Increase HIV testing frequency

3.1 Is HIV testing increasing in NSW?

NSW overall

In 2012, NSW Health commenced collection of testing data for selected notifiable conditions, including HIV, from 15 NSW laboratories. These laboratories represent about 95% of the laboratory testing for HIV in NSW residents. Information from laboratories does not provide any indication on the purpose of testing (screening of high-risk individuals, routine antenatal, post-exposure testing), nor whether there are repeat tests on the same individual.

Figure 18: Number of HIV serology tests performed in 15 NSW laboratories, January 2016 to March 2021



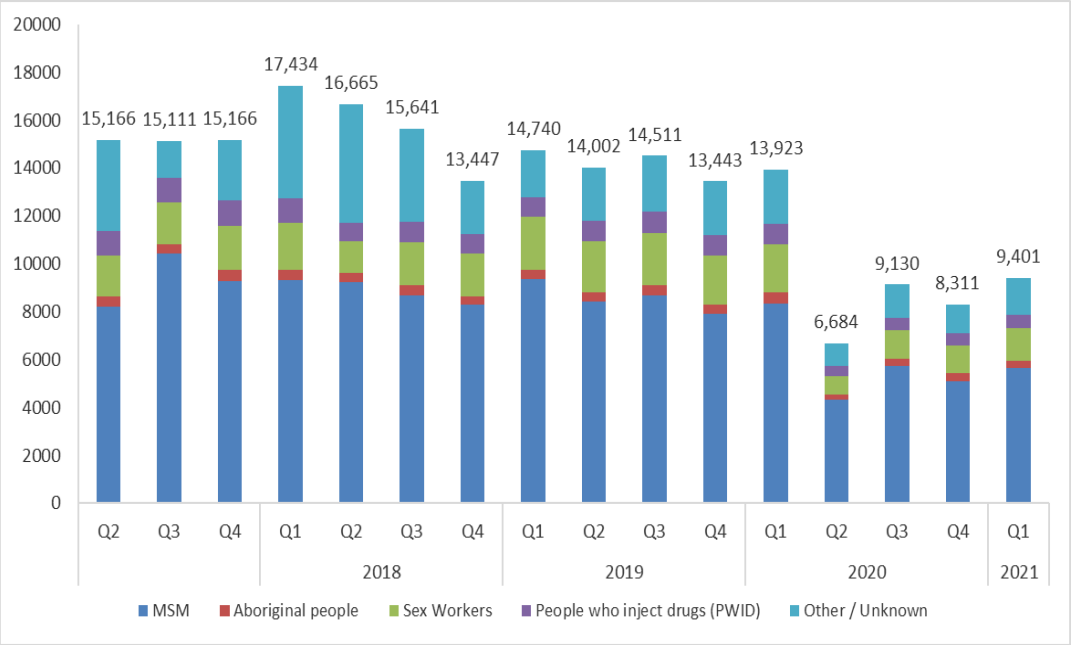
Data source: NSW Health denominator data project, out 20 May 2021.

Comments on Figure 18

In January to March (Q1) 2021:

- 152,885 HIV serology tests were performed in 15 laboratories in NSW, which was 1% less than Q1 2020 (n=153,884), 4% less than Q1 2019 (n=159,694), 2% less than Q1 2018 (n=156,486), 5% more than Q1 2017 (n=145,474), and 12% more than Q1 2016 (n=136,503).

Figure 19: Number of HIV tests performed in public sexual health clinics in NSW between April 2017 and March 2021, by quarter and priority population



Data source: NSW Health HIV Strategy Monitoring Database
Note: Patients have been classified as other/unknown where priority population data is not available, including St Vincent's Hospital. Testing is higher in 2020/21 than reported in this Figure as testing in Central Coast and Western Sydney LHDs has not been included since April and October 2020 respectively due to data system issues.

Comments on Figure 19

In January to March 2021:

- The number of HIV tests in PFSHCs (n=9,401) decreased by 32% compared to the number of tests conducted in the same period in 2020.
- This reduction is partly due to the impact of reduced service capacity due to resources being diverted to COVID-19 and to vaccination. The reported reduction is also attributed to the missing data from Central Coast and Western Sydney, which contribute an average of 2% and 7% of total testing each year respectively (since 2018).
- Compared to Q4 2020, the number of HIV tests in PFSHCs increased by 13%, due to a steady recovery in testing levels in several local health districts since Q2 2020. This excludes data from CC and WS, which has been missing since Q2 and Q4 2020 respectively due to data system issues.
- Testing remained targeted with 5,631 of 9,401 (60%) HIV tests in PFSHCs done by MSM.
- Of 8,850 tests in PFSHCs where country of birth was recorded, 53% (4,643) were Australian-born, 46% (4,086) overseas-born and 1% (121) unknown.[3]
- The number of HIV tests performed in other public health settings not included in the Figure above includes:
    - 1,281 in Emergency Department;
    - 514 in Mental Health;
    - 448 in Drug and Alcohol;
    - 141 in Needle and Syringe Program, Youth Block, Immunology, Infectious diseases, Liver Clinic, Chest Clinic and Psychiatry Clinic.

[3] This analysis excludes Northern Sydney LHD, where country of birth data is temporarily unavailable due to data extraction issues. Western Sydney and Central Coast are also excluded from this analysis.

Dried Blood Spot testing

Dried Blood Spot (DBS) is an innovative finger stick test for HIV and hepatitis C that is accessed by eligible people online (home-testing) or via a settings-based approach. The NSW DBS Self-Sampling HIV Testing Pilot Program aims to increase testing among high-risk populations who experience barriers to testing through conventional services.

In September 2019, the pilot was updated to expand access to at-risk populations. As part of the update, participants can be tested for hepatitis C without an HIV test. People eligible for a hepatitis C test can still opt-in for an HIV test.

Table 2: Recruitment data for the NSW DBS Self-Sampling HIV and HCV Testing Pilot, November 2016 to March 2021

Recruitment indicators	Q1 2021 (Jan - Mar)	Total (Nov 2016 - Mar 2021)
Number of registrations for DBS test (including Hepatitis C)	822	11,123
Number of registrations for DBS requesting HIV testing	787/822 (96%)	10,502/11,123 (94%)
Number (%) of people who registered for a HIV DBS kit who had never tested before or had tested over 2 years ago**	325/787 (41%)	4,773/10,502 (45%)
Proportion of returned HIV DBS kits	606/787 (77%)	8,768/10,502 (83%)
Number of HIV DBS tests performed	713	8,746
Number (%) of reactive HIV tests*	0	10

Data Source: NSW Dried Blood Spot Research database.

* Reactive HIV tests were confirmed positive by venous testing and linked into care. Participants with known HIV positive status when accessing DBS testing removed from total.

** Based on registrations for DBS requesting HIV testing (excludes registrations for hepatitis C DBS test only)

Comments on Table 2

In January to March 2021:

- There was a total of 713 HIV DBS tests in NSW.
- 41% of people who registered for a HIV DBS test had never previously tested for HIV or had been tested more than 2 years ago.
    - Of these, 227 (70%) were Australian born and 98 (30%) were overseas born.
- 77% of registrations for DBS requesting HIV testing between October and December 2020 were returned for testing.
- There was 1 reactive HIV test, which was excluded from the total as this client was already known to be HIV positive.

In November 2016 to March 2021 (over the entire pilot):

- 45% people who registered for a HIV DBS test had never previously tested for HIV or had tested more than 2 years ago.
    - Of these 3,477 (73%) were Australian-born and 1,296 (27%) were overseas-born.
- 83% of registrations for DBS requesting HIV testing were returned.

Table 3: Number of HIV tests done per eligibility criteria* for the NSW DBS Self-Sampling HIV and HCV Testing Pilot, November 2016 to March 2021

Target population	Q1 2021 (Jan - Mar) Total number of HIV tests n = 713	(Nov 2016 – Mar 2021) Total number of HIV tests n = 8,746
MSM ****	144 (20%)	2,055 (24%)
From high prevalence country***	67 (9%)	975 (11%)
Partners from Asia/Africa	77 (11%)	1,475 (17%)
Aboriginal people**	191 (27%)	2,362 (27%)
Ever injected drugs**	422 (59%)	4,465 (51%)

Data Source: NSW DBS Research Database

*Participants can have profile for more than one target population.

**Aboriginal people and people who have ever injected drugs included from September 2017. Hepatitis C RNA testing included from September 2017.

***High prevalence countries include countries within Africa or Asia and the following specific countries: Belize, Haiti, Bahamas, Jamaica, Guyana, Barbados, Suriname, Djibouti, Russian Federation, Trinidad and Tobago and Panama.

**** MSM include trans-men who have sex with (cis- or trans-) men and cis-men who have sex with trans-men

Comment on Table 3

Between January to March 2021:

- Of 713 HIV DBS tests, 20% were done by MSM (n=144), which is higher than Q4 2020, when 13% of tests were done by MSM.
    - Of 144 MSM tested, 69% were Australian-born, and 31% were overseas-born MSM.
- 9% of HIV DBS tests were done by people from high prevalence countries.
- 11% of HIV DBS tests were done by people who had partners from Asia/Africa.
- 27% of HIV DBS tests were done by Aboriginal people.
- 59% of tests were done by people who had ever injected drugs.

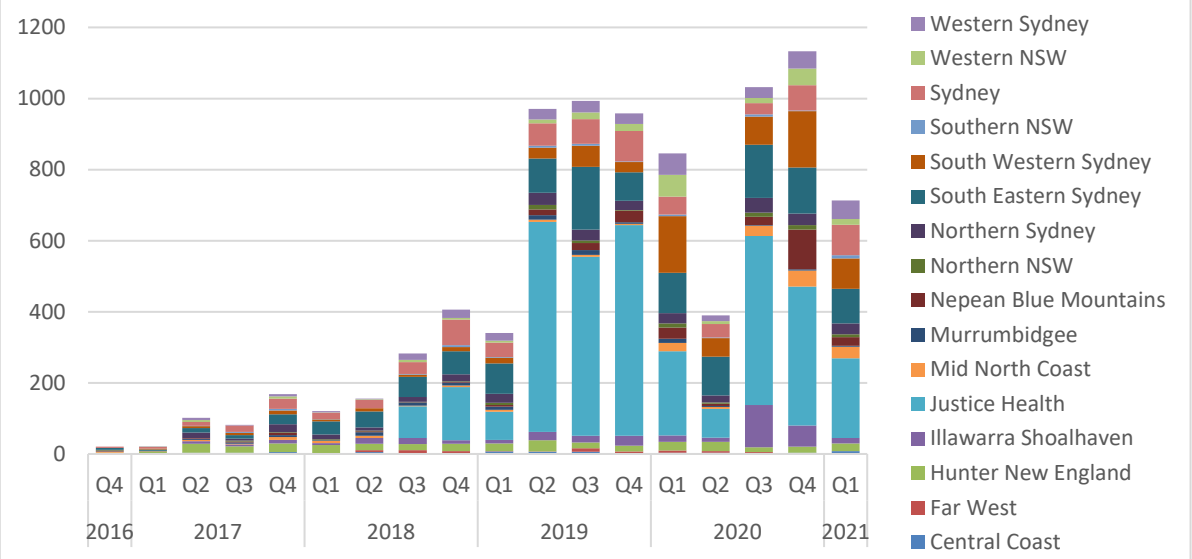
Of non-Justice Health HIV DBS tests (n=489) in Q1 2021:

- 23% were overseas-born (n=114)
- 29% were MSM (n=144)
- 10% had a partner from Asia or Africa (n=49)
- 12% were from a high prevalent country (n=61)
- 22% were by Aboriginal people (n=108)
- 57% were people who have ever injected drugs (n=280)

In November 2016 to March 2021 (over the entire pilot):

- Of 8,746 HIV DBS tests, 24% were done by MSM (n=2,055)
    - Of 2055 MSM tested, 71% were Australian-born MSM and 29% were overseas-born MSM.
- 11% of DBS tests were done by people from high prevalence countries.
- 17% of DBS tests were done by people who had partners from Asia/Africa.
- 27% of HIV DBS tests were done by Aboriginal people.
- 51% of tests were done by people who had ever injected drugs.

Figure 20: DBS HIV tests conducted per quarter by LHD of participant's residence



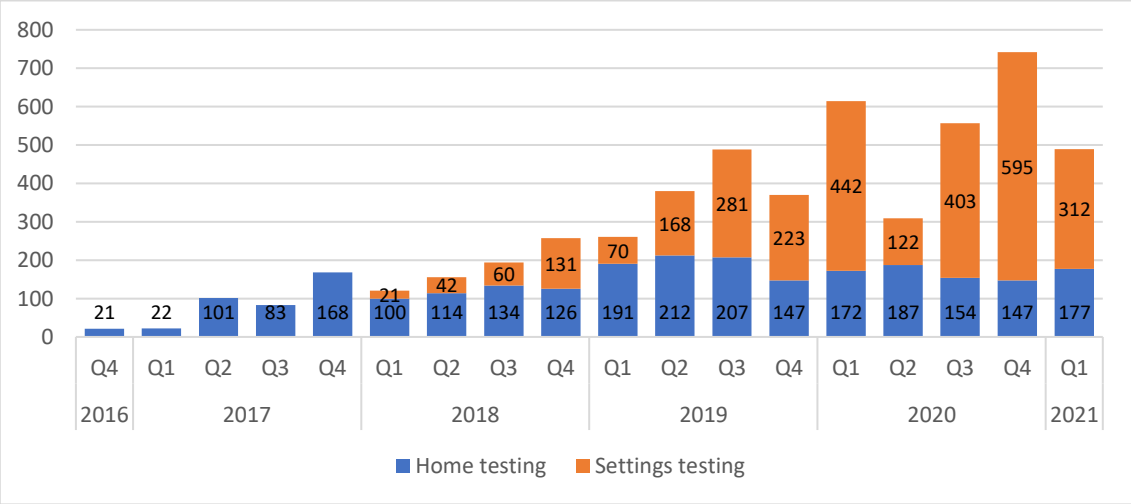
Data Source: NSW DBS Research Database

Comments on Figure 20

In Jan to March 2021:

- There was a total of 713 HIV DBS tests in NSW, which is a 37% decrease compared to Q4 2020 (n=1,134), and a 16% decrease compared to Q1 in 2020 (n=851). However, it is important to view this decrease in the context of home testing versus settings-based testing (see next Figure).

Figure 21: HIV DBS tests done at home (ordered online) and settings-based tests per quarter, November 2016 to March 2021



Note: Justice Health is excluded from the figure. Settings include drug and alcohol, sexual health services, and needle and syringe programs

Comments on Figure 21

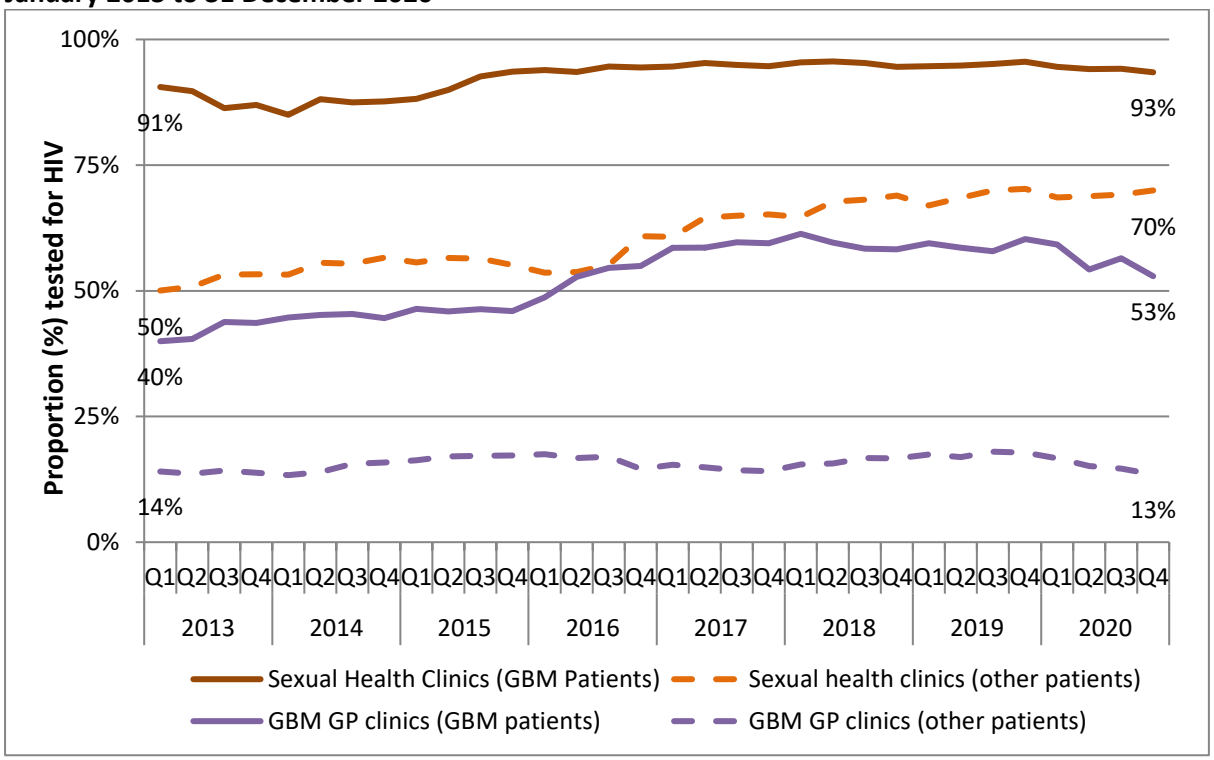
In Jan to March 2021:

- Home testing increased by 3% to 177 HIV DBS tests compared to Q1 2020. In 2020, home testing decreased by 13% compared to 2019.
- Settings-based testing decreased by 30% to 312 HIV DBS tests (excluding Justice Health) compared to Q1 2020. Sites have experienced some reduced capacity in Q1 2021 due to the diversion of resources to COVID vaccination. In 2020, settings-based HIV DBS testing (excluding Justice Health) increased by 52% compared to 2019.

3.2 What are the HIV testing patterns in NSW?

HIV testing takes place in a range of clinical and community settings, including general practice, PFSHCs and community HIV testing sites.

Figure 22: Proportion of patients[4] attending PFSHCs and GBM GP clinics[5] tested at least once for HIV at any clinic in the ACCESS network in the previous year, by quarter and service type, 1 January 2013 to 31 December 2020[6]



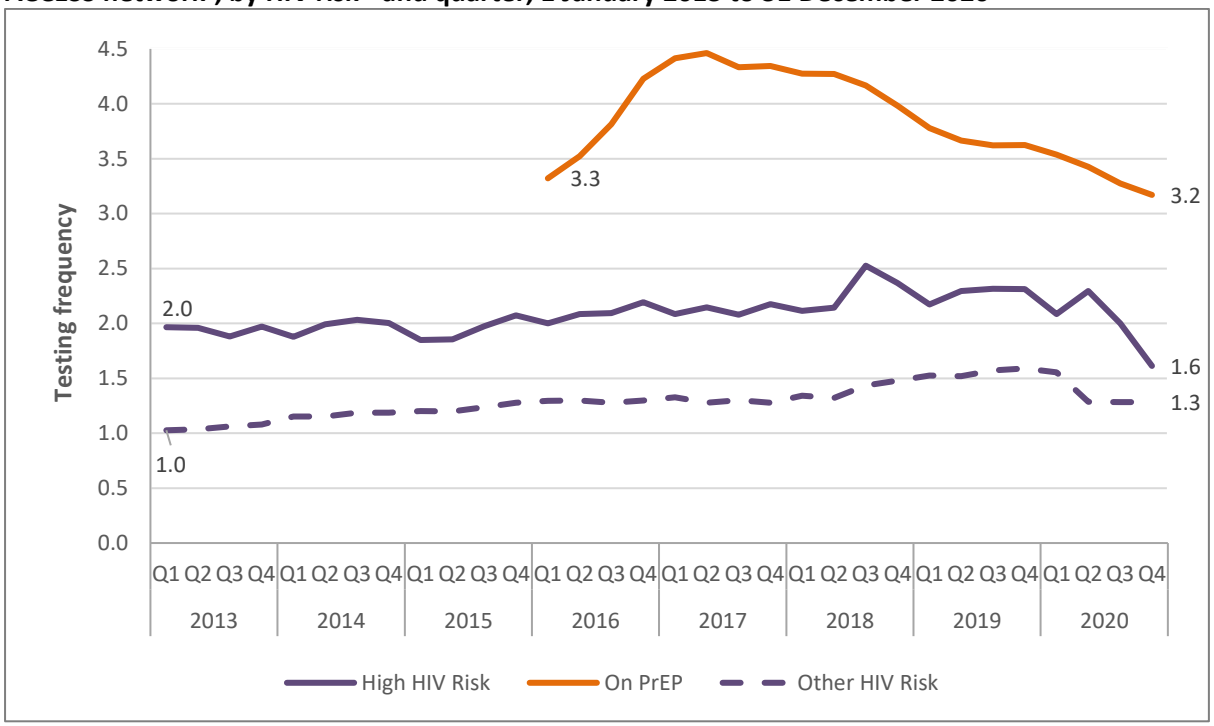
Data source: ACCESS Database, The Kirby Institute and the Burnet Institute

Comments on Figure 22

- HIV testing uptake among GBM attending PFSHCs remained consistently high in the fourth quarter of 2020 (93%).
- Testing uptake increased over time among other patients attending PFSHCs, rising from 50% in Q1 of 2013 to 70% in Q4 of 2020.
- Testing uptake also increased among GBM attending GBM GP clinics (from 40% in Q1 of 2013 to 53% in Q4 of 2020).
- Testing amongst other patients attending GBM GP clinics stayed relatively consistent from 2013 to Q4 2020.

[4] Excludes patients known to be HIV positive
[5] GBM clinics defined as general practice clinics serving at least 50 GBM patients annually;
[6] The testing period is retrospective; the proportion represents those who attended in a quarter and had at least one HIV test in the previous 12 months

Figure 23: Average number of annual HIV tests among GBM patients[7] attending any clinic in the ACCESS network[8], by HIV risk[9] and quarter, 1 January 2013 to 31 December 2020



Data source: ACCESS Database, The Kirby Institute and the Burnet Institute

Comment on Figure 23

In this report, the definition of risk relative to HIV has been adapted to reflect a more nuanced assessment of clinical data that explicitly excludes men accessing PrEP. The updated categories for risk are defined as follows:

- High risk: assigned to men not on PrEP who, on the basis of a hierachical decision tree, had a history of a rectal STI in the 24 months prior, evidence of inconsistent condom use, 20 or more partners, or evidence of injecting drug use over the past 12 months
- Other risk: Any man not on PrEP not otherwise meeting the criteria of 'high risk'

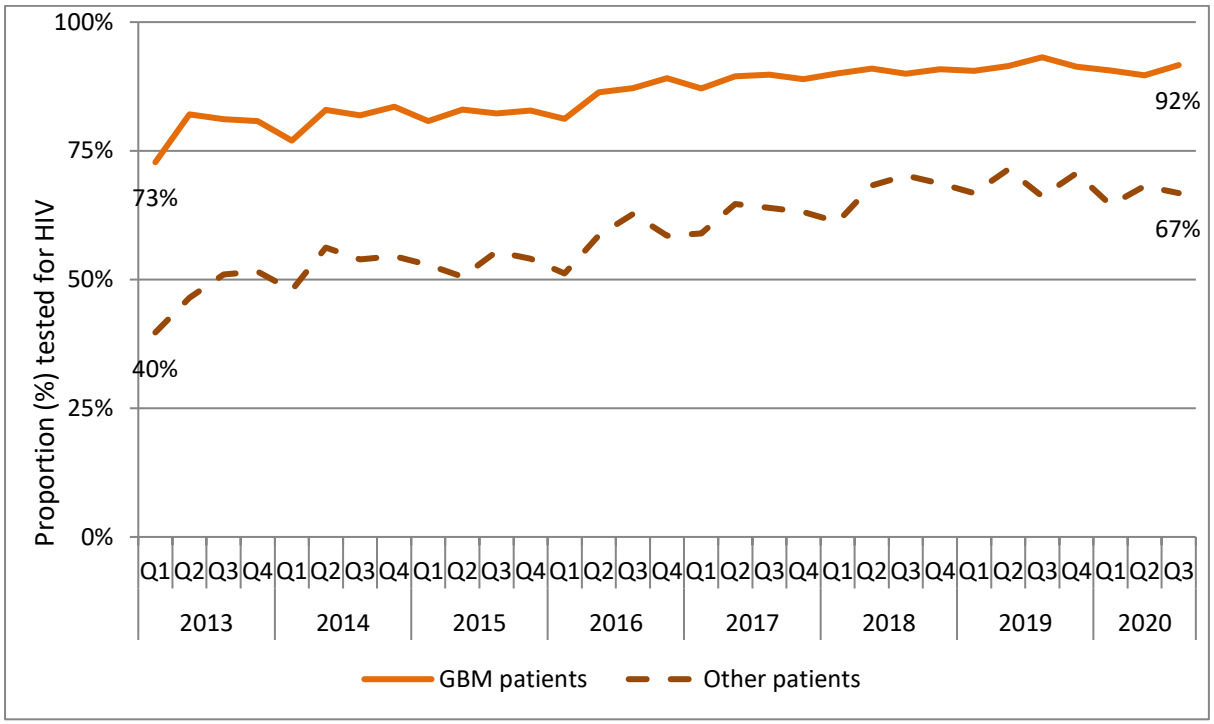
This change to the definition of 'high risk' means that the frequency of HIV testing among this group is lower than in previous reports because it excludes men accessing PrEP.

The average number of HIV tests among high risk GBM stayed fairly consistent from 2013-Q2 2018, followed by an increase to 2.5 tests on average at the end of Q3 2018. In this group, testing frequency decreased to 1.6 at the end of Q4 2020. Testing increased from 1.0 to 1.3 among men of other risk profiles from Q1 2013 to Q4 2020.

Men identified within ACCESS as having a reason for visit as "PrEP" and/or a PrEP script were considered as on PrEP.

[7]Excludes patients known to be HIV positive
[8] GBM clinics defined as general practice clinics serving at least 50 GBM patients annually
[9] High risk defined by GBM patients who are not on PrEP and reported injecting drug use in the last year, more than 12 partners/year and inconsistent condom use or history of a rectal STI in the past two years.
Hospital data were not included in analysis

Figure 24: Proportion of patients[10] attending PFSHCs and GBM GP clinics[11] combined who received an HIV test at any clinic in the ACCESS network in conjunction with an STI diagnosis[12], by GBM status and quarter, 1 January 2013 to 30 September 2020



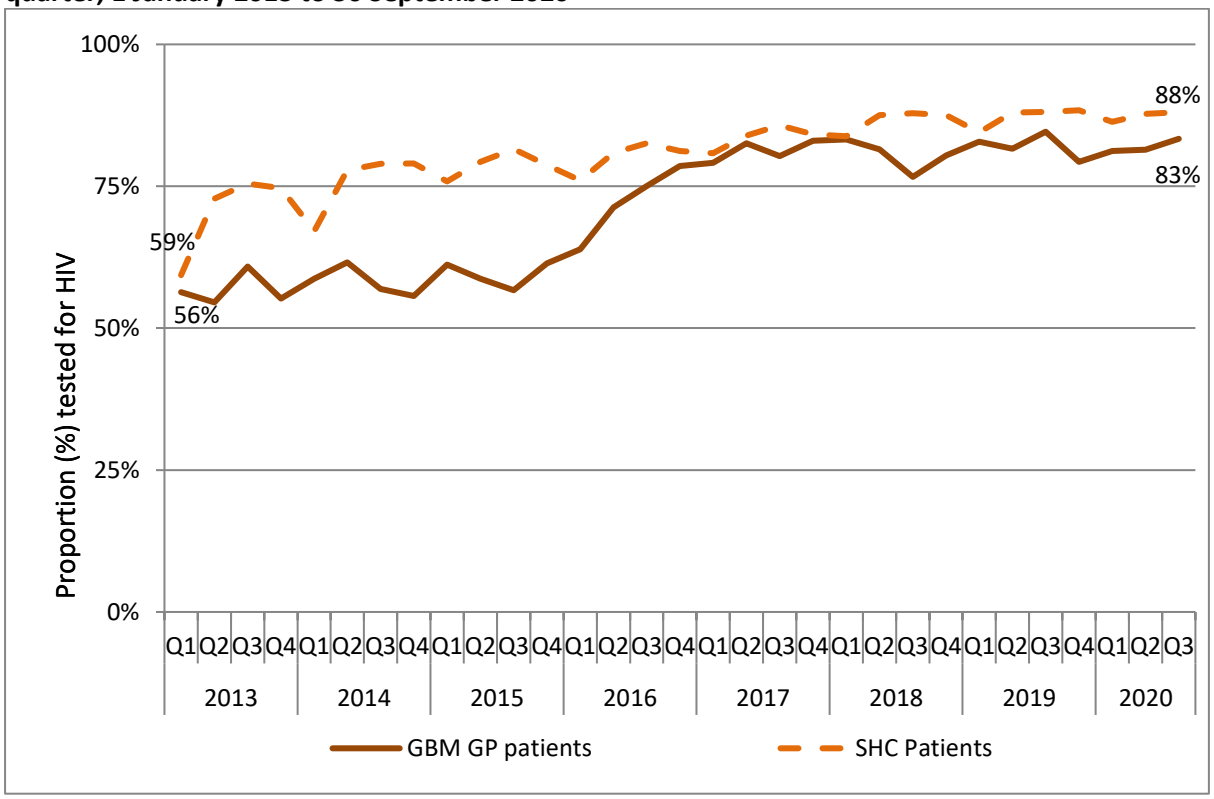
Data source: ACCESS Database, The Kirby Institute and the Burnet Institute

Comment on Figure 24

- The proportion of GBM who received an HIV test in conjunction with an STI diagnosis increased over time from 73% in early 2013 to 92% in Q3 of 2020.
- Testing in conjunction with STI diagnoses was less common overall among other patients but also increased during this period (40% to 67%).

[10] Excludes patients known to be HIV positive
[11] GBM GP clinics defined as general practice clinics serving at least 50 GBM patients annually
[12] Diagnosis for chlamydia, gonorrhoea and/or infectious syphilis; any HIV test conducted at least 60 days before or at most 30 days after a diagnosis was recorded

Figure 25: Proportion of patients[13] attending PFSHCs and GBM GP clinics[14] who received an HIV test at any clinic in the ACCESS network in conjunction with an STI diagnosis[15], by service type and quarter, 1 January 2013 to 30 September 2020



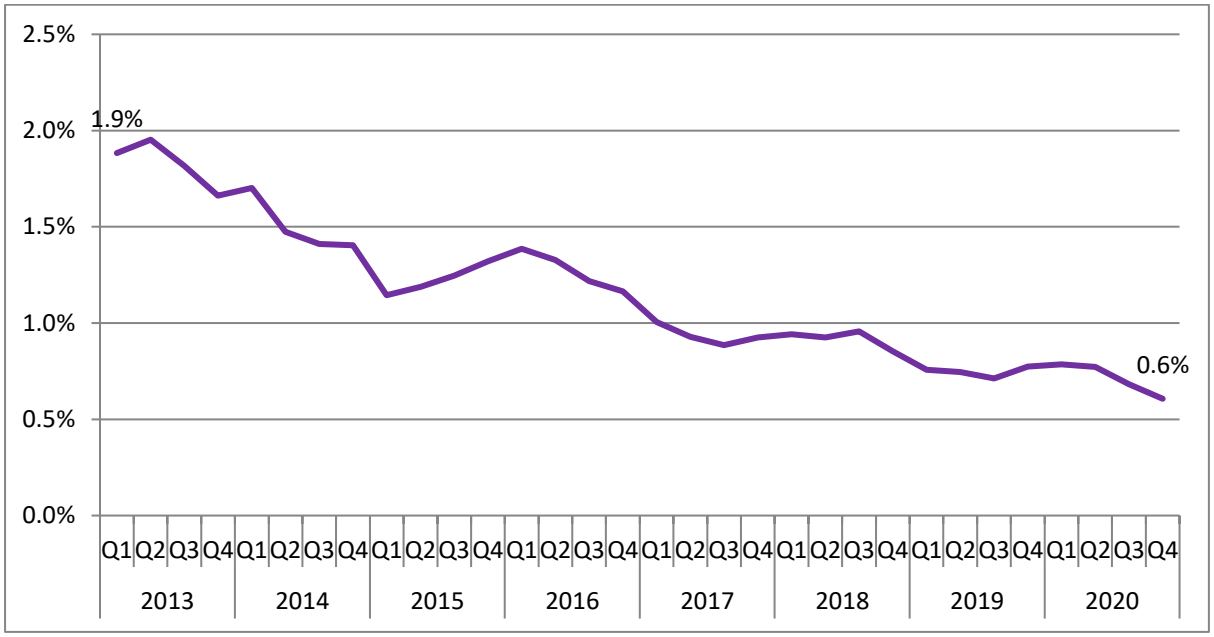
Data source: ACCESS Database, The Kirby Institute and the Burnet Institute

Comment on Figure 25

- Testing in conjunction with STI diagnosis was highest in PFSHCs, increasing from 59% in Q1 2013 to 88% at the end of Q4 2020.
- GBM GP clinics also saw an increase in the proportion of patients tested from 56% in Q1 of 2013 to 83% at the end of Q4 2020.

[13] Excludes patients known to be HIV positive
[14] GBM clinics defined as general practice clinics serving at least 50 GBM patients annually
[15] Diagnosis for chlamydia, gonorrhoea and/or infectious syphilis; any HIV test conducted at least 60 days before or at most 30 days after a diagnosis was recorded

Figure 26: Proportion of individual GBM patients[16] tested for HIV with a positive result (HIV positivity[17]) at any clinic in the ACCESS network, by quarter, 1 January 2013 to 31 December 2020



Data source: ACCESS Database, The Kirby Institute and the Burnet Institute

Comment on Figure 26

- Over time, HIV positivity among GBM attending PFSHCs and GBM GP clinics has decreased from 2.2% of Q1 2013 to 0.6% in Q4 2020

[16] Excludes patients known to be HIV positive

[17] HIV positivity is calculated as the proportion of individuals tested in a retrospective year period (discounting repeat tests among individuals) with an HIV diagnosis or confirmed pathology (positive p24 antigen or western blot test)

Sydney Gay Community Periodic Survey - HIV testing

HIV testing history is assessed in the annual Sydney Gay Community Periodic Survey (SGCPS), conducted each year during February/March. In recent years, frequency of testing has been added to the survey alongside lifetime testing and recent testing.

Figure 27: Lifetime HIV testing and testing in the previous 12 months; Sydney Gay Community Periodic Survey, 2016 to 2020

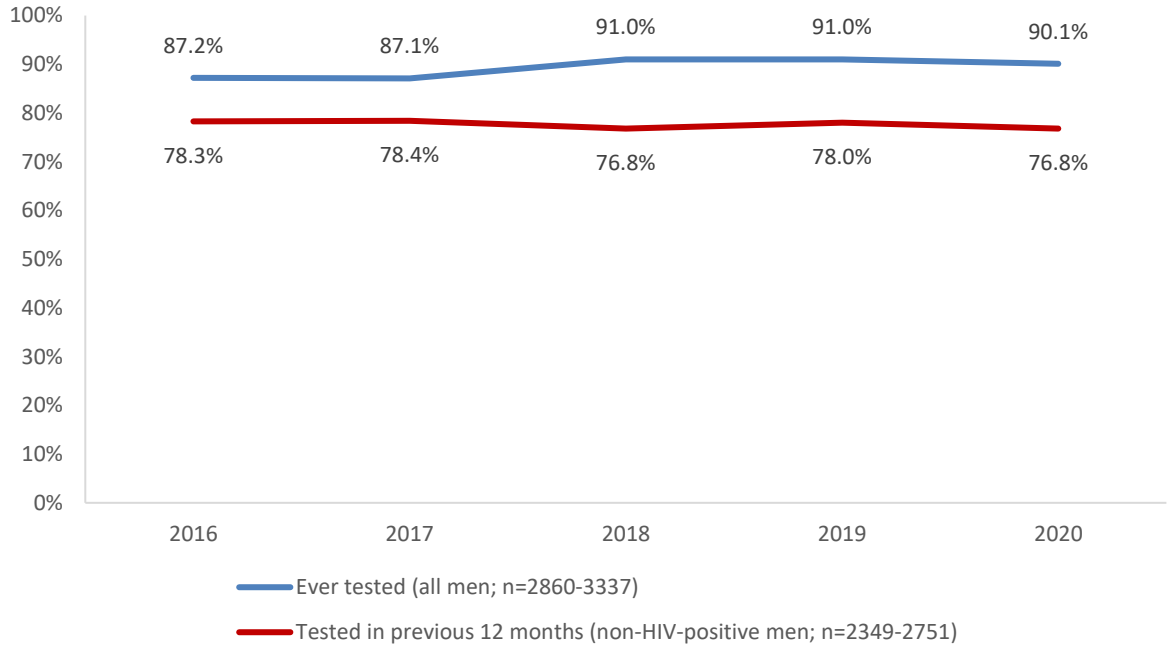
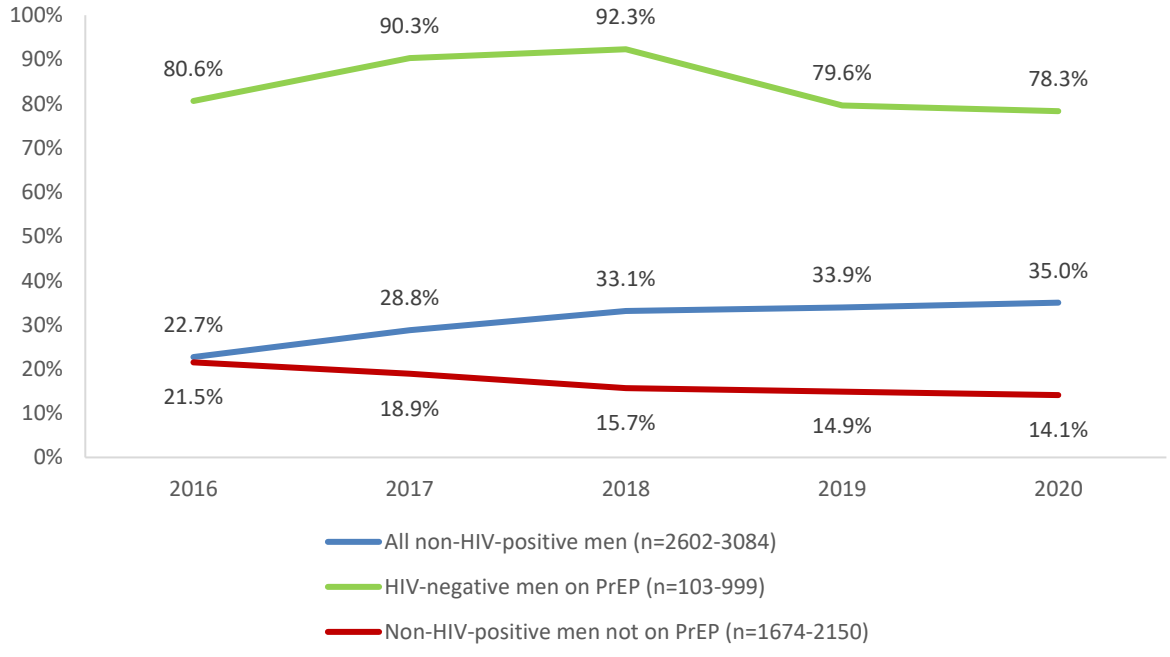


Figure 28: Non-HIV-positive gay and bisexual men reporting three or more HIV tests in the previous 12 months, stratified by PrEP use; Sydney Gay Community Periodic Survey, 2016 to 2020



Comment on Figure 27 and Figure 28

- The SGCPS data show that lifetime testing (ever having been tested for HIV) and testing in the previous year are relatively stable, reported by ~90% and ~77% of gay men, respectively, during 2016-20.

- Higher frequency testing (three or more HIV tests per year) has increased among all non-HIV-positive men, from 22.7% in 2016 to 35.0% in 2020.

- Stratifying higher frequency testing by PrEP use shows that it is far more common among HIV-negative men on PrEP, and has decreased recently from 80.6% in 2016 to 78.3% in 2020. Higher frequency testing has become less common among non-HIV-positive men not on PrEP (from 21.5% in 2016 to 14.1% in 2020).

- SGCPS data were collected in February 2020, before any social distancing came into place under the COVID-19 pandemic.

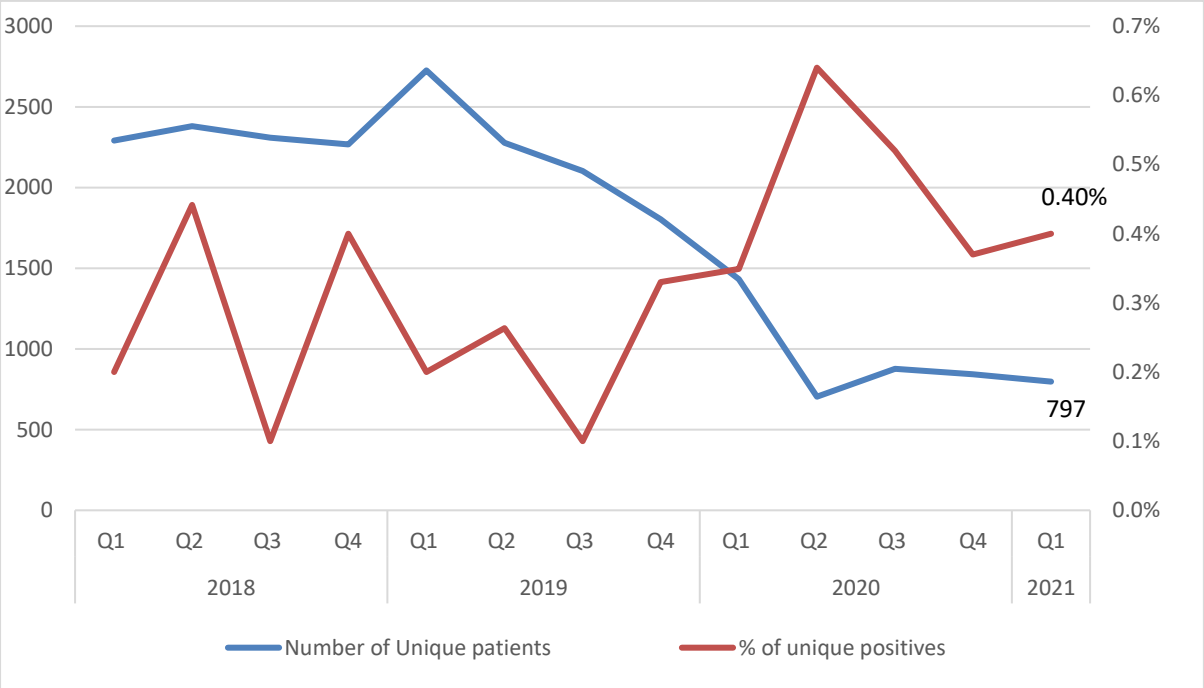
3.3 How is testing being made more accessible?

Table 4: Number of rapid HIV tests in community based sites and proportion of clients with high risk behaviour and infrequent testing history in Jan-Mar 2021

Non-traditional Settings	Number of RHT	Number of HIV antibody tests	% Unique Positive	% never previously tested	% tested more than 12 months ago#	*% with > 5 sexual partners in last 3 months**	*% overseas-born*
Community-based							
aTEST Surry Hills	Not operating due to COVID-19						
aTEST Oxford ST	797	1238	0.40%	10.41%	25.22%	18.80%	57.5%
aTEST Kings Cross	Not operating due to COVID-19						
aTEST Newtown	Not operating due to COVID-19						

Data sources: NSW Health HIV Strategy Monitoring Database[17]
Note: In Jan-Mar 2021, aTest Surry Hills and aTest Kings Cross were not operating due to COVID-19. The total number of unique patients at aTest Oxford St is 1,289. Some patients at this site have an HIV antibody test without a rapid test, which accounts for the additional HIV antibody tests above.
Note: Unique positive is for HIV antibody tests, and incorporates positive results for HIV tests done without a rapid test at Oxford St aTest sites.
Note: Clients' risk behaviour and infrequent testing history is calculated by: total occasions of service at Oxford St (n=1,346); and patients having a rapid test attending Kings Cross and Newtown.
#Does not include 'never tested'; *Only patients who provide information on this characteristic is included.
Note: The proportion of overseas-born clients is calculated amongst unique clients

Figure 29: The number of unique patients who had a rapid HIV test at a community based site between January 2018 and March 2021 and the proportion of tests that were positive



Data sources: NSW Health HIV Strategy Monitoring Database[18]
Note: Positivity is based on the result of the confirmatory HIV antibody test for rapid tests; and incorporates positive results for HIV tests done without a rapid test at Oxford St aTest site.
Note: aTest data was not reported by Surry Hills, Newtown and Oxford St sites in 2020 because they were not operating due to COVID-19

Comments on Table 4 and Figure 29

- NSW data suggests community-based testing sites are an effective testing model for engaging GBM with high risk behaviour and infrequent testing history.
- a[TEST] delivers rapid, confidential, peer-led HIV and STI testing that is well targeted.

In January to March 2020 at a[TEST] Oxford St:

- 25% of clients tested more than 12 months ago and 19% of clients were classified as high risk, with more than 5 sexual partners in the last 3 months.

Of 1289 unique clients:

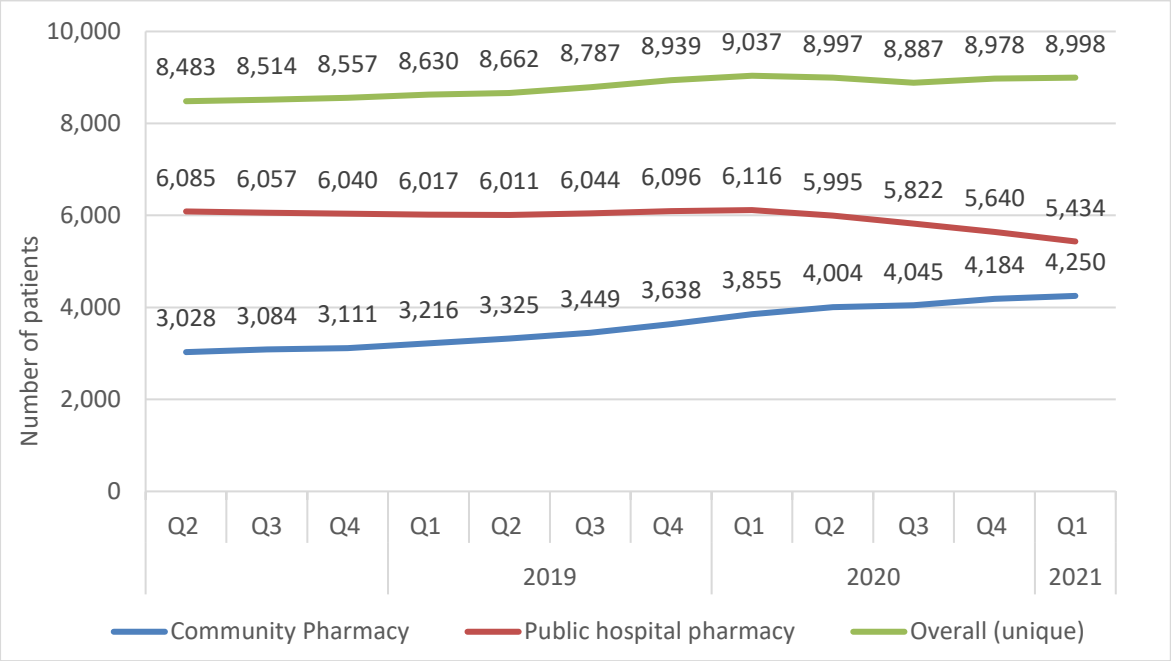
- 58% were born overseas
- 45% were from SESLHD, 35% from Sydney LHD, 8% from Northern Sydney LHD, 5% from Western Sydney LHD, 4% from South Western Sydney LHD, and 1% from Illawarra Shoalhaven.

[18] Public sexual health and HIV services data provided by Local Health Districts for the purpose of monitoring the implementation of the NSW HIV Strategy.

4. Increase HIV Treatment

4.1 How many people in NSW are on antiretroviral therapy?

Figure 30: The number of NSW residents who have been dispensed ART for HIV, by pharmacy type and by quarter, in the previous 12 months from 1 April 2020 to 31 March 2021



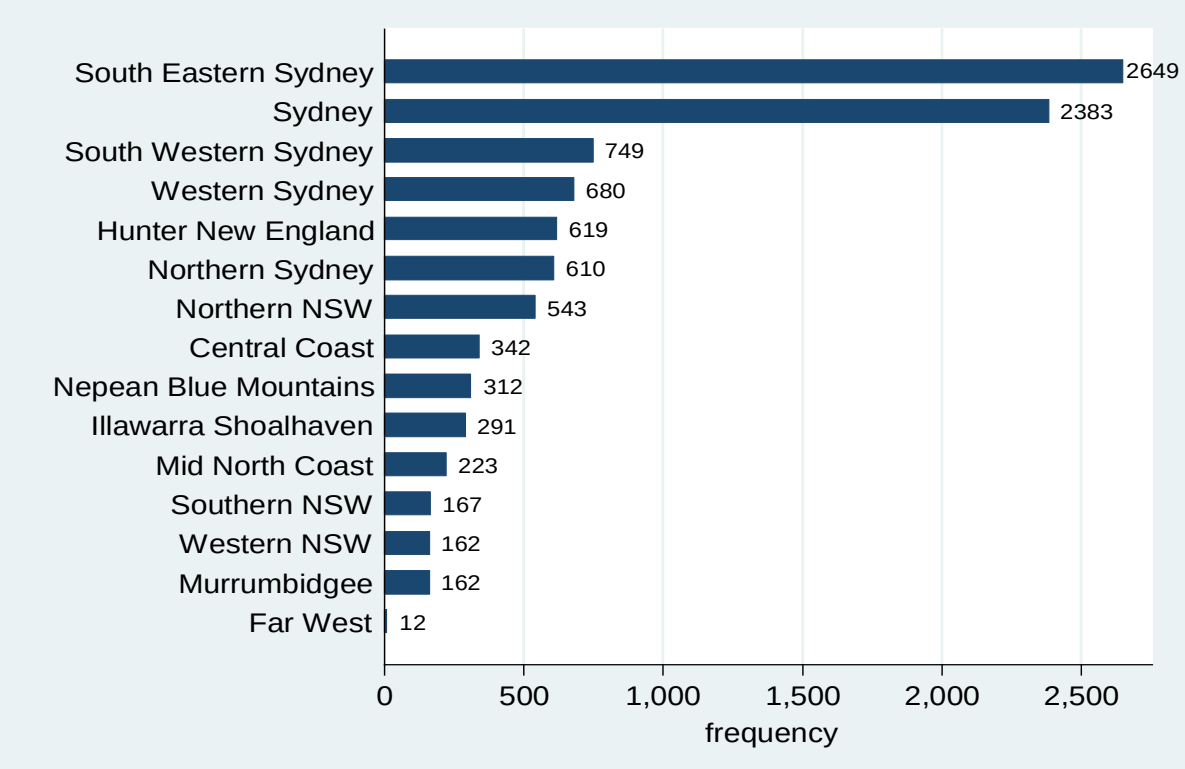
Data source: PBS Highly Specialised Drugs Programme data from 1 January 2018 to 31 December 2020 prepared for NSW Health. Note: The number of patients dispensed via community and public hospital pharmacies may add to a figure greater than the overall unique patients as some patients receive treatment from more than one pharmacy type within a year. Due to boundary changes or movements in and or out of NSW, the overall unique number of individuals presented in the above graph may differ slightly from previous reports.

Comments on Figure 30

- Between 1 April 2018 and 31 March 2021, a total of 8,998 (unique number) NSW residents were dispensed ART for HIV at least once within the previous 12 months. About half (49.5%) of ART treatment for HIV were dispensed by GP.

- Of the 8,998 residents dispensed ART, 91% were male. The majority (60%) were 50 years or older, 22% were aged 40-49 years, and about 18% aged 39 years or younger.

Figure 31: The number of NSW residents dispensed ART for HIV, by the LHD of patient residence, from 1 April to 31 March 2021[19]



Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme data from 1 April to 31 March 2021

Comments on Figure 31

- More than three-quarters (78%) of the ART dispensed in the 12 months ending 31 March 2021 was to patients residing in the following six LHDs: South Eastern Sydney, Sydney, South Western Sydney, Western Sydney, Hunter New England and Northern Sydney LHDs.

[19] The sum of the numbers displayed in the graph is higher than the total of 8,998 patients as some patients resided in more than one LHD.

4.2 Is the proportion of people on antiretroviral treatment coverage increasing in NSW?

Data on the treatment status of clients who received HIV care in NSW public sexual health and HIV services between April and March 2021 is summarised at Table 5[20].

Table 5: Clients who received HIV care in NSW public sexual health and HIV services from 1 April 2020 and 31 March 2021

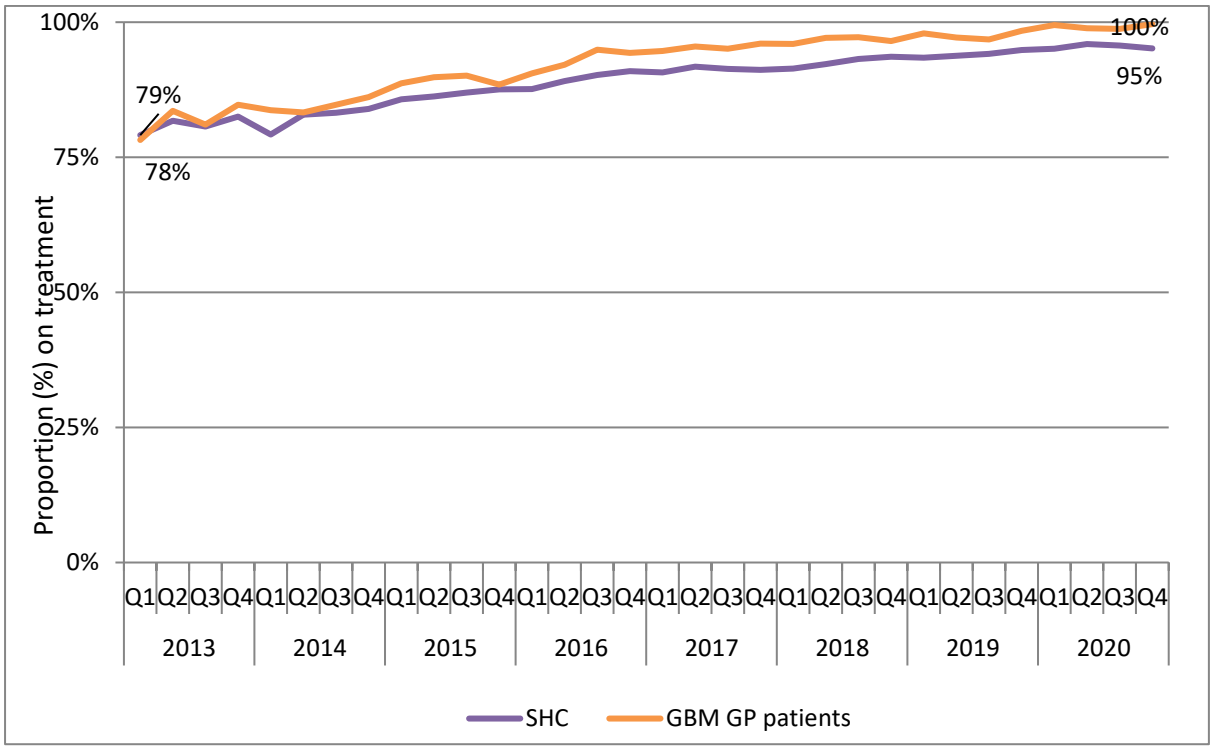
Number (%) of patients for whom treatment information was available	4,910
Number (%) on ART	4,838 (99%)

Data sources: NSW Health HIV Strategy Monitoring Database[21]
Note: Data presents here does not include Central Coast and Western Sydney LHD.

Comment on Table 5

- Between April 2020 and March 2021, treatment information was available for 4,910 clients with HIV who received care in public HIV and sexual health clinics in NSW. The available data indicates treatment coverage in NSW PFSHCs is high at 99%.

Figure 32 Proportion of HIV positive patients[22] attending any clinic in the ACCESS network[23] who received antiretroviral treatment or were recorded as on treatment in the previous year at any clinic in the ACCESS network, by service type and quarter, 1 January 2013 to 31 December 2020



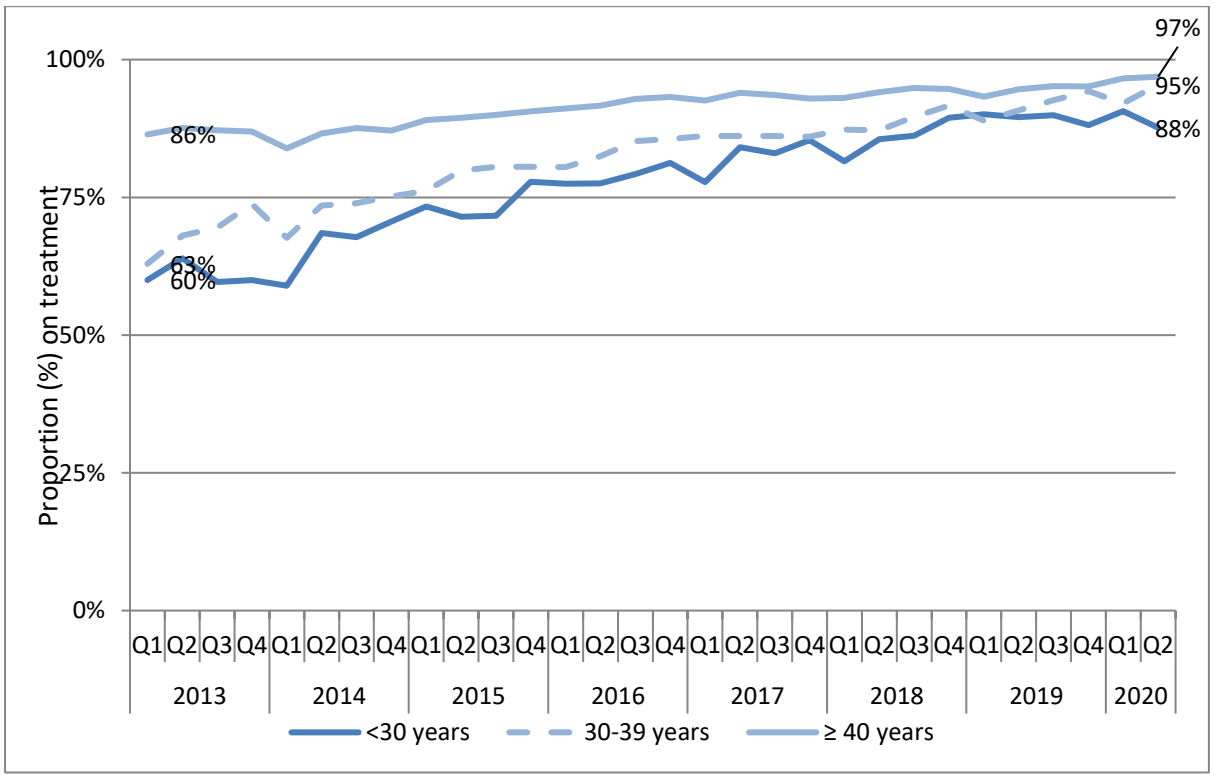
[20] Data is representative of all clients who has received HIV care in NSW public HIV and sexual health services in the last 12 months where treatment information is available.
[21] Public sexual health and HIV services data provided by Local Health Districts for the purpose of monitoring the implementation of the NSW HIV Strategy.
[22] Excludes patients for whom HIV care was recorded as managed elsewhere
[23] GBM clinics defined as general practice clinics serving at least 50 GBM patients annually
Hospital data were not included in analysis

Data source: ACCESS Database, The Kirby Institute and the Burnet Institute; Hospital data were not included in analysis for this report.

Comments on Figure 32

- Over time, treatment uptake for people living with HIV increased across service types. Between Q1 2013 and Q4 2020, treatment uptake increased from 79% to 100% and 78% to 95% in PFSHCs and GBM GP clinics, respectively.

Figure 33: Proportion of HIV positive patients attending any clinic in the ACCESS network [24] who received antiretroviral treatment or were recorded as on treatment in the previous year at any clinic in the ACCESS network, by age group and quarter, 1 January 2013 to 31 December 2020



Data source: ACCESS Database, The Kirby Institute and the Burnet Institute

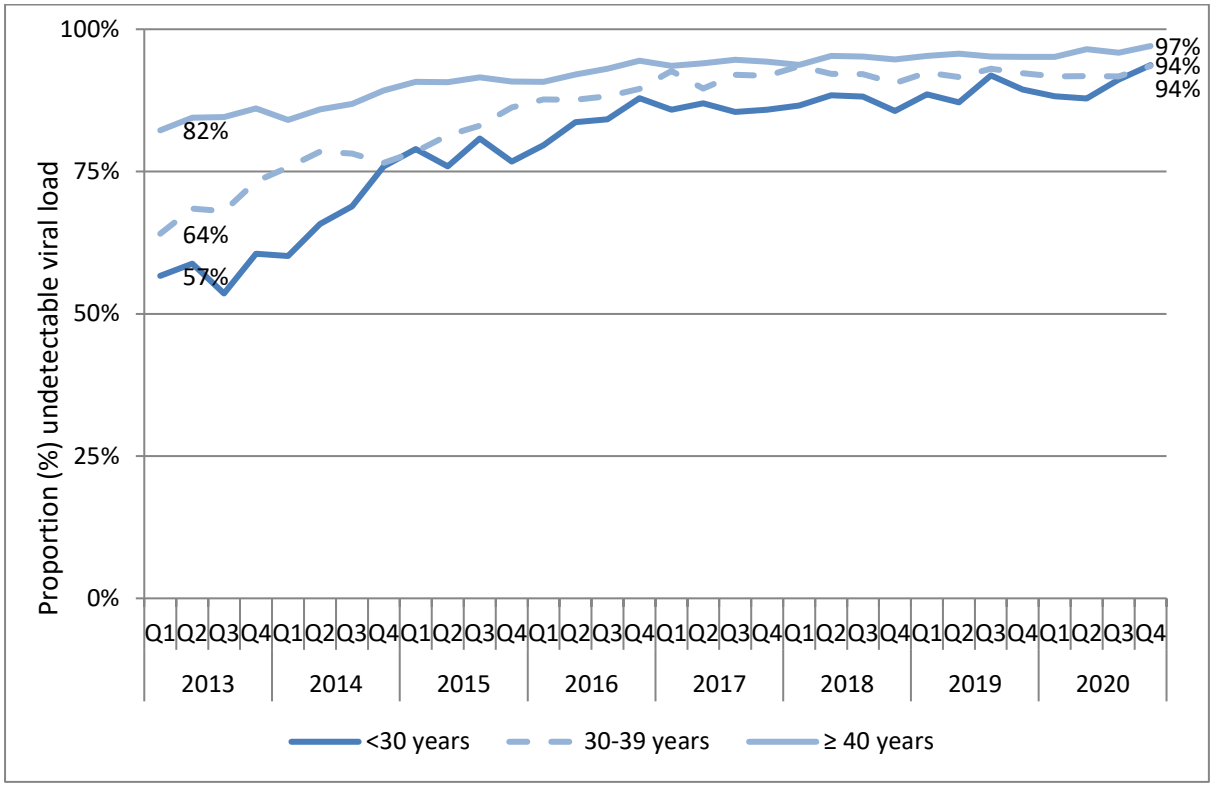
Comments on Figure 33

- Uptake of treatment for HIV was highest among patients aged 40 years and older and lowest among those 30 years and younger.

- Uptake increased amongst all age groups from Q1 2013-Q4 2020.

[24] GBM clinics defined as general practice clinics serving at least 50 GBM patients annually
Hospital data were not included in analysis

Figure 34: Proportion of HIV positive patients on treatment at any clinic in the ACCESS network[25] with an 'undetectable'[26] viral load at their most recent test in the previous 12-month period at any clinic in the ACCESS network[27], by age group and quarter, 1 January 2013 to 31 December 2020



Comments on Figure 34

- The proportion of HIV positive patients with an undetectable viral load was consistently highest among older patients: 97% of patients 40 years and older had undetectable viral loads in Q4 of 2020.
- Overall, the proportion of patients with an undetectable viral load increased from Q1 2013-Q4 2020.

[25] GBM clinics defined as general practice clinics serving at least 50 GBM patients annually

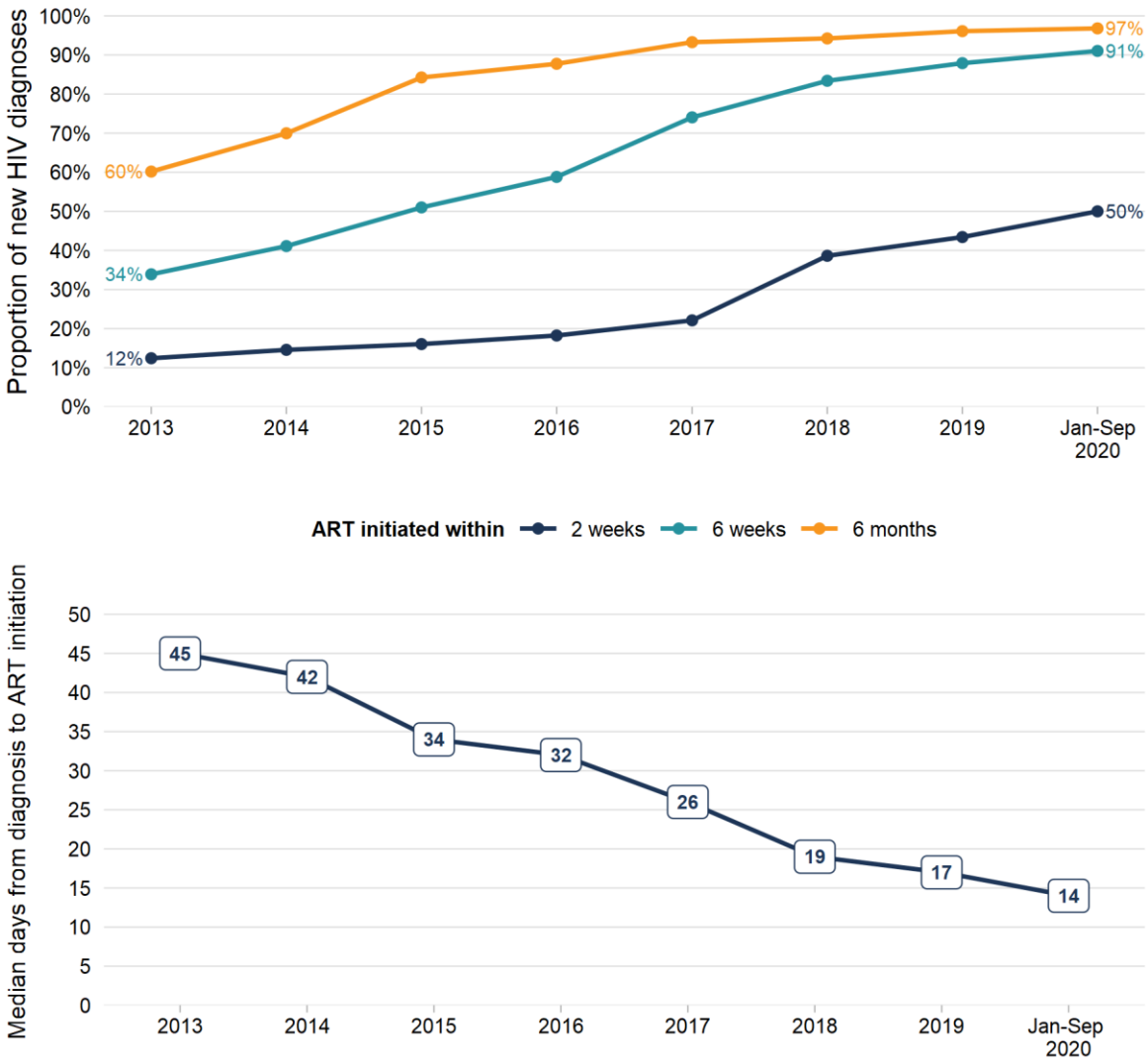
[26] 'Undetectable' defined as <200 RNA copies/mm^3 of blood

[27] Excludes patients for whom viral load test information was not available
Hospital data were not included in analysis

4.3 How quickly are people newly diagnosed with HIV commencing antiretroviral therapy and achieving undetectable viral load in NSW?

Under the 2016-2020 HIV Strategy the aim was to ensure that at least 90% of people newly diagnosed with HIV are on ART within 6 weeks of diagnosis and to further reduce the time from diagnosis to ART. Data on ART initiation was drawn from the six-month follow up and initial HIV notification form. At the time of preparing this Q1 2021 report, the six-month post diagnosis follow-up had been done on NSW residents newly diagnosed from 1 January 2013 to 30 September 2020 (n=2,390). All new diagnoses were included irrespective of whether eligible for follow up and of care outcome.

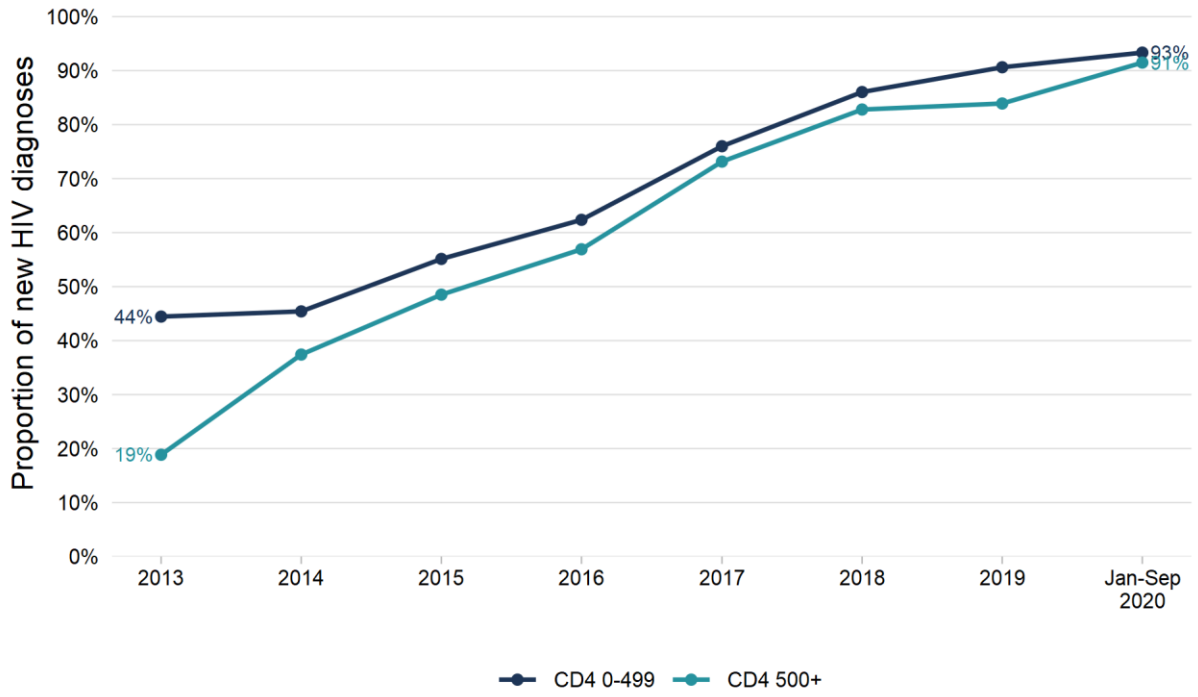
Figure 35: Time to ART for NSW residents newly diagnosed in January 2013 to September 2020



Comment on Figure 35

- Of the 156 people newly diagnosed during January to September 2020 and followed up six months post diagnosis, 50% initiated ART within two weeks, 91% within six weeks and 97% within six months of diagnosis. The median time to ART initiation was 14 days. Of the 151 on ART within six months of diagnosis, 127 (84%) were already virally suppressed (VL < 200 copies/mL) at six months follow up.

Figure 36: CD4 count at diagnosis of NSW residents notified with newly diagnosed HIV infection from January 2013 to September 2020 and % on ART within six weeks of diagnosis



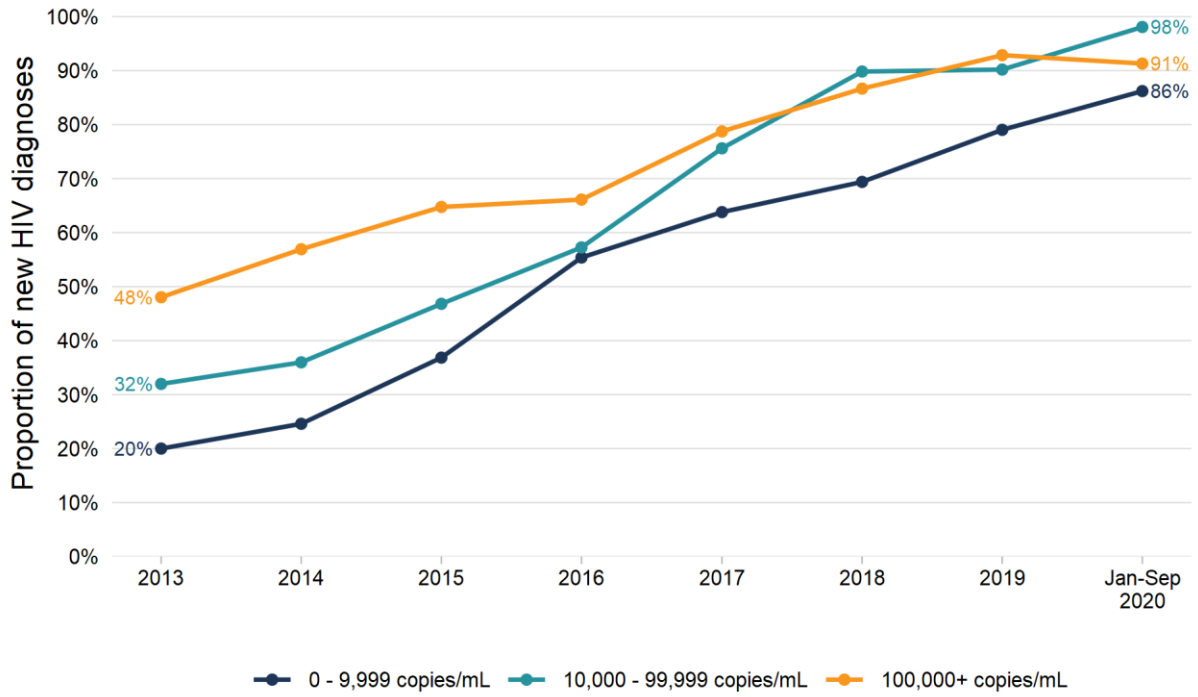
Note: excludes 58 new diagnoses with missing CD4 at diagnosis, some of whom had commenced ART within 6 months.

Comments on Figure 36

- The proportion of people newly diagnosed with a CD4 count of 0-499 cells/µL who commenced ART within six weeks of diagnosis was 44% of the 2013, 45% of the 2014, 55% of the 2015, 62% of the 2016, 76% of the 2017, 86% of the 2018, 91% of the 2019 and 93% of the Jan-Sep 2020 new diagnoses.

- The proportion of people newly diagnosed with a CD4 count of 500 or over who commenced ART within six weeks of diagnosis was 19% of the 2013, 37% of the 2014, 49% of the 2015, 57% of the 2016, 73% of the 2017, 83% of the 2018, 84% of the 2019 and 91% of the Jan-Sep 2020 new diagnoses.

Figure 37: HIV viral load at diagnosis of NSW residents notified with newly diagnosed HIV infection from January 2013 to September 2020 and % on ART within six weeks of diagnosis



Note: excludes 63 new diagnoses with missing HIV VL at diagnosis, some of whom had commenced ART within 6 months.

Comments on Figure 37

- Of people with a HIV VL of 0-9,999 copies/mL, 20% of the 2013, 25% of the 2014, 37% of the 2015, 55% of the 2016, 64% of the 2017, 69% of the 2018, 79% of the 2019 and 86% of the Jan-Sep 2020 new diagnoses had commenced ART within six weeks of diagnosis.

- Of people with a HIV VL of 10,000-99,999 copies/mL, 32% of the 2013, 36% of the 2014, 47% of the 2015, 57% of the 2016, 76% of the 2017, 90% of the 2018, 90% of the 2019 and 98% of the Jan-Sep 2020 new diagnoses had commenced ART within six weeks of diagnosis.

- Of people with a HIV VL of 100,000 or over, 48% of the 2013, 57% of the 2014, 65% of the 2015, 66% of the 2016, 79% of the 2017, 87% of the 2018, 93% of the 2019 and 91% of the Jan-Sep 2020 new diagnoses had commenced ART within six weeks of diagnosis.

4.4 How is transmitted drug resistance and HIV transmission monitored in NSW?

As part of the NSW HIV Prevention Revolution Partnership HIV sequences from routinely performed genotypic antiretroviral resistance testing are de-identified and linked to new HIV diagnoses. This enables the level of H drug resistance mutations from newly diagnosed people to be monitored over time, giving an estimate of the level of drug resistance that is being transmitted in the population. It is particularly important to monitor the level of transmitted resistance to each of the two antiretroviral drugs that are in PrEP (tenofovir (TDF) and emtricitabine (FTC)), as a virus with these drug mutations may result in PrEP failure.

Analysis of NSW HIV sequence data from 2004 to 2018 shows that transmitted drug resistance for all antiretroviral drugs has decreased during this time period from a peak of 19.7% in 2006 to 9.4% in 2018. Between 2015 – 2018 the most common were K103N (3.3%), T215S (2.0%), M41L (0.8%), and M184V (0.8%). For all sequences from newly diagnosed people in this time period (n=995), only one sequence was identified with high level resistance to TDF (K65R). In contrast eight sequences contained mutations conferring high level resistance to FTC (M184V/I), which represents an increase of 0.36% to 0.80% between 2012 to 2018.

Molecular epidemiological analysis of de-identified HIV sequences from newly diagnosed people is also undertaken to provide valuable information about HIV transmission in NSW to inform the public health response. When interpreting such analyses, it should be noted that detection of related infections is dependent on sequencing of virus soon after infection, as HIV is a virus that changes rapidly. Earlier diagnosis of HIV over time may increase the number of viruses found to be closely related. Data from 2013 to 2018 shows that almost two thirds of viruses from newly diagnosed people were part of a cluster. Such clusters of more than three sequences were not uncommon and have been increase in time and frequency (Di Giallonardo et al. J Int AIDS Soc 24:e25655; 2021).

5. Appendix A: Data Sources

Notifications Data Sources

Name	Custodian	Availability	Details
Notifiable Conditions Information Management System (NCIMS)	Health Protection NSW, NSW Health	Quarterly	State wide coverage of HIV notifications received by NSW Health and their follow-up six months post diagnosis. Quarterly report restricted to notifications on NSW residents who are newly diagnosed with HIV. NCIMS contains de-identified epidemiological information including on: basic demographic data, diagnosis date, reasons for testing, CD4 count, HIV viral load (HIV VL), past testing history, risk exposure, retention in care and ART status six months post diagnosis. HIV surveillance forms available at: http://www.health.nsw.gov.au/Infectious/Pages/notification.aspx

Prevention Data Sources

Name	Custodian	Availability	Details
EPIC-NSW Enrolment and Behavioural survey databases	The Kirby Institute, UNSW Australia	Quarterly	Demographic data on all EPIC-NSW participants. Data fields include: site, age, sex, sexuality, residence, country of birth.
ACCESS study database and EPIC-NSW Temporary Data Collection	The Kirby Institute, UNSW Australia, and Burnet Institute	Quarterly	Deidentified clinical data patients attending sexual health clinics, high caseload general practice clinics and hospital outpatients clinics, which includes details on patient consultations, demographics, behaviour, testing, diagnoses and treatment/prescriptions. ACCESS is a live and real-time database, which means that data are not always available from every service and it is possible for services to be introduced and discontinued over time. These changes may introduce slight variations from one reporting period to the next.
Sydney Gay Community Periodic Survey	Centre for Social Research in Health	Annually	Repeat cross-sectional survey of gay and homosexually active men recruited at a range of gay community sites in Sydney. Data fields include sexual, drug use and testing practices related to the transmission of HIV and other STIs among gay men in Sydney. Data is self-reported. Data is collected in February-March annually and published in the following quarter.
ACON Ending HIV online survey database	ACON	Ad-hoc	Survey respondents are self-selected gay identifying men, recruited mainly through advertisements undertaken by ACON on Facebook. Contains data knowledge and attitudes of respondents towards testing, prevention and treatment.

NSW Health NSP Minimum Data Set	Centre for Population Health, NSW Health	Quarterly	Units of injecting equipment distributed in NSW by pharmacies participating in the Pharmacy NSP Fitpack® scheme and by the Public NSP
NSW NSP Data Collection	Centre for Population Health, NSW Health	6-monthly	Number of public NSP outlets by type in NSW by LHD
NSW Needle and Syringe Program Enhanced Data Collection	The Kirby Institute, UNSW Australia	Annual	Annual Survey of NSP attendees. Provides NSP client demographic, behavioural and drug use data to strengthen the state-wide prevention approach, and inform LHDs in planning for NSP service delivery at the local level. Data is self-reported. Data is collected over a two week period in late Feb/early March. The reports are circulated to CEs and key stakeholders in August. (The report may be published for the first time in 2017 TBC)

Testing Data Sources

Name	Custodian	Availability	Coverage
NSW Health denominator data project	Health Protection NSW, NSW Health	Quarterly	Number of tests in NSW
NSW Health HIV Strategy Monitoring Database	NSW Ministry of Health, NSW Health	Quarterly	Public sexual health and HIV services data provided by Local Health Districts for the purpose of monitoring the implementation of the NSW HIV Strategy, includes aggregate testing data by priority population for relevant tests conducted within the LHD and community sites.
ACCESS Database	The Kirby Institute, UNSW Australia, and Burnet Institute	Quarterly	Deidentified clinical data patients attending sexual health clinics, high caseload general practice clinics and hospital outpatients clinics, which includes details on patient consultations, demographics, behaviour, testing, diagnoses and treatment/prescriptions. ACCESS is a live and real-time database, which means that data are not always available from every service and it is possible for services to be introduced and discontinued over time. These changes may introduce slight variations from one reporting period to the next.
Sydney Gay Community Periodic Survey	Centre for Social Research in Health	Annually Note: collected February-March	Repeat cross-sectional survey of gay and homosexually active men recruited at a range of gay community sites in Sydney. Data fields include sexual, drug use and testing practices related to the transmission of HIV and other STIs among gay men in Sydney. Data is self-reported. Data is collected in February-March annually and published in the following quarter.

Treatment Data Sources

Name	Custodian	Availability	Coverage
Pharmaceutical Benefits Schedule (PBS) Highly Specialised Drugs Programme data	Centre for Population Health, NSW Health	Quarterly Note: 4-6 month lag in data being provided to NSW Health.	PBS dispensing data for HIV treatments for all NSW residents from July 2014. This data is prepared by the Commonwealth Government for NSW Health and captures all HIV treatment dispensing in NSW through the PBS from a public hospital, private hospital or community pharmacies.
NSW Health HIV Strategy Monitoring Database	NSW Ministry of Health, NSW Health	Quarterly	Public sexual health and HIV services data provided by Local Health Districts for the purpose of monitoring the implementation of the NSW HIV Strategy, includes summarised data on treatment coverage among patients diagnosed with HIV who are 'in care'.
ACCESS Database	The Kirby Institute, UNSW Australia, and Burnet Institute	Quarterly	Deidentified clinical data patients attending sexual health clinics, high caseload general practice clinics and hospital outpatients clinics, which includes details on patient consultations, demographics, behaviour, testing, diagnoses and treatment/prescriptions. ACCESS is a live and real-time database, which means that data are not always available from every service and it is possible for services to be introduced and discontinued over time. These changes may introduce slight variations from one reporting period to the next.
Notifiable Conditions Information Management System (NCIMS)	Health Protection NSW, NSW Health	Quarterly	State wide coverage/representation of HIV notifications received by NSW Health under public health legislation and of their follow up six months post diagnosis. Quarterly report restricted to notifications on people who are NSW residents and who are newly diagnosed with HIV. NCIMS contains de-identified epidemiological information on people notified with HIV infection including on: basic demographic data, diagnosis date, reasons for testing, CD4 count, HIV viral load (HIV VL), past testing history, risk exposure, retention in care and ART status six months post diagnosis. HIV surveillance forms available at: http://www.health.nsw.gov.au/Infectious/Pages/notification.aspx

6. Appendix B: Characteristics of NSW residents notified with newly diagnosed HIV infection 1981 to March 2021 (continues over page); data extracted from NCIMS, HPNSW, 19 May 2021.

Case characteristics	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Jan-Mar 2021	1981-Mar 2021
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Total (ALL)	**333**	**414**	**354**	**343**	**349**	**318**	**312**	**277**	**281**	**207**	**48**	**19091**
Gender												
Male	312 (93.7%)	377 (91.1%)	324 (91.5%)	317 (92.4%)	320 (91.7%)	292 (91.8%)	282 (90.4%)	254 (91.7%)	252 (89.7%)	182 (87.9%)	43 (89.6%)	17535 (91.8%)
Female	21 (6.3%)	36 (8.7%)	27 (7.6%)	25 (7.3%)	28 (8.0%)	22 (6.9%)	24 (7.7%)	20 (7.2%)	23 (8.2%)	21 (10.1%)	4 (8.3%)	1245 (6.5%)
Transgender	0 (0.0%)	1 (0.2%)	3 (0.8%)	1 (0.3%)	1 (0.3%)	4 (1.3%)	6 (1.9%)	3 (1.1%)	6 (2.1%)	4 (1.9%)	1 (2.1%)	63 (0.3%)
Unknown	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	248 (1.3%)
Aboriginal or Torres Strait Islander person status												
Aboriginal person	5 (1.5%)	13 (3.1%)	8 (2.3%)	7 (2.0%)	7 (2.0%)	9 (2.8%)	8 (2.6%)	11 (4.0%)	6 (2.1%)	4 (1.9%)	1 (2.1%)	221 (1.2%)
Torres Strait Islander	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	0 (0.0%)	2 (0.0%)
Non-Aboriginal person	325 (97.6%)	395 (95.4%)	344 (97.2%)	331 (96.5%)	339 (97.1%)	308 (96.9%)	304 (97.4%)	266 (96.0%)	274 (97.5%)	201 (97.1%)	46 (95.8%)	11987 (62.8%)
Not stated	3 (0.9%)	6 (1.4%)	2 (0.6%)	5 (1.5%)	3 (0.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.0%)	1 (2.1%)	6881 (36.0%)
Age in years at diagnosis												
0-4	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	40 (0.2%)
5-9	0 (0.0%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	0 (0.0%)	1 (0.3%)	1 (0.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	25 (0.1%)
10-14	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	36 (0.2%)
15-19	6 (1.8%)	9 (2.2%)	8 (2.3%)	2 (0.6%)	6 (1.7%)	3 (0.9%)	5 (1.6%)	4 (1.4%)	4 (1.4%)	5 (2.4%)	0 (0.0%)	332 (1.7%)
20-24	35 (10.5%)	44 (10.6%)	37 (10.5%)	41 (12.0%)	45 (12.9%)	39 (12.3%)	29 (9.3%)	36 (13.0%)	29 (10.3%)	17 (8.2%)	5 (10.4%)	2302 (12.1%)
25-29	55 (16.5%)	78 (18.8%)	65 (18.4%)	51 (14.9%)	63 (18.1%)	61 (19.2%)	58 (18.6%)	60 (21.7%)	43 (15.3%)	46 (22.2%)	11 (22.9%)	3759 (19.7%)
30-34	65 (19.5%)	72 (17.4%)	48 (13.6%)	64 (18.7%)	62 (17.8%)	63 (19.8%)	57 (18.3%)	50 (18.1%)	67 (23.8%)	44 (21.3%)	9 (18.8%)	3805 (19.9%)
35-39	59 (17.7%)	64 (15.5%)	42 (11.9%)	45 (13.1%)	45 (12.9%)	48 (15.1%)	36 (11.5%)	29 (10.5%)	41 (14.6%)	22 (10.6%)	6 (12.5%)	3114 (16.3%)
40-44	46 (13.8%)	47 (11.4%)	45 (12.7%)	45 (13.1%)	32 (9.2%)	30 (9.4%)	38 (12.2%)	27 (9.7%)	30 (10.7%)	21 (10.1%)	3 (6.2%)	2296 (12.0%)
45-49	26 (7.8%)	38 (9.2%)	45 (12.7%)	30 (8.7%)	27 (7.7%)	32 (10.1%)	21 (6.7%)	23 (8.3%)	19 (6.8%)	16 (7.7%)	4 (8.3%)	1383 (7.2%)
50-54	25 (7.5%)	28 (6.8%)	24 (6.8%)	25 (7.3%)	28 (8.0%)	18 (5.7%)	19 (6.1%)	18 (6.5%)	19 (6.8%)	14 (6.8%)	4 (8.3%)	867 (4.5%)
55-59	10 (3.0%)	14 (3.4%)	22 (6.2%)	15 (4.4%)	13 (3.7%)	13 (4.1%)	16 (5.1%)	15 (5.4%)	13 (4.6%)	10 (4.8%)	3 (6.2%)	508 (2.7%)
60-64	2 (0.6%)	13 (3.1%)	6 (1.7%)	14 (4.1%)	15 (4.3%)	6 (1.9%)	17 (5.4%)	7 (2.5%)	4 (1.4%)	6 (2.9%)	1 (2.1%)	277 (1.5%)
65-69	2 (0.6%)	4 (1.0%)	9 (2.5%)	7 (2.0%)	7 (2.0%)	4 (1.3%)	5 (1.6%)	4 (1.4%)	7 (2.5%)	6 (2.9%)	2 (4.2%)	159 (0.8%)
70 or over	2 (0.6%)	3 (0.7%)	2 (0.6%)	3 (0.9%)	6 (1.7%)	0 (0.0%)	10 (3.2%)	4 (1.4%)	5 (1.8%)	0 (0.0%)	0 (0.0%)	100 (0.5%)
Unknown	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	88 (0.5%)

Case characteristics	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Jan-Mar 2021	1981-Mar 2021
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Total (ALL)	**333**	**414**	**354**	**343**	**349**	**318**	**312**	**277**	**281**	**207**	**48**	**19091**
Reported HIV risk exposure												
MSM	270 (81.1%)	322 (77.8%)	265 (74.9%)	254 (74.1%)	264 (75.6%)	237 (74.5%)	215 (68.9%)	194 (70.0%)	190 (67.6%)	135 (65.2%)	36 (75.0%)	12123 (63.5%)
MSM who injects drugs	11 (3.3%)	15 (3.6%)	16 (4.5%)	20 (5.8%)	21 (6.0%)	25 (7.9%)	17 (5.4%)	25 (9.0%)	25 (8.9%)	20 (9.7%)	3 (6.2%)	643 (3.4%)
Hetero-sex only	41 (12.3%)	58 (14.0%)	61 (17.2%)	50 (14.6%)	52 (14.9%)	48 (15.1%)	68 (21.8%)	51 (18.4%)	56 (19.9%)	41 (19.8%)	7 (14.6%)	1873 (9.8%)
PWID	8 (2.4%)	9 (2.2%)	7 (2.0%)	8 (2.3%)	4 (1.1%)	4 (1.3%)	6 (1.9%)	4 (1.4%)	6 (2.1%)	3 (1.4%)	1 (2.1%)	588 (3.1%)
Blood disorder, blood or tissue recipient	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.5%)	0 (0.0%)	278 (1.5%)
Vertical transmission	0 (0.0%)	0 (0.0%)	1 (0.3%)	1 (0.3%)	0 (0.0%)	1 (0.3%)	2 (0.6%)	0 (0.0%)	0 (0.0%)	1 (0.5%)	0 (0.0%)	55 (0.3%)
Other	1 (0.3%)	2 (0.5%)	1 (0.3%)	4 (1.2%)	3 (0.9%)	1 (0.3%)	1 (0.3%)	1 (0.4%)	3 (1.1%)	1 (0.5%)	0 (0.0%)	55 (0.3%)
Unknown	2 (0.6%)	8 (1.9%)	3 (0.8%)	6 (1.7%)	4 (1.1%)	2 (0.6%)	3 (1.0%)	2 (0.7%)	1 (0.4%)	5 (2.4%)	1 (2.1%)	3476 (18.2%)
LHD of residence												
South Eastern Sydney	124 (37.2%)	150 (36.2%)	126 (35.6%)	112 (32.7%)	129 (37.0%)	84 (26.4%)	92 (29.5%)	85 (30.7%)	73 (26.0%)	50 (24.2%)	14 (29.2%)	5910 (31.0%)
Sydney	89 (26.7%)	114 (27.5%)	91 (25.7%)	84 (24.5%)	86 (24.6%)	95 (29.9%)	71 (22.8%)	63 (22.7%)	61 (21.7%)	36 (17.4%)	8 (16.7%)	3309 (17.3%)
Northern Sydney	24 (7.2%)	23 (5.6%)	25 (7.1%)	17 (5.0%)	24 (6.9%)	20 (6.3%)	29 (9.3%)	23 (8.3%)	23 (8.2%)	19 (9.2%)	2 (4.2%)	1096 (5.7%)
Western Sydney	31 (9.3%)	25 (6.0%)	27 (7.6%)	26 (7.6%)	20 (5.7%)	24 (7.5%)	27 (8.7%)	24 (8.7%)	30 (10.7%)	25 (12.1%)	4 (8.3%)	857 (4.5%)
South Western Sydney	18 (5.4%)	30 (7.2%)	29 (8.2%)	30 (8.7%)	31 (8.9%)	31 (9.7%)	25 (8.0%)	21 (7.6%)	34 (12.1%)	28 (13.5%)	7 (14.6%)	802 (4.2%)
Hunter New England	11 (3.3%)	14 (3.4%)	17 (4.8%)	27 (7.9%)	17 (4.9%)	15 (4.7%)	7 (2.2%)	17 (6.1%)	23 (8.2%)	19 (9.2%)	2 (4.2%)	571 (3.0%)
Nepean Blue Mountains	4 (1.2%)	5 (1.2%)	3 (0.8%)	6 (1.7%)	6 (1.7%)	2 (0.6%)	6 (1.9%)	5 (1.8%)	4 (1.4%)	5 (2.4%)	2 (4.2%)	284 (1.5%)
Illawarra Shoalhaven	5 (1.5%)	9 (2.2%)	7 (2.0%)	6 (1.7%)	7 (2.0%)	8 (2.5%)	10 (3.2%)	7 (2.5%)	6 (2.1%)	4 (1.9%)	1 (2.1%)	260 (1.4%)
Northern NSW	11 (3.3%)	5 (1.2%)	5 (1.4%)	7 (2.0%)	8 (2.3%)	5 (1.6%)	10 (3.2%)	9 (3.2%)	10 (3.6%)	2 (1.0%)	4 (8.3%)	242 (1.3%)
Central Coast	4 (1.2%)	10 (2.4%)	5 (1.4%)	8 (2.3%)	5 (1.4%)	11 (3.5%)	12 (3.8%)	5 (1.8%)	2 (0.7%)	5 (2.4%)	1 (2.1%)	232 (1.2%)
Mid North Coast	4 (1.2%)	3 (0.7%)	6 (1.7%)	7 (2.0%)	6 (1.7%)	2 (0.6%)	4 (1.3%)	3 (1.1%)	2 (0.7%)	4 (1.9%)	0 (0.0%)	161 (0.8%)
Western NSW	3 (0.9%)	7 (1.7%)	5 (1.4%)	2 (0.6%)	2 (0.6%)	5 (1.6%)	5 (1.6%)	3 (1.1%)	3 (1.1%)	4 (1.9%)	1 (2.1%)	141 (0.7%)
Murrumbidgee-Albury	2 (0.6%)	5 (1.2%)	3 (0.8%)	3 (0.9%)	4 (1.1%)	9 (2.8%)	6 (1.9%)	4 (1.4%)	2 (0.7%)	4 (1.9%)	0 (0.0%)	115 (0.6%)
Southern NSW	2 (0.6%)	8 (1.9%)	4 (1.1%)	4 (1.2%)	2 (0.6%)	6 (1.9%)	3 (1.0%)	3 (1.1%)	2 (0.7%)	1 (0.5%)	1 (2.1%)	77 (0.4%)
Far West	0 (0.0%)	2 (0.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.4%)	2 (0.7%)	0 (0.0%)	1 (2.1%)	12 (0.1%)
Unknown or other	1 (0.3%)	4 (1.0%)	1 (0.3%)	4 (1.2%)	2 (0.6%)	1 (0.3%)	5 (1.6%)	4 (1.4%)	4 (1.4%)	1 (0.5%)	0 (0.0%)	5022 (26.3%)

7. Appendix C: Demographic profile of participants who participated in EPIC study

Category	Description
Gender	Gender was obtained from the risk assessment, behavioural survey, and ACCESS databases, where available. Risk assessment data were available for 6,554 (70.2%) participants, behavioural survey data for 6,334 (67.8%) participants and ACCESS data for 8,029 (85.9%) participants. Data were not available for 307 (3.3%) participants.
Sexual identity	Sexual identity was obtained from the risk assessment and behavioural survey databases, where available. Risk assessment data were available for 6,554 (70.1%) participants, and behavioural survey data for 6,334 (67.8%) participants. Data were missing for 397 (4.2%) participants.
Age	Age was obtained from the enrolment and ACCESS databases, where available. In the enrolment database, date of birth (used to calculate age) was recorded for participants who consented to data linkage; 7,407 (79.3%) provided consent and data are available for 7,393 participants. Age was available in the ACCESS database for 8,035 participants (86.0%). Data on age were not available from either the enrolment or ACCESS databases for 331 (3.5%) of total participants.
Aboriginal and/or Torres Strait Islander status	Aboriginal and/or Torres Strait Islander status was obtained from the behavioural survey and ACCESS databases, where available. 8116 (87%) participants consented to participate in the behavioural survey and 6344 (67.8% of the total sample) completed it. Of the 1,208 (12.9%) participants whose Indigenous status was not stated, 11 participants' country/region of birth was available and not Australia, so these people were counted as Non-Indigenous, as it was assumed that there would be very few indigenous Australian or Torres Strait Islander people born outside Australia. Overall, after this assumption, data for Indigenous status was missing for 1,197 (12.8%) participants.
Country/region	Country/region of birth was obtained from the behavioural survey and ACCESS databases, where available (see above). Data for country/region of birth was missing for 1,697 (18.2%) participants.
Area of residence	Area of residence (based on participant postcode) was obtained from the enrolment, behavioural survey and ACCESS databases, where available. Data were missing for 222 (2.4%) participants.

8. Appendix D: Ending HIV Seven Statements Evaluation, ACON 2013-2021

Percentage of respondents who **strongly agree** or **agree** with the statements below.

	Feb 2013	May 2013	Nov 2013	Apr 2014	Dec 2014	Apr 2015	Mar 2016	Sep 2016	Apr 2017	Mar 2018	Mar 2019	Dec 2019	Mar 2020	Mar 2021[4]
Everything has changed, we can now dramatically reduce HIV transmission	48%	59%	59%	67%	61%	71%	77%	86%	77%	87%	85%	87%	89%	80%
Now more than ever, gay men need to know their HIV status	81%	85%	86%	90%	89%	91%	92%	92%	91%	92%	92%	92%	92%	89%
Sexually active gay men should take an HIV test four times a year[1]	88%	87%	92%	93%	89%	92%	93%	96%	94%	95%	94%	85%	88%	85%
HIV treatments now offer increased health benefits and fewer side effects	65%	66%	67%	73%	69%	75%	77%	78%	71%	77%	74%	73%	72%	78%
HIV treatments significantly reduce the risk of passing on HIV	33%	42%	50%	64%	59%	69%	73%	83%	78%	84%	83%	85%	87%	83%
Early HIV treatment is better for your health and can help protect your sex partners[2]	74%	80%	89%	91%	92%	93%	93%	95%	93%	95%	93%	-	-	-
Condoms continue to be an effective way of preventing HIV transmission[3]	95%	92%	92%	91%	91%	85%	94%	94%	94%	94%	90%	90%	93%	91%
PrEP, if taken as prescribed, is an effective way of preventing HIV transmission	-	-	-	-	-	-	66%	78%	74%	83%	81%	78%	80%	85%

* In March 2016 this statement was changed to reflect advances in bio-medical prevention. On all prior surveys the statement was 'condoms continue to be the most effective way of preventing HIV transmission'.

Survey methodology:
Each of the five online evaluation surveys was developed and analysed by an independent consultant using the Survey Monkey online tool. Each survey was run over a one to three week period. In addition to 30 to 40 mainly multiple choice questions, with a few opportunities for respondents to provide comments, respondents were provided with a set of seven statements and asked to indicate whether they agree or disagree with the statements (using a five point scale)

Recruitment methodology:
Respondents were mainly recruited through the placement of survey advertisements on Facebook undertaken by ACON.

Survey objectives:
The online evaluation survey focussed on measuring a) advertisement awareness, b) engagement with campaign components, and c) self-reported impact and getting answers to seven statements.

9. Appendix E: NSW HIV Data Advisory Group members

Kerry Chant	Advisory Group Chair, Chief Health Officer and Deputy Secretary, Population and Public Health, NSW Ministry of Health
Meredith Claremont	Centre for Population Health, NSW Ministry of Health
Carolyn Murray	Centre for Population Health, NSW Ministry of Health
Matthew Craig	Centre for Population Health, NSW Ministry of Health
Cherie Power	Centre for Population Health, NSW Ministry of Health
Shawn Clackett	Centre for Population Health, NSW Ministry of Health
Yanni Sun	Centre for Population Health, NSW Ministry of Health
Jeremy McAnulty	Health Protection NSW, NSW Health
Christine Selvey	Health Protection NSW, NSW Health
Steven Nigro	Health Protection NSW, NSW Health
Christopher Bourne	STIPU, Centre for Population Health, NSW Ministry of Health
Bill Whittaker	HIV policy and strategy advisor
Andrew Grulich	The Kirby Institute, University of NSW
Rebecca Guy	The Kirby Institute, University of NSW
Phillip Keen	The Kirby Institute, University of NSW
Prital Patel	The Kirby Institute, University of NSW
Benjamin Bavinton	The Kirby Institute, University of NSW
Garrett Prestage	The Kirby Institute, University of NSW
Martin Holt	Centre for Social Research in Health, University of NSW
Nicolas Parkhill	ACON
Barbara Luisi	Multicultural HIV and Hepatitis Service (MHAHS)
Jane Costello	Positive Life
Neil Fraser	Positive Life