

# NSW HIV Strategy 2021 – 2025

## Quarter 2 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 Q2 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, likely still affected by the COVID-19 pandemic**

- In Q2 2021, 60 NSW residents were newly diagnosed with HIV, a 12% drop compared to the Q2 average for the last five years.
- Less than one quarter of new diagnoses had evidence their infection occurred within the last 12 months, 46% less than the Q2 average for the last five years.
- An increase in diagnoses in people with heterosexual risk was largely driven by those who were diagnosed with late-stage infection
- As overall testing remained close to pre-COVID levels and well targeted, the ongoing decline in early-stage infections suggest HIV transmission is decreasing.

**HIV Testing and PrEP use is higher in Q2 2021 compared to 2020 but public clinics have reduced service capacity due to resources being diverted to the COVID response**

- HIV testing in public and private laboratories in Q2 2021 has recovered to be closer to the pre-COVID average, after a sharp decline in April 2020 during heavier COVID-19 restrictions.
- Testing in public sexual health clinics was 48% higher in Q2 2021 compared to the same period in 2020, during heavier COVID restrictions. However, compared to Q1, 2021, testing in Q2 decreased by 6% partly due to the impact of reduced service capacity due to resources being diverted to the COVID-19 response.
- Home testing via [Dried Blood Spot](#) decreased by 14% in Q2 2021 compared to Q1 2021.
- PrEP use decreased by 1% in Q2 2021 compared to Q1 2021, but this is 25% higher than the same time last year. PrEP initiations decreased by 5% in Q2 2021 compared to Q1 2021, but this is 50% higher than the same period in 2020.

**Coming out of COVID lockdown messages to community about HIV/STI testing and PrEP**

New communication materials and a short [video](#) were released by ACON on 8 October 2021 with messages about re-engaging with health services after COVID lockdown for screening and PrEP before re-engaging in casual sex. Key messages:

- [Testing for HIV and STIs post-lockdown](#)
- [Getting back on PrEP post-lockdown](#)

The video targets GBMSM and is promoted on hook-up apps (Grindr, Hornet and Scruff).

Testing options include GPs, rapid tests, and online services such as [you\[TEST\]](#) which provide peer support to choose a self-test or Dried Blood Spot test.

**The time from HIV diagnosis to treatment initiation continues to improve**

- Half of the NSW residents diagnosed with HIV in 2020 initiated treatment within two weeks of diagnosis.
- The median number of days from diagnosis to treatment remains 14 days.
- Of those on treatment, 86% had an undetectable viral load by the six-month follow-up.

## Key data – Q2, 2021

HIV INFECTIONS	Target group	Apr-Jun 2021	Compared with Apr-Jun 2016-2020 average
<b>All NSW residents</b>	All new diagnoses	60	12% less (av. n = 68.4)
	MSM	40	26% less (av. n = 53.8)
	Australian-born MSM	21	17% less (av. n = 25.2)
	Overseas-born MSM	19	34% less (av. n = 28.6)
	HET	19	48% more (av. n = 12.8)
<b>NSW residents with evidence of early stage infection</b>	All new diagnoses	13	46% less (av. n = 24.2)
	MSM	10	56% less (av. n = 22.6)
	Australian-born MSM	7	41% less (av. n = 11.8)
	Overseas-born MSM	3	72% less (av. n = 10.8)
	HET	3	114% more (av. n = 1.4)
<b>NSW residents with evidence of late diagnosis</b>	All new diagnoses	28	6% more (av. n = 26.4)
	MSM	17	7% less (av. n = 18.2)
	Australian-born MSM	8	11% more (av. n = 7.2)
	Overseas-born MSM	9	18% less (av. n = 11)
	HET	11	45% more (av. n = 7.6)
<b>PREVENT</b>	<b>Target group</b>	<b>Apr 2018 – June 2021</b>	
<b>People dispensed PrEP through PBS at least once</b>	People at risk	20,066	
<b>TEST</b>	<b>Target group</b>	<b>Apr-Jun 2021</b>	<b>Compared with Apr-Jun 2020</b>
<b>HIV serology tests performed in NSW</b>	All	142,815	24% more (n = 114,984)
<b>HIV tests performed in NSW public sexual health clinics.</b>	All	9,895	48% increase* (n=6,684)
	MSM	6,069	40% increase* (n=4,329)
<b>HIV DBS tests (Nov 2016 – June 2021)</b>		928 (0 HIV positive)	
<b>TREAT</b>	<b>Target group</b>	<b>2021</b>	<b>Target</b>
<b>Patients with diagnosed HIV infection in care, who were on treatment</b>	Sexual Health and HIV Clinic attendees	99%	95%
	Select high caseload general practices	99%	95%
<b>New diagnoses who initiated ART within two weeks of diagnosis</b>	Newly diagnosed Jan-Dec 2020 (n=207)	51%	90%
<b>New diagnoses reporting viral suppression at 6-month follow-up</b>	Newly diagnosed Jan-Dec 2020 (n=207)	83%	100%

## Annual Targets

HIV INFECTIONS	Target group	Baseline 2008-12	2020	Target	Next update due
<b>1.i 90% reduction in the rate of HIV infection preventable in NSW</b>	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	2021	Target		
<b>1.ii MSM who have sex with male casual partners report at least one form of prevention for safe sex</b>	MSM at risk in the Sydney Gay Community Periodic Survey	76%	90%		Q2, 2021
<b>1.iii HIV negative MSM who have sex with male casual partners without a condom, take PrEP</b>	MSM at risk in the Sydney Gay Community Periodic Survey	61%	90%		Q2, 2021
TEST	Target group	2019	Target		Next update due
<b>2.i People living with HIV in NSW are diagnosed (2019)<sup>1</sup></b>	People at risk	91%	95%		Q4 2021
TREAT	Target group	2021	Target		
<b>3.i New diagnoses who initiated ART within two weeks of diagnosis</b>	Newly diagnosed Jan-Sep 2020 (n=156)	50% (2020)	90%		Q2 2021
<b>3.ii Patients with diagnosed HIV in care, who were on treatment</b>	Sexual Health and HIV Clinic attendees	99%	95%		Q3, 2021
	Select high caseload general practices	99%	95%		Q1, 2022
<b>3.ii NSW residents on treatment have an undetectable viral load<sup>1</sup></b>	People on treatment	95% (2019)	95%		Q4, 2021
<b>3.iii People living with HIV in NSW report good quality of life<sup>2</sup></b>	All	61% (2019)	75%		Q3, 2022
STIGMA	Target group		Target		
<b>4.i Experience of stigma by people at risk and living with HIV in NSW healthcare settings</b>	People at risk and living with HIV	TBC	75% (Reduction)		Q1, 2022
<b>4.ii Discriminatory attitudes held towards people at risk and living with HIV</b>	People at risk and living with HIV	TBC	75% (Reduction)		Q1,2022

<sup>1</sup> Unpublished analysis using data to December 2019 by the Kirby Institute, UNSW<sup>2</sup> Norman, T and Power, J (2021) HIV Futures 9: Brief report on NSW Participants. Melbourne, La Trobe University, unpublished

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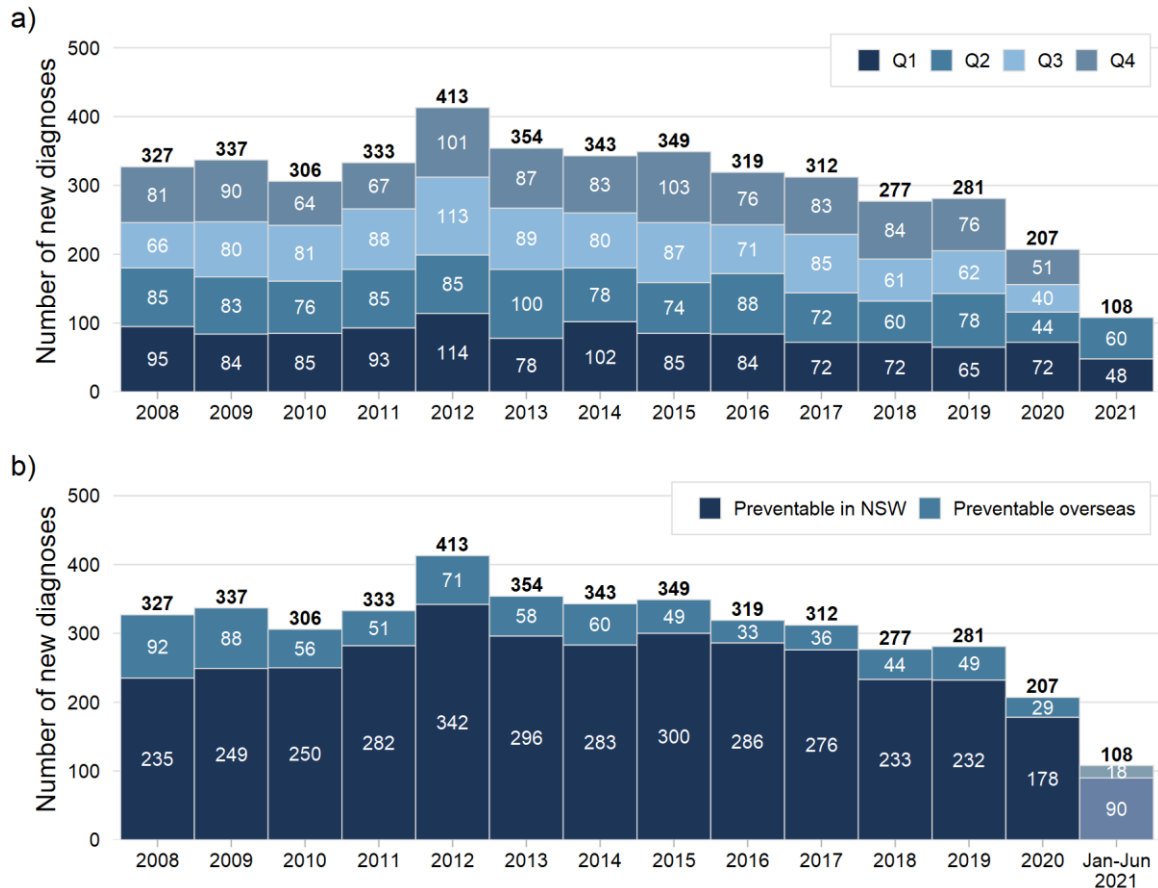
## Glossary of Terms

ART	Antiretroviral therapy
CAIC	Condomless anal intercourse with casual partners
CTG	Closing the Gap
GBMSM	Gay and bisexual and other men who have sex with 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 June 2021



Source: Notifiable Conditions Information Management System, Health Protection NSW, 16 August 2021

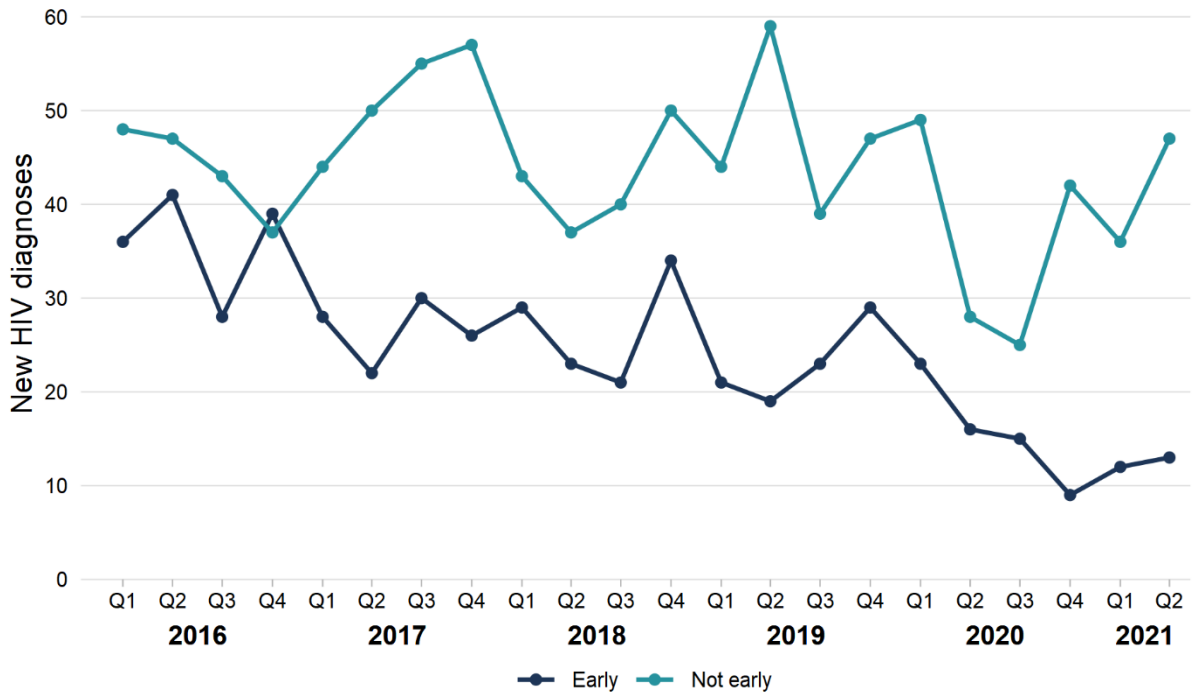
In April to June (Q2) 2021:

- Sixty NSW residents were notified to NSW Health with a newly diagnosed HIV infection, 12% less than the Q2 2016-2020 average of 68.4 (Figure 1a).
- Of 60, 51 (85%) HIV diagnoses were preventable in NSW, 15% less than the comparison period average of 59.8 (Figure 1b).
- Of 60, 13 (22%) had evidence their infection was acquired within one year of diagnosis (early stage infection), 46% less than the Q2 2016-2020 average of 24.2 (Figure 2).
- Of 60, 28 (47%) had evidence of late diagnosis, an increase of 6% compared with the Q2 2016-2020 average of 26.4 (Figure 3).

In January to June 2021:

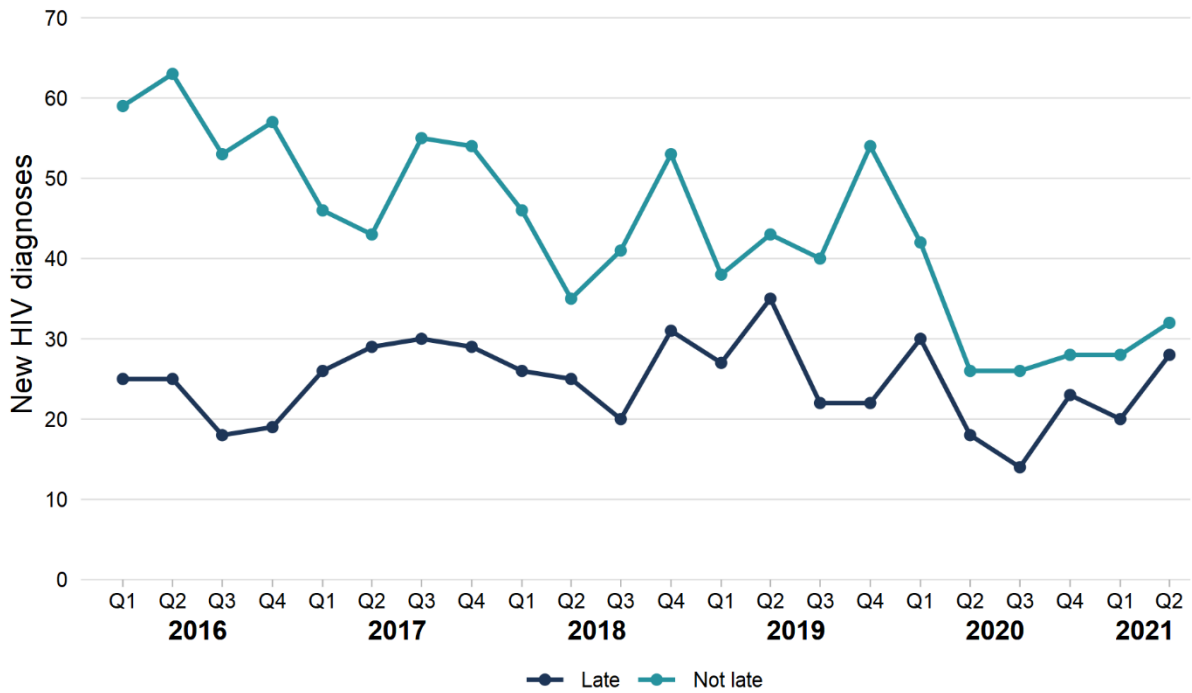
- One hundred and eight NSW residents were notified to NSW Health with newly diagnosed HIV infection, 24% fewer than the January to June 2016-2020 average of 141.4 (Figure 1a).
- Of 108, 90 (83%) HIV diagnosis were preventable in NSW, 26% less than the comparison period average of 122.2 (Figure 1b).
- Of 108, 25 (23%) had evidence of early stage infection, 52% less than the January to June 2016-2020 average of 51.6 (Figure 2).
- Of 108 people newly diagnosed so far in 2020, 48 (44%) had evidence of late diagnosis, a decrease of 10% compared with the January to June 2016-2020 average of 53.2 (Figure 3).

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

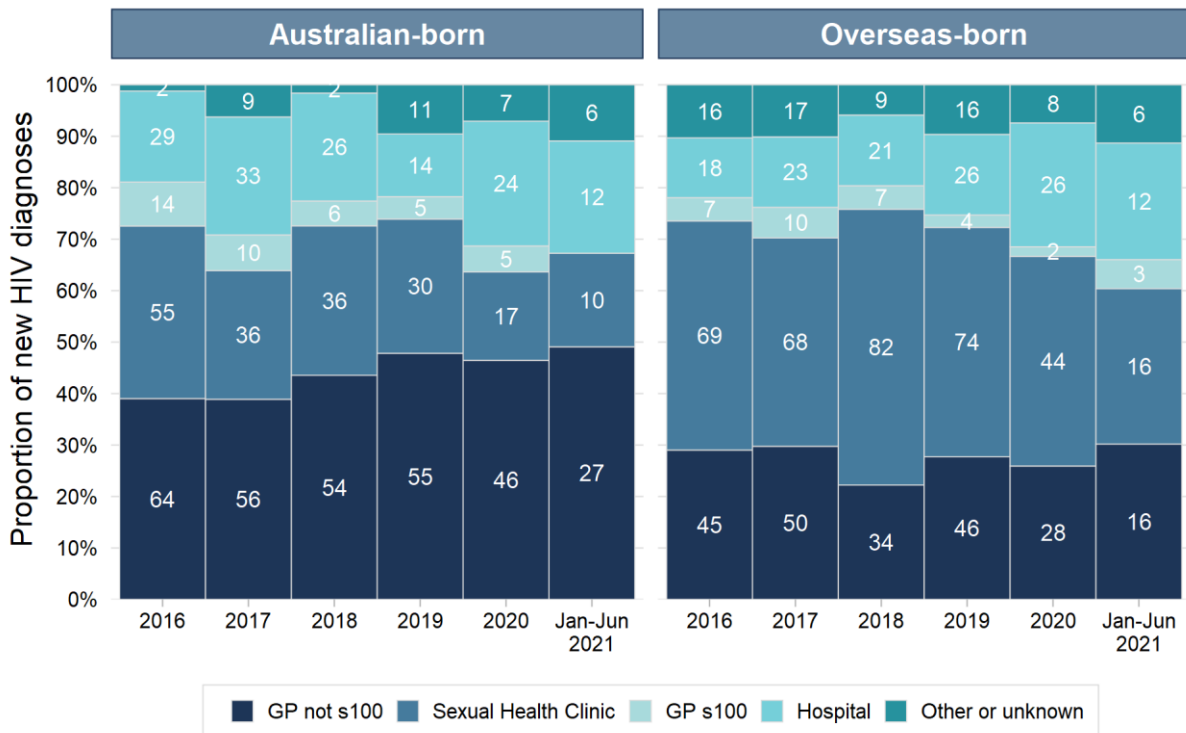
Figure 3: New HIV diagnoses by evidence of late diagnosis, January 2016 to June 2021



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: Type of diagnosing doctor for new HIV diagnoses, January 2016 to June 2021



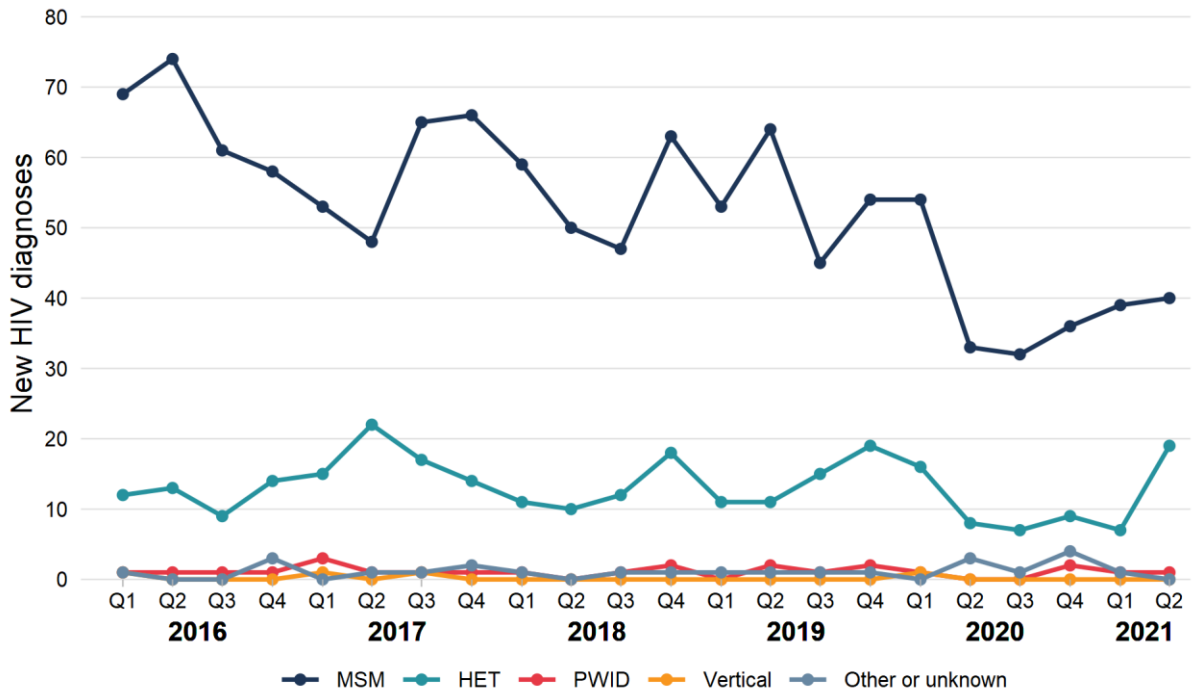
Of 55 Australian-born NSW residents with newly diagnosed HIV infection in January to June 2021 (Figure 4):

- Twenty-seven (49%) were diagnosed by general practitioners (GPs) not accredited to prescribe antiretroviral therapy (GP not-s100), 9% less than the comparison period (av. n=29.6);
- Ten (18%) were diagnosed by sexual health centres including community testing sites, 40% less than the January to June 2016-2020 average (av. n=16.6);
- Twelve (22%) were diagnosed by hospital doctors, 5% less than the comparison period (av. n=12.6);
- None (0%) were diagnosed by GP s100 doctors (HIV specialised and accredited to prescribe ART), compared to 3.8, the average for January to June 2016-2020, and;
- Six (11%) were diagnosed by other doctor types, 173% more than the average for January to June 2016-2020 (av. n=2.2).

Of 53 overseas-born NSW residents with newly diagnosed HIV infection in January to June 2021 (Figure 4):

- Sixteen (30%) were diagnosed by non s100 GPs, 17% less than the comparison period (av. n=19.2);
- Sixteen (30%) were diagnosed by sexual health centres including community testing sites, 55% less than the January to June 2016-2020 average (av. n=35.4);
- Twelve (23%) were diagnosed by hospital doctors, 5% more than the comparison period (av. n=11.4);
- Three (6%) were diagnosed by GP s100 doctors, 29% less than 4.2, the average for January to June 2016-2020;
- Six (11%) were diagnosed by other doctor types, similar to the average for January to June 2016-2020 (av. n=6.4).

Figure 5: New HIV diagnoses by reported risk exposure, January 2016 to June 2021



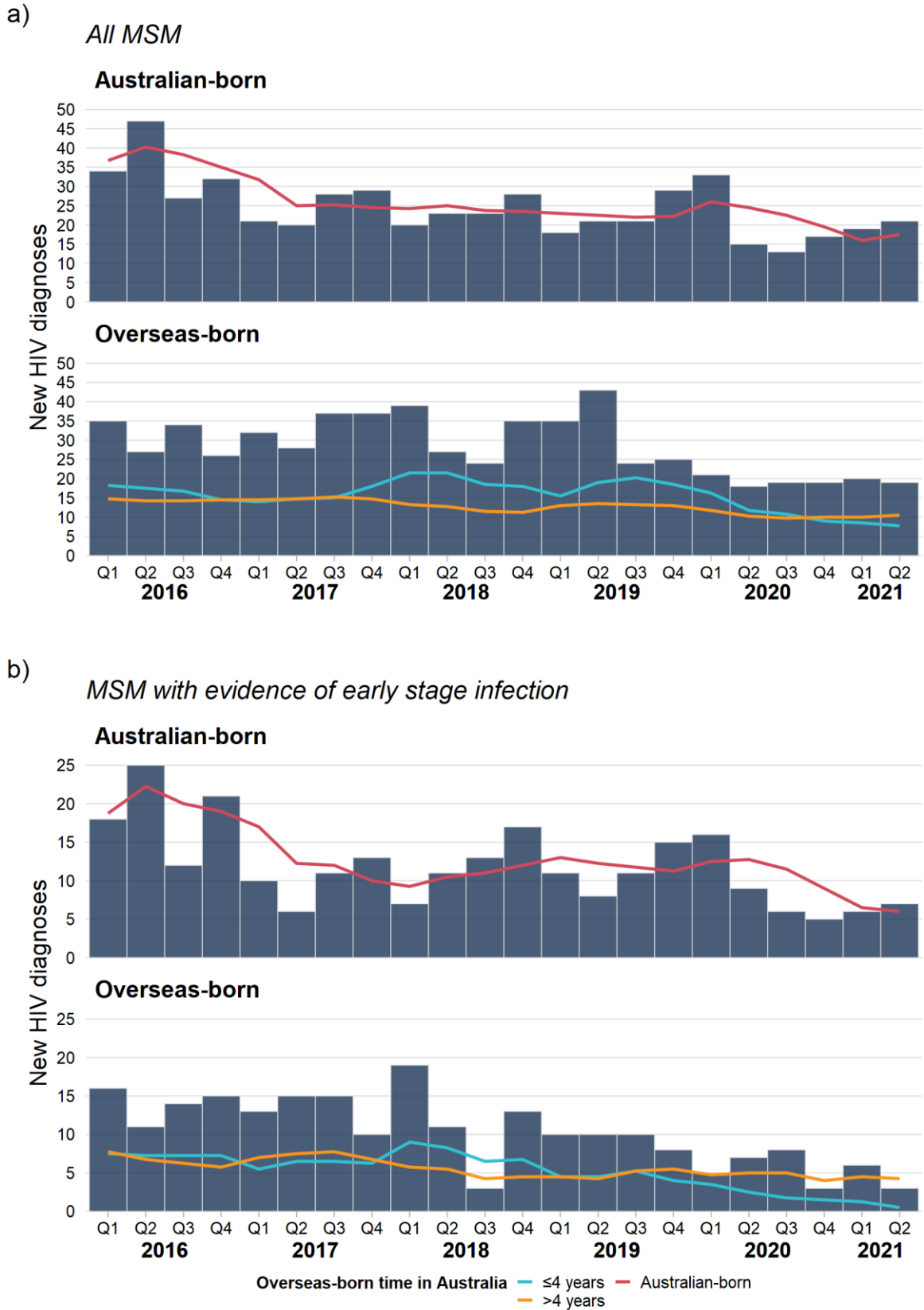
In April to June (Q2) 2021:

- Forty (67%) were men who have sex with men (MSM) and nineteen (32%) were people with heterosexual exposure only (HET). This is 26% fewer MSM, and 48% more HET compared with the new diagnosis averages of Q2 2016-2020 (av. n MSM = 53.8; av. n HET = 12.8).
- Of 19 HET, eight were female and eleven were male. This is 135% more females and 17% more males when compared to the new diagnosis averages of Q2 2016-2020 (av. n female = 3.4; av. n male = 9.4)

In January to June 2021:

- Of 108, 79 (73%) were MSM, 26 (24%) were HET, two (2%) likely acquired HIV via injecting drugs, and one (1%) via another exposure (Figure 5). This is 29% fewer MSM and a similar number of HET compared with the new diagnosis averages for January to June 2016-2020 (av. n MSM = 111.4; av. n HET = 25.8) (Figure 5).
- Of 26 HET, twelve were female and fourteen were male. This is 40% more females and 19% fewer males when compared to the new diagnosis averages for January to June 2016-2020 (av. n female = 8.6; av. n male = 17.2)

Figure 6: New HIV diagnoses in MSM by place of birth, with overseas-born by years living in Australia, January 2016 to June 2021



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

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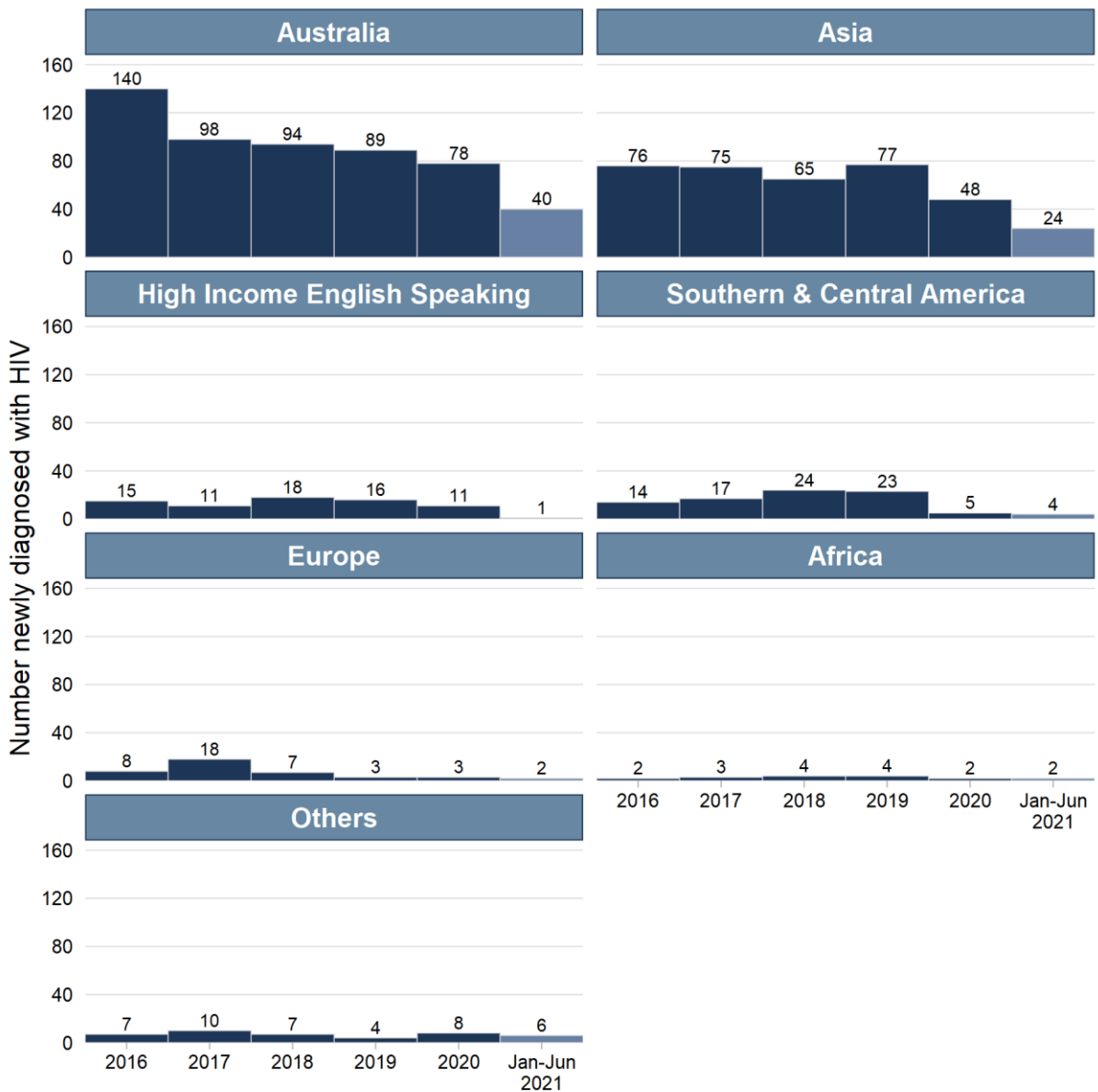
In April to June (Q2) 2021:

- Twenty-one of the 40 (52.5%) newly diagnosed MSM were Australian-born, 17% less than the average for Q2 2016-2020 (av. n=25.2). Seven of 21 (33%) Australian-born newly diagnosed MSM had evidence their infection was acquired within one year of diagnosis (early stage infection), 41% less than the Q2 2016-2020 average of 11.8.
- Nineteen of the 40 (47.5%) newly diagnosed MSM were overseas-born, 34% less than the average for Q2 2016-2020 (av. n=28.6). Seven of these MSM had lived in Australia for four years or less at the time of HIV diagnosis, 55% less than the Q2 2016-2020 average of 15.4, 10 had lived in Australia for more than four years, 18% less than the comparison period average of 12.2 and two for an unknown length of time. Three of 19 (16%) overseas-born newly diagnosed MSM had evidence of early stage infection, 72% less than the Q2 2016-2020 average of 10.8.

In January to June 2021:

- Forty of 79 (51%) MSM newly diagnosed were Australian-born, 21% less than the average for January to June 2016-2020 (av. n=50.4) (Figure 6). These people ranged from 22-67 years old with a median age of 36.5. Thirteen of 40 (33%) Australian-born newly diagnosed MSM had evidence of early stage infection, 46% less than the January to June 2016-2020 average (av. n=24.2) (Figure 6).
- Thirty-nine of 79 (49%) MSM newly diagnosed were overseas-born, 36% less than the January to June 2016-2020 average (av. n=61.0) (Figure 6). These people ranged from 21-71 years old with a median age of 33. Fourteen of these MSM had lived in Australia for four years or less at the time of their HIV diagnosis, 57% less than the January to June 2016-2020 average of 32.4, 22 lived in Australia for more than four years, 17% less than the comparison period average of 26.4 and three for an unknown length of time. Nine of 39 (23%) overseas-born newly diagnosed MSM had evidence of early stage infection, a 62% reduction compared to the January to June 2016-2020 average (av. n=23.4) (Figure 6). Of these nine with early stage infection, none had been in NSW for four years or less, while nine lived in Australia for more than four years.
- 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.

Figure 7: New HIV diagnoses in MSM by world area of birth, January 2016 to June 2021

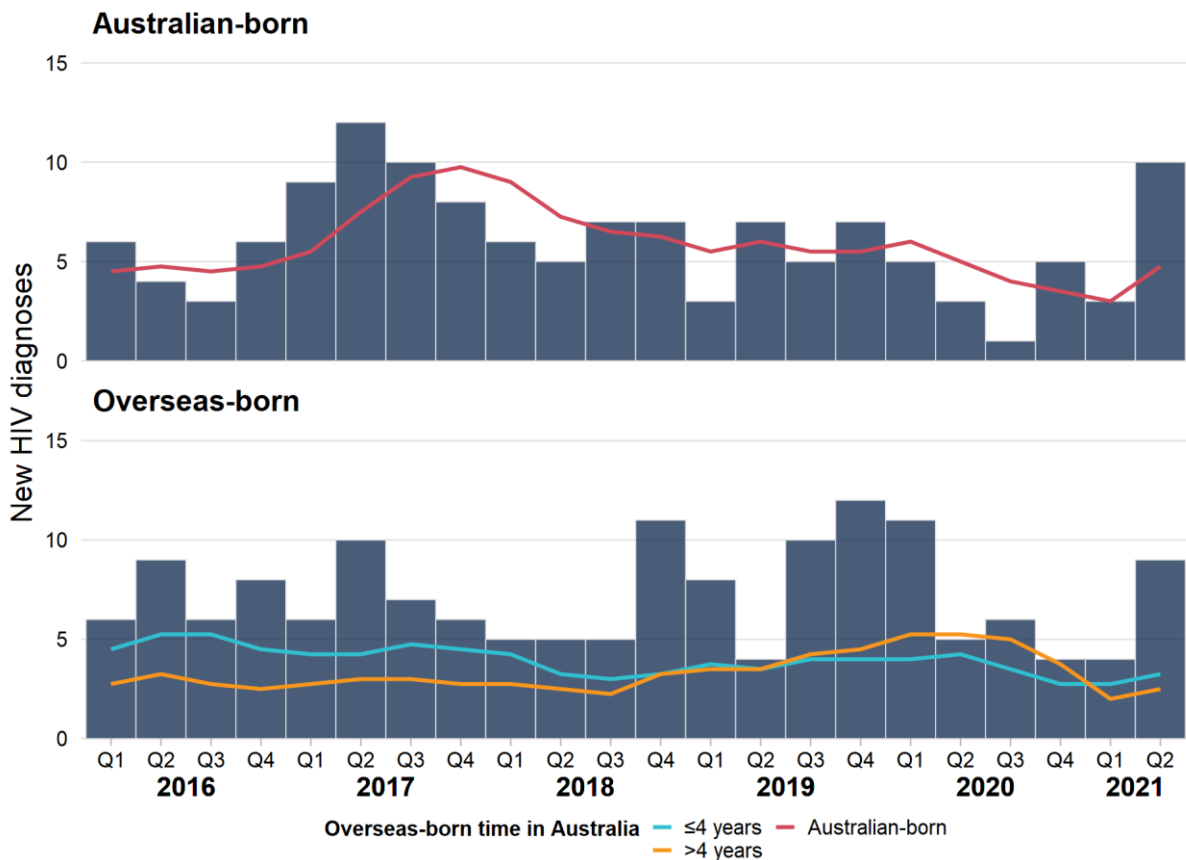


High-Income English-Speaking countries include Canada, USA, United Kingdom, Ireland and New Zealand

Comments on Figure 7

- Of 79 MSM newly diagnosed in NSW during January to June 2021, 51% were born in Australia, 19% in South-East Asia, 8% in North-East Asia, 5% in each of Southern & Central America, North Africa & the Middle East and Oceania, and less than 5% in Southern & Central Asia, Southern & Eastern Europe and Sub-Saharan Africa.

**Figure 8: New HIV diagnoses in HET by place of birth, with overseas-born by years living in Australia, January 2016 to June 2020**



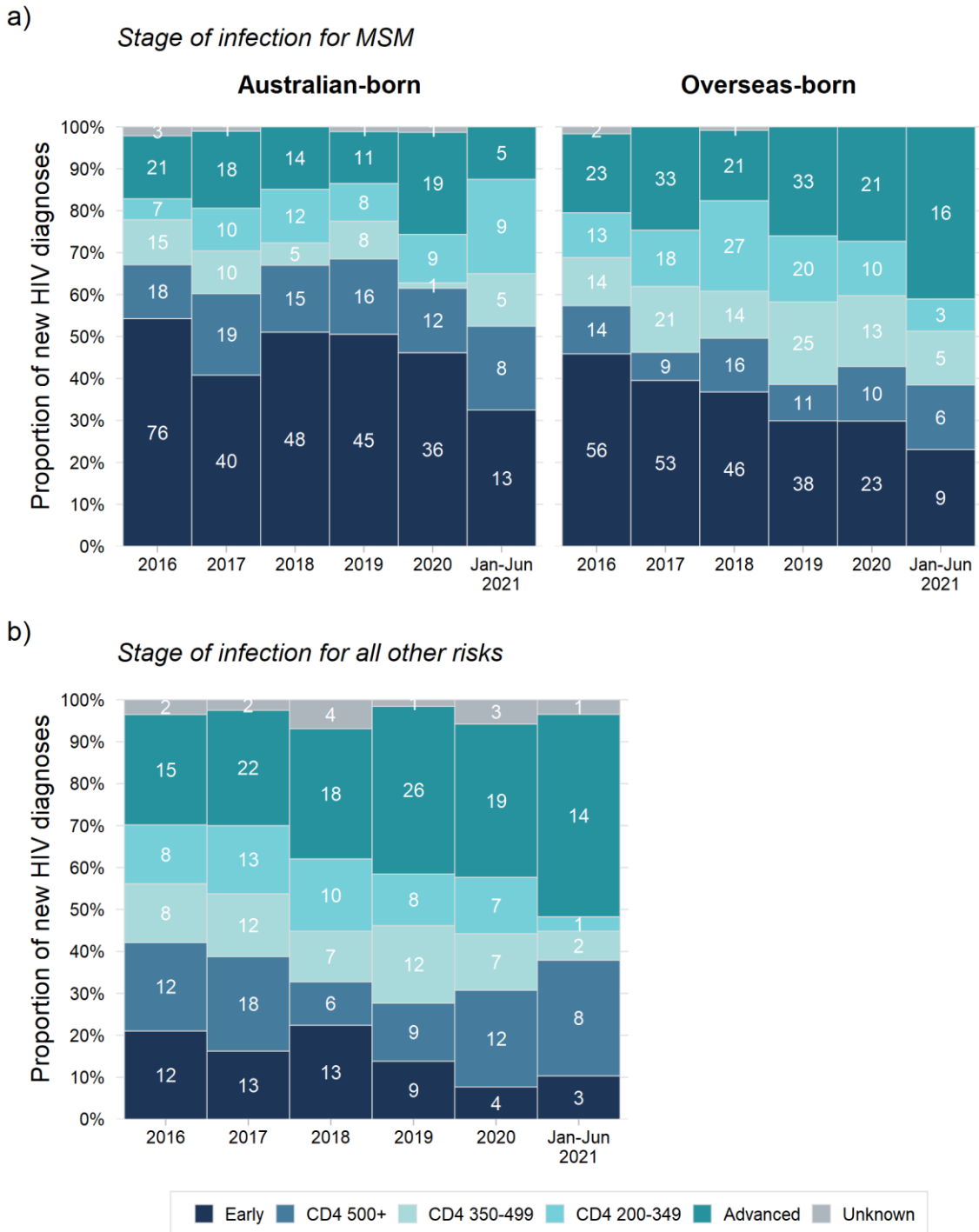
In January to June 2020:

- Thirteen of 26 (50%) HET newly diagnosed were Australian-born, 8% more than the average for January to June 2016-2020 (av. n=12.0) (Figure 8). These people ranged from 25-71 years old with a median age of 39. Two of 13 (15%) Australian-born newly diagnosed HET had evidence of early stage infection, similar to the January to June 2016-2020 average (av. n=1.6).
- Thirteen of 26 (50%) HET newly diagnosed were overseas-born, 6% less than the January to June 2016-2020 average (av. n=13.8) (Figure 8). These people ranged from 24-66 years old with a median age of 34. Eight of these HET had lived in Australia for four years or less at the time of their HIV diagnosis, 18% more than the 2016-2020 average of 6.8, five lived in Australia for more than four years, 29% less than the comparison period average of seven. One of 13 (8%) overseas-born newly diagnosed HET had evidence of early stage infection, a 50% reduction compared to the January to June 2016-2020 average (av. n=2.0).

### 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 9: Stage of infection in newly diagnosed NSW residents, January 2016 to June 2021

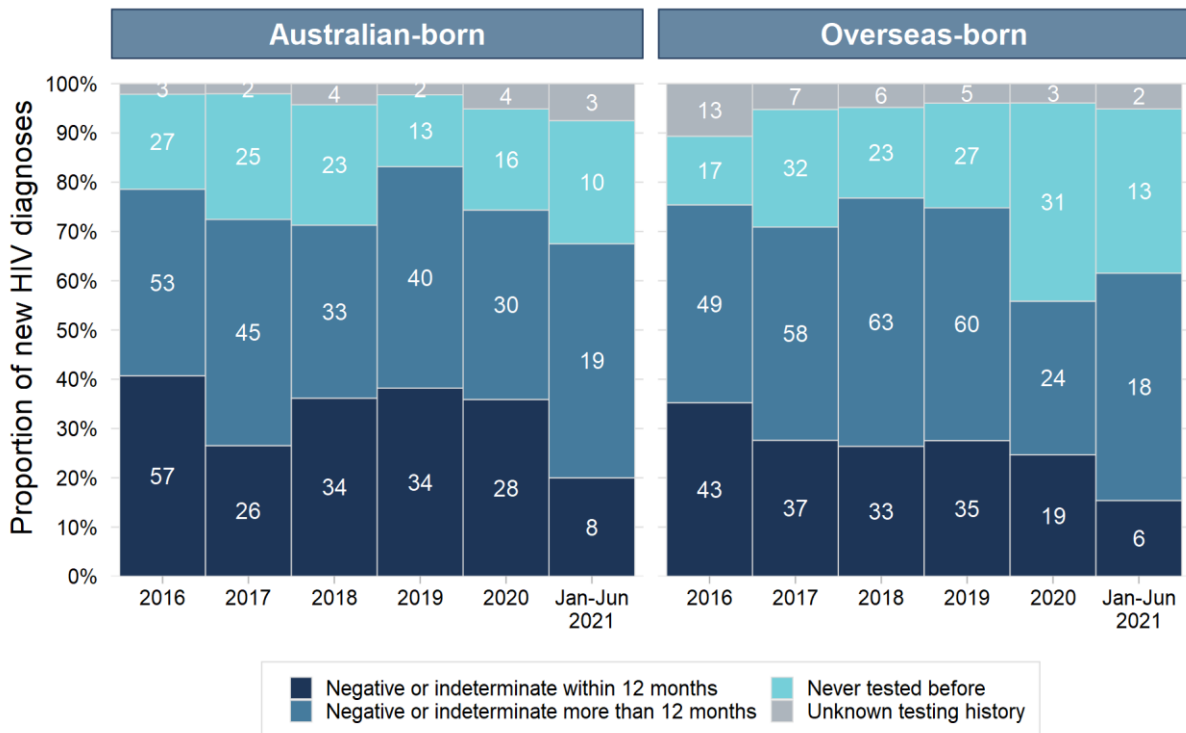


Comment on Figure 9

- Of 40 Australian-born MSM newly diagnosed in January to June 2021, thirteen (33%) had evidence of early stage infection, 46% less than the January to June 2016-2020 average of 24.2. Fourteen (35%) had evidence of late diagnosis, similar to the comparison period average (av. n=14.4) (Figure 9a).
- Of 39 overseas-born MSM newly diagnosed in January to June 2021, nine (23%) had evidence of early stage infection, 62% less than the comparison period average of 23.4. Nineteen (49%) had evidence of late diagnosis, 18% less than the comparison period average of 23.2 (Figure 9a).
- The number of new diagnoses in NSW residents who were not MSM was 3% lower in January to June 2021 (n=29) compared to the five-year average for the same period (n=30.0). There were eleven with evidence of late diagnosis, 34% more than the January to June 2016-2020 average of 8.2 (Figure 9b).



Figure 10: HIV testing history in newly diagnosed MSM, January 2016 to June 2021



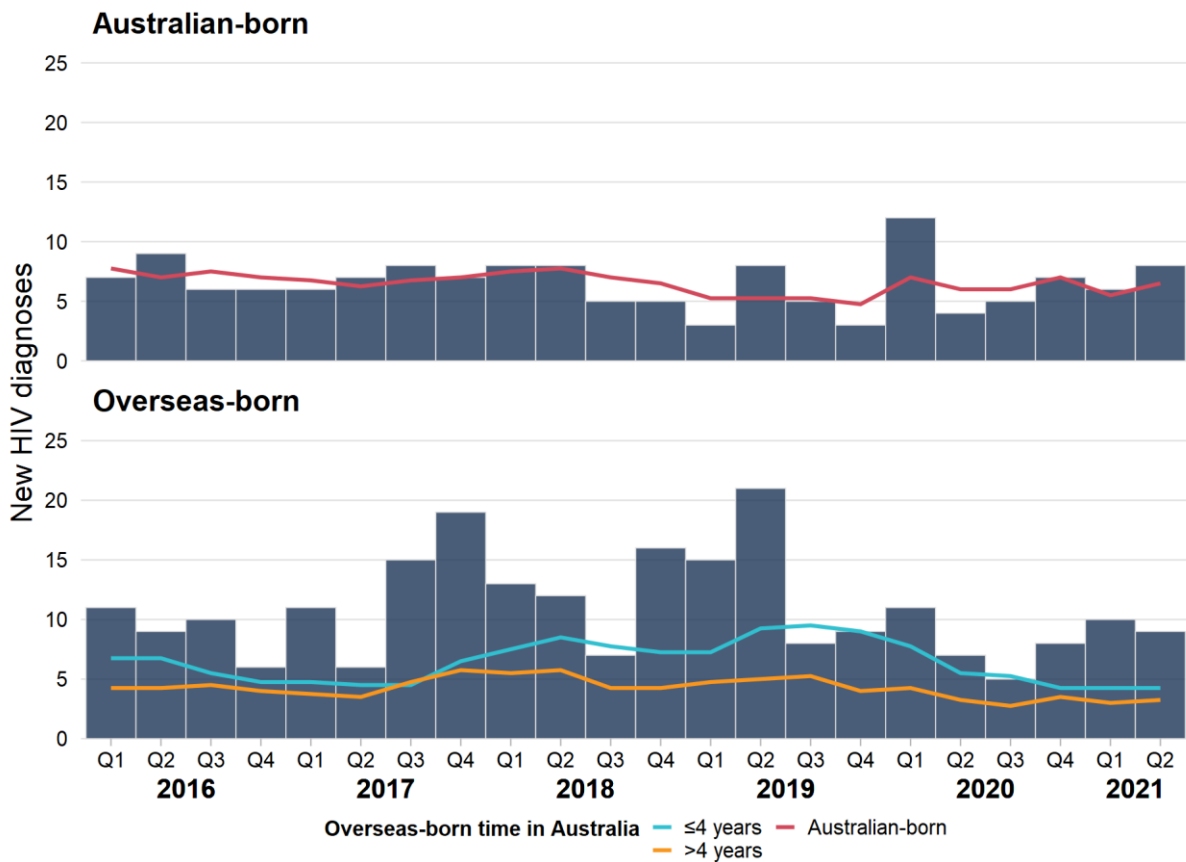
Of 40 Australian-born MSM newly diagnosed during January to June 2021:

- Eight (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.
- Nineteen (47.5%) were reported to have had a negative or indeterminate HIV test sometime in the past, but not within 12 months of diagnosis.
- Ten (25%) reported not ever having had an HIV test prior to diagnosis.
- Almost three quarters had not been testing according to guidelines.
- Fourteen (35%) had evidence of late diagnosis.

Of 39 overseas-born MSM newly diagnosed during January to June 2021:

- Six (15%) were reported (by a laboratory, a doctor, or the patient) to have had a negative or indeterminate HIV test within 12 months of diagnosis.
- Eighteen (46%) were reported to have had a negative or indeterminate HIV test sometime in the past, but not within 12 months of diagnosis.
- Thirteen (30%) reported not ever having had an HIV test prior to diagnosis.
- Almost three quarters had not been testing according to guidelines.
- Nineteen (49%) had evidence of late diagnosis.

**Figure 11: 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 June 2021**

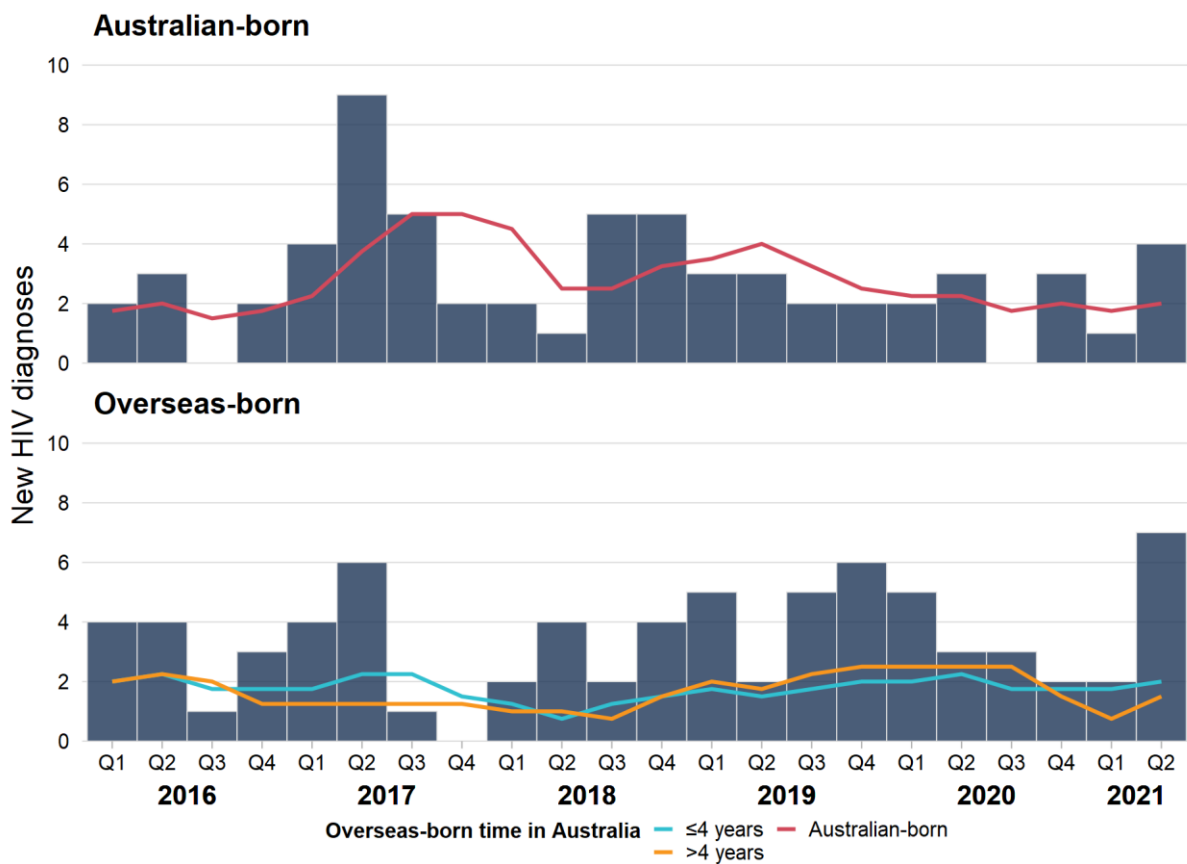


Note: Bars represent diagnoses per quarter and lines represent a rolling four quarter average of diagnoses.

In January to June 2021:

- Of 48 NSW residents with evidence of late HIV diagnosis, 33 (69%) were MSM, 12% less than the January to June 2016-2020 average count of 37.6.
- Fourteen (42%) of the 33 MSM with evidence of late diagnosis were Australian-born, similar to the January to June 2016-2020 average count of 14.4 (Figure 11).
- Nineteen (58%) of the 33 MSM with evidence of late diagnosis were overseas-born, an 18% decrease relative to the January to June 2016-2020 average count of 23.2 (Figure 11). Nine of these 19 MSM had lived in Australia for four years or less at the time of their HIV diagnosis, 27% less than the January to June 2016-2020 average of 12.4, while eight had lived in Australia for more than four years, 20% less than the comparison period average of 10.0 and two were unknown.

**Figure 12: New HIV diagnoses with evidence of late diagnosis in HET by place of birth, with overseas-born by years living in Australia, January 2016 to June 2021**



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

In January to June 2021:

- Of 48 NSW residents with evidence of late HIV diagnosis, 14 (29%) were HET, similar to the January to June 2016-2020 average count of 14.2.
- Five (36%) of the 14 HET with evidence of late diagnosis were Australian-born, 22% less than the January to June 2016-2020 average count of 6.4 (Figure 12).

Nine (64%) of the 14 HET with evidence of late diagnosis were overseas-born, a 15% increase relative to the January to June 2016-2020 average count of 7.8 (Figure 12). Five of these 14 HET had lived in Australia for four years or less at the time of their HIV diagnosis, 25% more than the January to June 2016-2020 average of 4.0, while four had lived in Australia for more than four years, similar to the comparison period average of 3.8.

### 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 June 2021 vs the 2016-2020 average count, and the count difference**

Case characteristics	Australian-born MSM			Overseas-born MSM		
	Jan-Jun 2016-2020 average	2021	Count (%) diff.	Jan-Jun 2016-2020 average	2021	Count (%) diff.
<b>Number</b>	<b>50.4</b>	<b>40</b>	<b>-10.4 (-21%)</b>	<b>61</b>	<b>39</b>	<b>-22 (-36%)</b>
<b>Gender</b>						
<i>Male</i>	50	40	-10 (-20%)	58.8	38	-20.8 (-35%)
<i>Transgender<sup>1</sup></i>	0.4	0	-0.4 (-100%)	2.2	1	-1.2 (-55%)
<b>Age at diagnosis</b>						
<i>0 to 19</i>	0.6	0	-0.6 (-100%)	1.2	0	-1.2 (-100%)
<i>20 to 29</i>	13	10	-3 (-23%)	22.2	14	-8.2 (-37%)
<i>30 to 39</i>	14.6	11	-3.6 (-25%)	24	13	-11 (-46%)
<i>40 to 49</i>	11	8	-3 (-27%)	9.2	8	-1.2 (-13%)
<i>50 and over</i>	11.2	11	-0.2 (-2%)	4.4	4	-0.4 (-9%)
<b>Evidence of early stage infection<sup>2</sup></b>						
<i>Yes</i>	24.2	13	-11.2 (-46%)	23.4	9	-14.4 (-62%)
<i>No</i>	26.2	27	+0.8 (+3%)	37.6	30	-7.6 (-20%)
<b>Evidence of late diagnosis<sup>3</sup></b>						
<i>Yes</i>	14.4	14	-0.4 (-3%)	23.2	19	-4.2 (-18%)
<i>No</i>	35	26	-9 (-26%)	37.8	20	-17.8 (-47%)
<i>Unknown</i>	1	0	-1 (-100%)	0	0	0 (0%)
<b>Area of residence<sup>4</sup></b>						
<i>≥20%</i>	6.8	0	-6.8 (-100%)	11.4	7	-4.4 (-39%)
<i>5-19.99%</i>	7.6	4	-3.6 (-47%)	16.2	11	-5.2 (-32%)
<i>&lt;5%</i>	36	36	0 (0%)	33.4	21	-12.4 (-37%)
<b>Place most likely acquired HIV</b>						
<i>Australia</i>	42.4	37	-5.4 (-13%)	33.2	20	-13.2 (-40%)
<i>Overseas</i>	6.8	1	-5.8 (-85%)	25.4	14	-11.4 (-45%)
<i>Unknown</i>	1.2	2	+0.8 (+67%)	2.4	5	+2.6 (+108%)
<b>Reported HIV risks</b>						
<i>MSM</i>	42.6	34	-8.6 (-20%)	57.6	36	-21.6 (-38%)
<i>MSM and IDU</i>	7.8	6	-1.8 (-23%)	3.4	3	-0.4 (-12%)

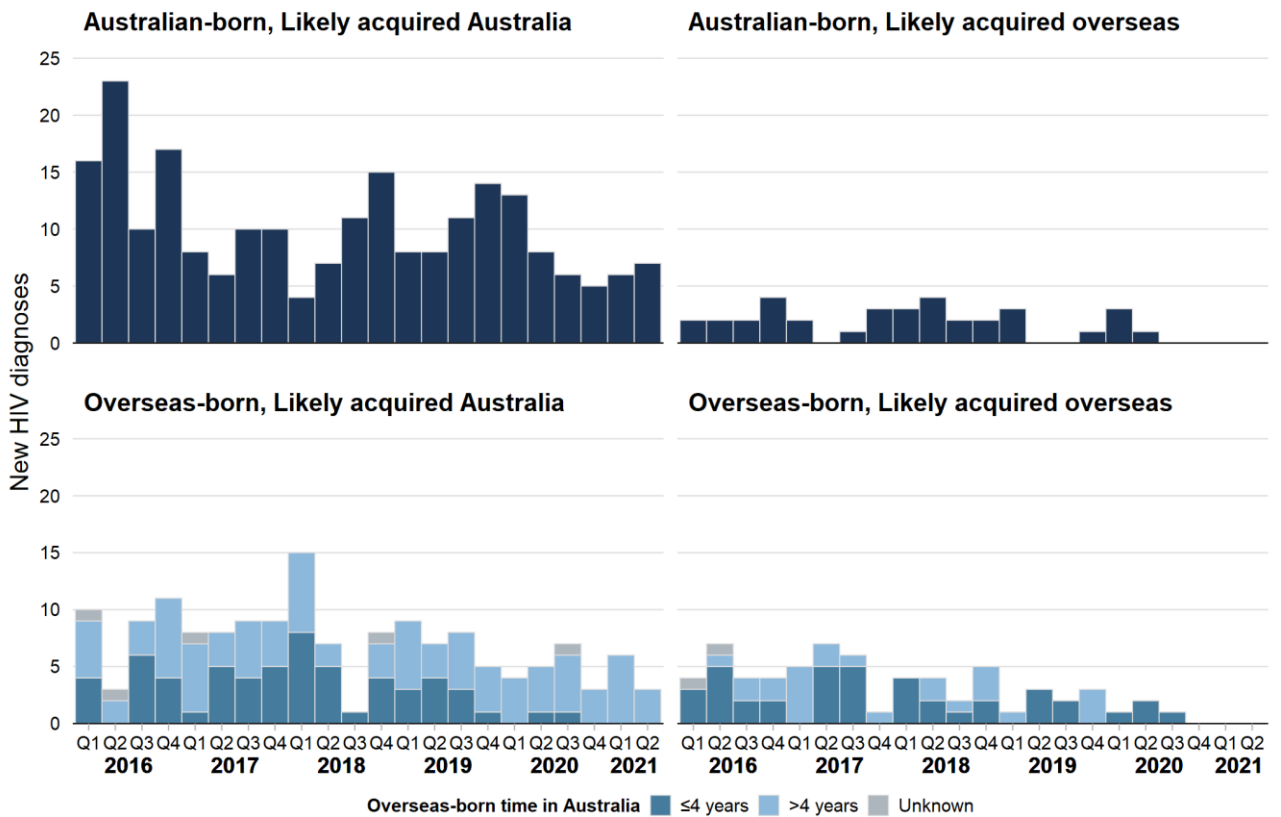
<sup>1</sup>This case was a trans-woman whose most likely risk exposure was sex with cisgender men. This was confirmed by case review, as further detail is not yet routinely collected.

<sup>2</sup>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.

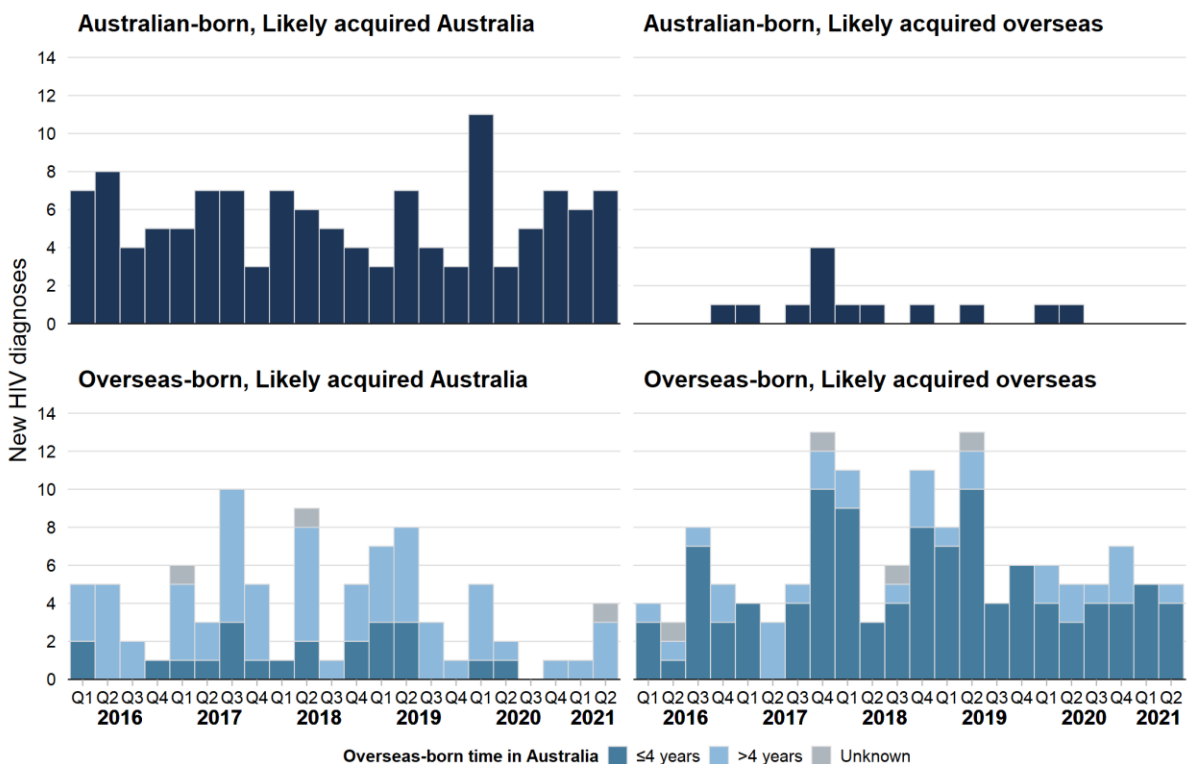
<sup>3</sup>Evidence of a late diagnosis: a CD4 count less than 350 or an AIDS defining illness or AIDS death within three months of diagnosis, in the absence of sero-conversion illness and/or a negative or indeterminate HIV test in the 12 months prior to diagnosis.

<sup>4</sup>Areas grouped based on the estimated proportion of adult males who identify as gay in each postcode in NSW. A summary of postcodes in each area is in Appendix F.

**Figure 13a: 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 June 2021**



**Figure 13b: 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 June 2021**



Of 40 Australian-born MSM newly diagnosed in January to June 2021:

- Thirty-seven (92.5%) likely acquired HIV in Australia, 13% less than the January to June 2016-2020 average of 42.4, and one (2.5%) likely acquired HIV overseas, 85% less than in the comparison period (av. n=6.8). Two were unknown.
- Of 37 who acquired HIV in Australia, 13 (35%) had evidence of early stage infection, 36% less than the January to June 2016-2020 average of 20.2 (Figure 13a). Thirteen (35%) had evidence of late diagnosis, similar to the January to June 2016-2020 average of 12.8 (Figure 13b).
- The one who likely acquired HIV overseas did not have evidence of early stage infection (Figure 13a) or late diagnosis (Figure 13b).

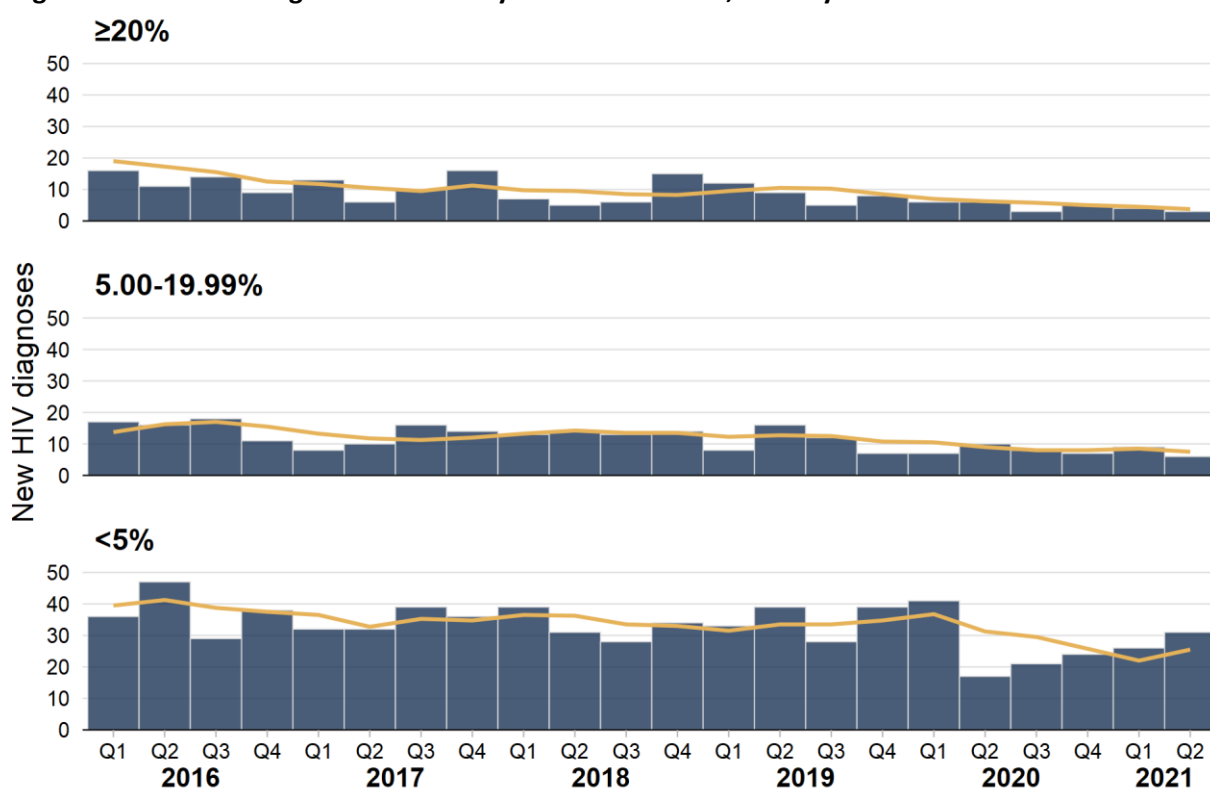
Of 39 overseas-born MSM newly diagnosed in January to June 2021:

- Twenty (51%) likely acquired HIV in Australia, 40% less than the average for January to June 2016-2020 (av. n=33.2), and 14 (36%) likely acquired HIV overseas, 45% less than the comparison period (av. n=25.4). Five were unknown.
- Of 20 who acquired HIV in Australia, nine (45%) had evidence of early stage infection, 41% less than the January to June 2016-2020 average of 15.2 (Figure 13a). Five (25%) had evidence of late diagnosis 51% less than the January to June 2016-2020 average of 10.2 (Figure 13b).
- Of 14 who acquired HIV overseas none (0%) had evidence of early stage infection (Figure 13a), compared to the comparison period average of 7.6. Ten (71%) had evidence of late diagnosis, 17% less than the January to June 2016-2020 average of 12.0 (Figure 13b).
- 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 13b).

### Area of residence for people newly diagnosed

These areas have been grouped together based on recent estimates<sup>3</sup> for the proportion of adult males who identify as gay and reside in each postcode in NSW. These estimates per postcode are based on Australian Census data for co-habiting male couples and survey data on the proportion of gay males who cohabit<sup>4</sup>. The grouped postcodes are defined as those with  $\geq 20\%$ , 5-19.9% and  $< 5\%$  of adult males estimated to be gay. Overall, 23% of gay men in NSW were estimated to live in the  $\geq 20\%$  area, 24% in the 5-19.9% area and 53% in the  $< 5\%$  area. A summary of recent trends among HIV diagnoses in these areas can be found in the [Trends in HIV and HIV prevention indicators in gay, bisexual and other men who have sex with men in NSW, 2015-2019](#) report, published by the Kirby Institute in partnership with NSW Health. A summary of postcodes in each area can be found in Appendix F.

**Figure 14: New HIV diagnoses in MSM by area of residence, January 2016 to June 2021**



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

In April to June (Q2) 2021:

- Three of 40 (7.5%) MSM newly diagnosed resided in the  $\geq 20\%$  area, 59% less than the average for Q2 2016-2020 (av. n=7.4) (Figure 14). One of three (33%) MSM residing in the  $\geq 20\%$  area had evidence of early stage infection, 67% less than the Q2 2016-2020 average (av. n=3.0) (Figure 15a). One of three (33%) MSM residing in the  $\geq 20\%$  area had evidence of late diagnosis, 58% less than the comparison period average (av. n=2.4) (Figure 15b).
- Six of 40 (15%) MSM newly diagnosed resided in the 5-19% area, 55% less than the average for Q2 2016-2020 (av. n=13.2) (Figure 14). None of six (0%) MSM residing in the 5-19% area

<sup>3</sup> Callander D, Mooney-Somers J, Keen P, Guy R, Duck T, Bavinton BR, et al. Australian 'gayborhoods' and 'lesborhoods': a new method for estimating the number and prevalence of adult gay men and lesbian women living in each Australian postcode. *International Journal of Geographical Information Science*. 2020:1-17.

<sup>4</sup> Van de Ven P, Rawstorne P, Crawford J, Kippax S. Increasing proportions of Australian gay and homosexually active men engage in unprotected anal intercourse with regular and with casual partners. *AIDS Care*. 2002;14(3):335-41.

had evidence of early stage infection, compared to the Q2 2016-2020 average (av. n=5.6) (Figure 15a). Four of six (67%) MSM residing in the 5-19% area had evidence of late diagnosis, similar to the comparison period average (av. n=3.6) (Figure 15b).

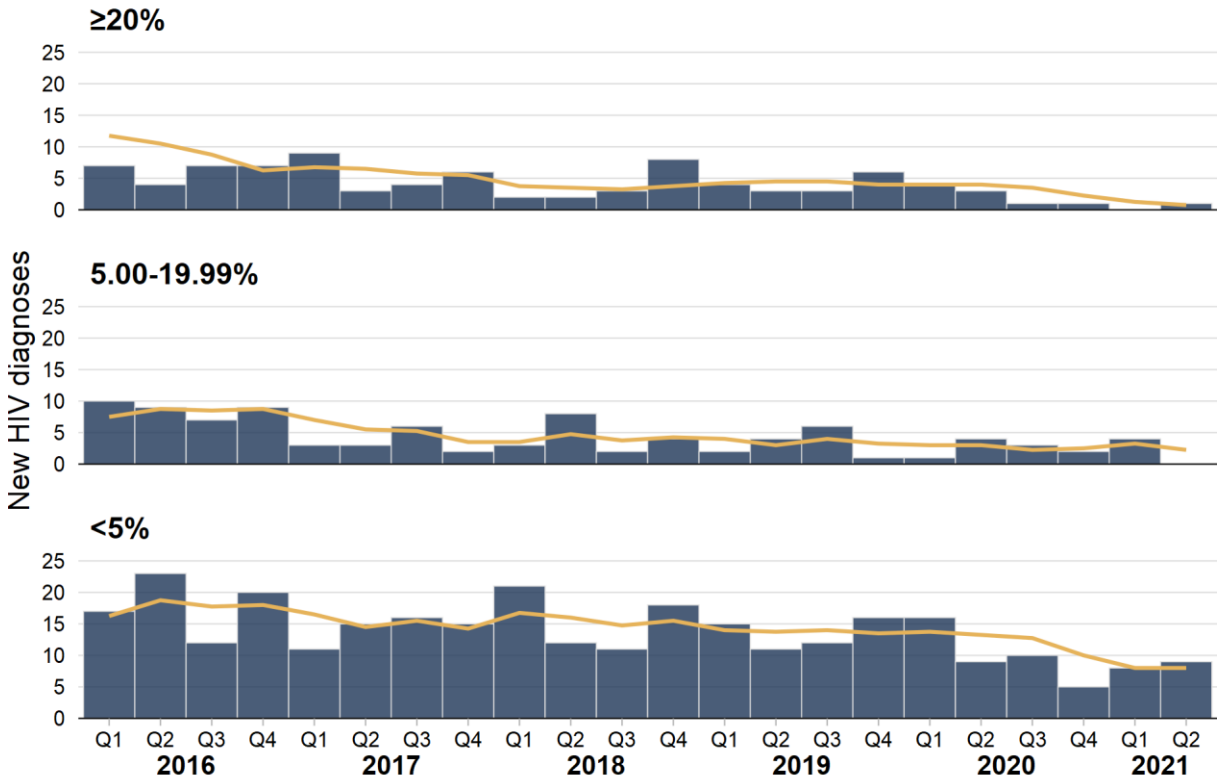
- Thirty-one of 40 (77.5%) MSM newly diagnosed resided in the <5% area, 7% less than the average for Q2 2016-2020 (av. n=33.2) (Figure 14). Nine of 31 (29%) MSM residing in the <5% area had evidence of early stage infection, 36% less than the Q2 2016-2020 average (av. n=14.0) (Figure 15a). Twelve of 31 (39%) MSM residing in the <5% area had evidence of late diagnosis, similar to the Q2 2016-2020 average (av. n=12.2) (Figure 15b).

In January to June 2021:

- Seven of 79 (9%) MSM newly diagnosed resided in the  $\geq 20\%$  area, 62% less than the average for January to June 2016-2020 (av. n=18.2) (Figure 14). One of seven (14%) MSM residing in the  $\geq 20\%$  area had evidence of early stage infection, 88% less than the January to June 2016-2020 average (av. n=8.2) (Figure 15a). Four of seven (57%) MSM residing in the  $\geq 20\%$  area had evidence of late diagnosis, 17% less than the January to June 2016-2020 average (av. n=4.8) (Figure 15b).
- Fifteen of 79 (19%) MSM newly diagnosed resided in the 5-19% area, 37% less than the average for January to June 2016-2020 (av. n=23.8) (Figure 14). Four of 15 (27%) MSM residing in the 5-19% area had evidence of early stage infection, 57% less than the January to June 2016-2020 average (av. n=9.4) (Figure 15a). Seven of 15 (47%) MSM residing in the 5-19% area had evidence of late diagnosis, 8% less than the January to June 2016-2020 average (av. n=7.6) (Figure 15b).
- Fifty-seven of 79 (72%) MSM newly diagnosed resided in the <5% area, 18% less than the average for January to June 2016-2020 (av. n=69.4) (Figure 14). Seventeen of 57 (30%) MSM residing in the <5% area had evidence of early stage infection, 43% less than the January to June 2016-2020 average (av. n=30.0) (Figure 15a). Twenty-two of 57 (39%) MSM residing in the <5% area had evidence of late diagnosis, 13% less than the January to June 2016-2020 average (av. n=25.2) (Figure 15b).

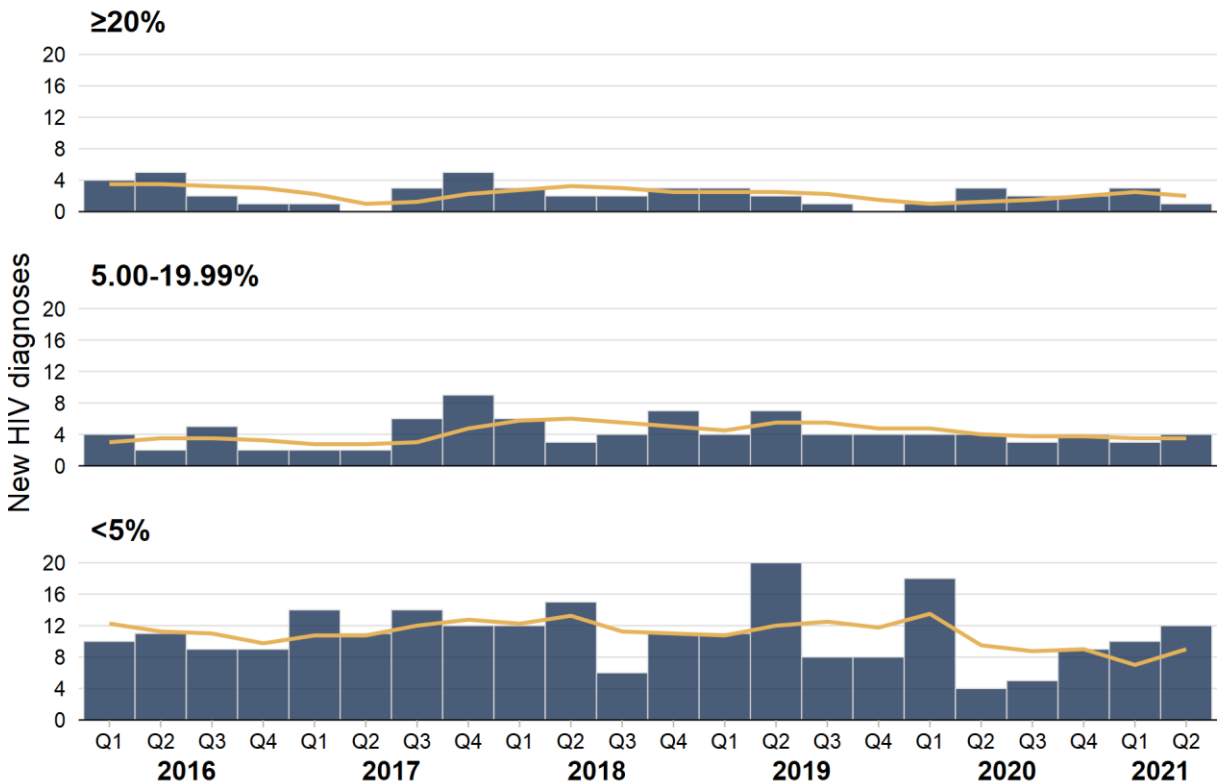


**Figure 15a: New HIV diagnoses with evidence of early stage infection in MSM by area of residence, January 2016 to June 2021**



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

**Figure 15b: New HIV diagnoses with evidence of late diagnosis in MSM by area of residence, January 2016 to June 2021**



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

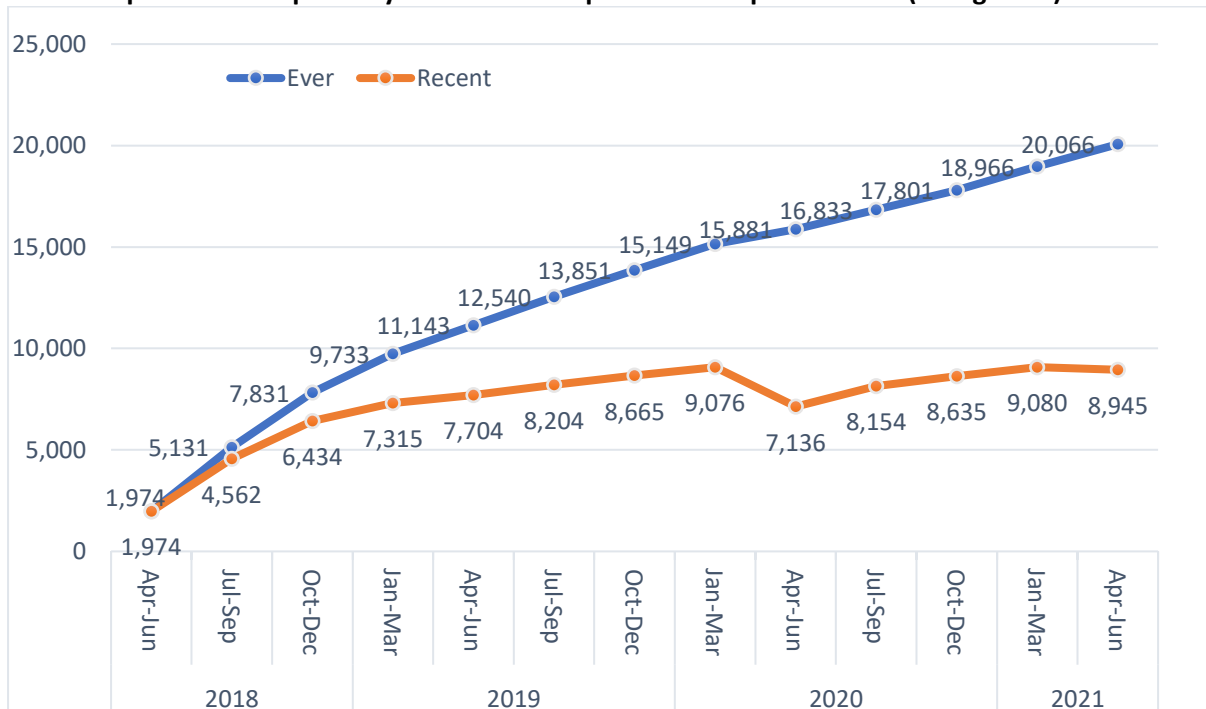
## 2. Expand HIV Prevention

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

Between 1 April 2018 and 30 June 2021:

- A total of 20,066 (unique number) NSW residents were dispensed PrEP at least once under the PBS for HIV prevention.
- Of the 20,066 residents on PrEP, 98% were male.
- Among those who initiated PrEP, 77% were prescribed by GP; 98% were dispensed by a community pharmacy.
- A total of 270 (1.4%) NSW residents were eligible and prescribed under the Closing the Gap (CTG) program.

**Figure 16: Total number of unique clients dispensed PrEP between April 2018 (blue line) to June 2021 compared to the quarterly number of unique clients dispensed PrEP (orange line)**



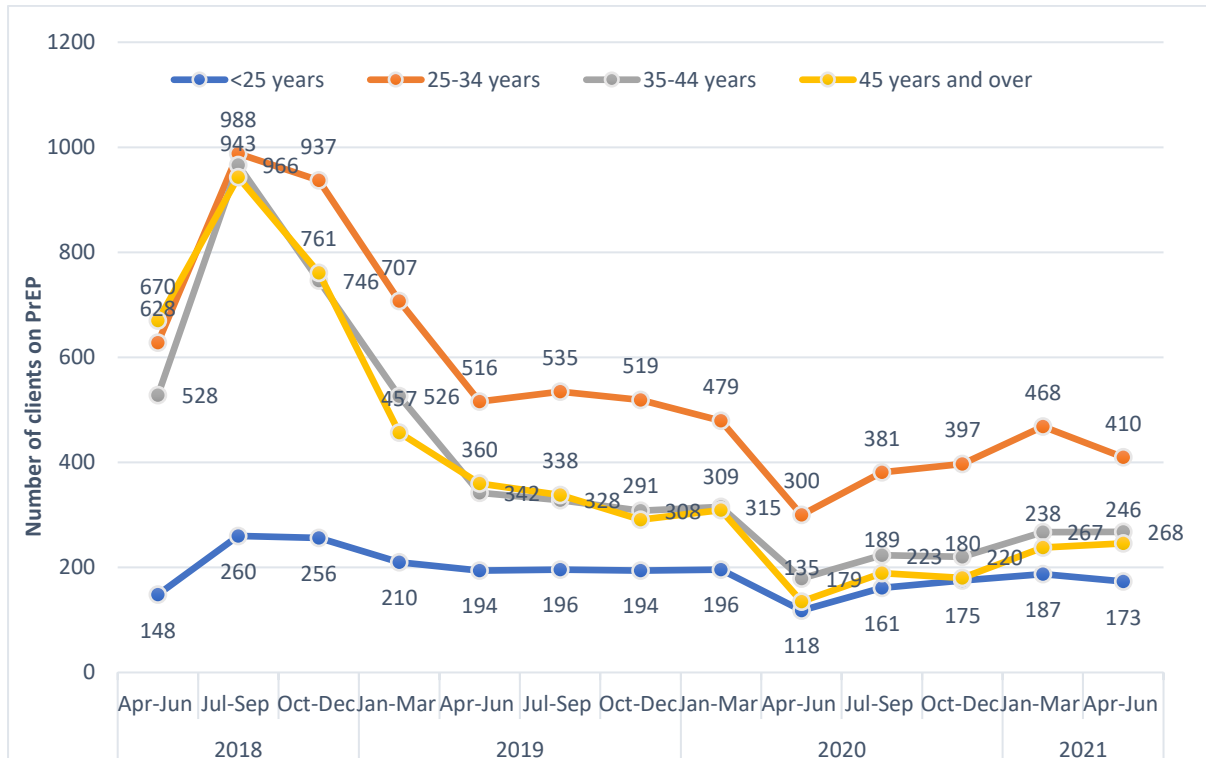
Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme (PBS) data from April 2018 to June 2021.

Note: Based on the quantity and date dispensed, it is estimated that 8,945 unique residents were taking PrEP between April and June 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 16

- Between April 2018 and June 2021, the total number of unique NSW residents ever prescribed PrEP under the PBS for HIV prevention increased steadily overtime to 20,066 people (blue line).
- Between April and June 2021, the quarterly number of unique NSW residents prescribed PrEP under the PBS for HIV prevention decreased by 1.4% from 9,080 in Q1 2021 to 8,945 people in Q2 2021 (orange line). This is 25% higher than the same time last year.

**Figure 17: Number of people in each age group dispensed PrEP for the first time between April 2018 to June 2021**

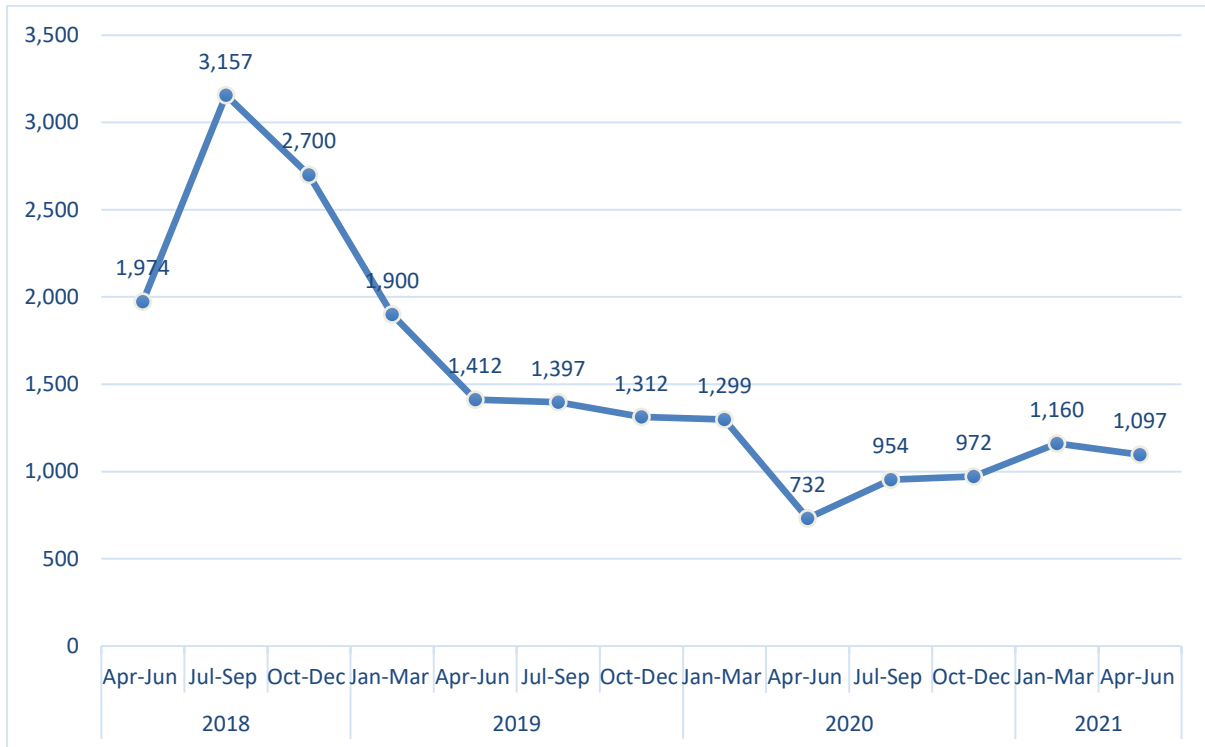


Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme (PBS) data from April 2018 to June 2021.

**Comments on Figure 17**

- Since April 2018, 2,468 (12.3%) unique clients dispensed PrEP were aged under 25 years, 7,265 (36.2%) were between the ages of 25 and 34 years, 5,216 (26.0%) were between 35 and 44 years and 5,117 (25.5%) 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 decreased by 12% in people aged 25 to 34 years and by 7% in 25 years and younger in the quarter from April to June 2021.

**Figure 18: Number of people dispensed PrEP under the PBS for the first time by quarter between April 2018 to June 2021**

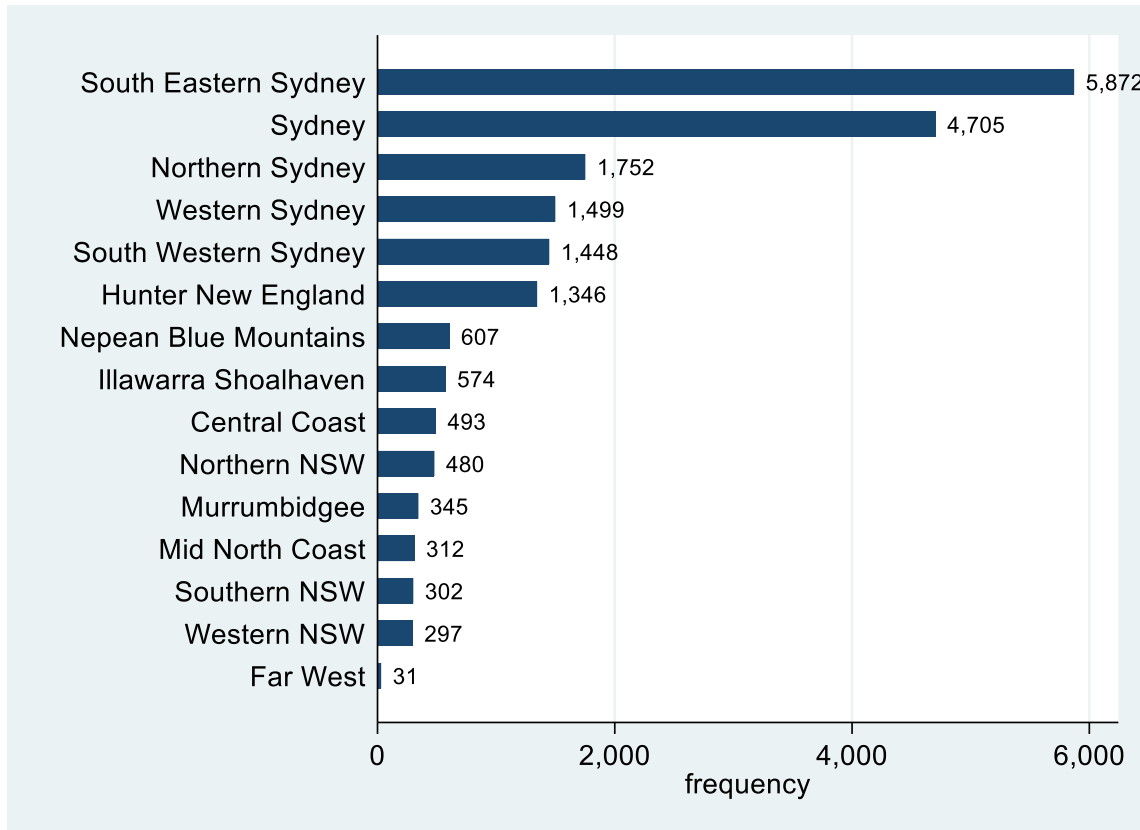


Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme (PBS) data from April 2018 to June 2021.

Comments on Figure 18

- 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. PrEP use decreased by 44% in April to June 2020 during heavier COVID restrictions, with 732 people initiating PrEP. The number of people initiating PrEP each quarter has increased steadily since July 2020.
- Between April to June 2021, 1,097 people initiated PrEP, which is a decrease of 5.4% compared January to March 2021, but this is 50% higher than the same period in 2020.

**Figure 19: Number of NSW residents dispensed PrEP by LHDs of patient residence from April 2018 to June 2021<sup>5</sup>**



Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme (PBS) data from April 2018 to June 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 19

Between April 2018 to June 2021:

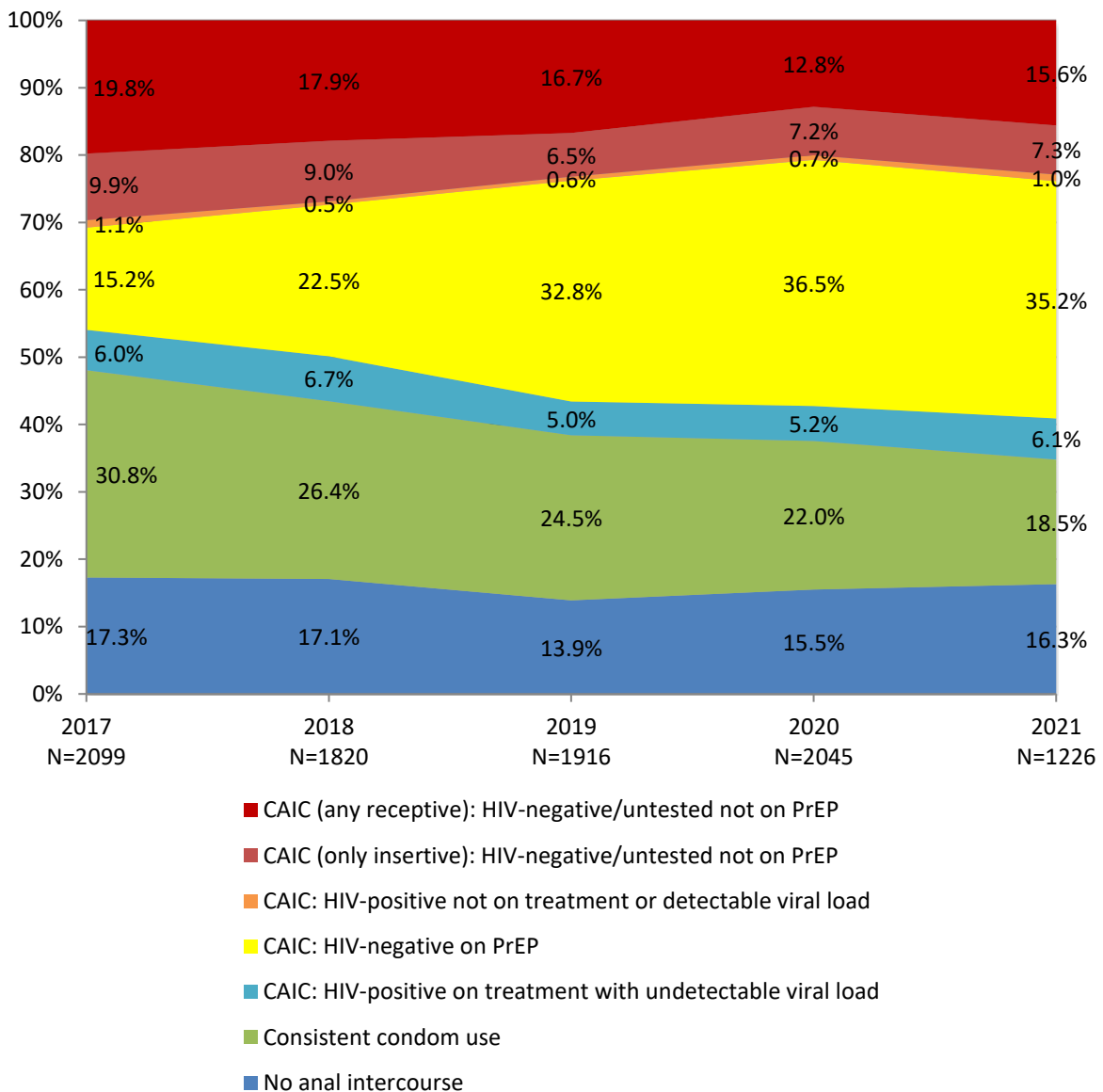
- Almost 82% of people dispensed PrEP under the PBS in NSW were residents of South Eastern Sydney (29%) and Sydney LHDs (23%), followed by Northern Sydney (8.7%), Western Sydney (7.4%), South Western Sydney (7.2%), and Hunter New England (6.7%).

<sup>5</sup> 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?

The use of condoms, PrEP and undetectable viral load by gay and bisexual men are measured through the annual Sydney Gay Community Periodic Survey (SGCPS), conducted each year during February/March. Normally, approximately 80% of participants are recruited face-to-face at venues and events. Due to COVID-19, the 2021 round was largely conducted online. This affected the sample profile and should be borne in mind when interpreting the results.

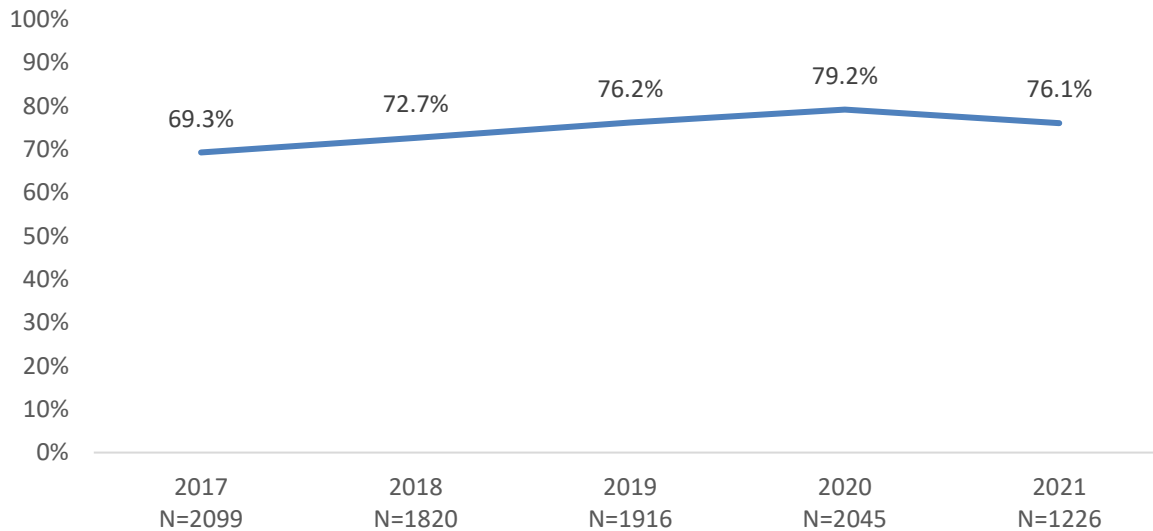
**Figure 20: Proportion of gay and bisexual men with casual partners reporting condom use, biomedical prevention and any condomless anal intercourse in the previous six months, 2017 to 2021**



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.

**Figure 21: Proportion of gay and bisexual men with casual partners reporting safe sex in the previous six months (net prevention coverage)**



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

#### Comment on Figure 20 and Figure 21

The SGCPs data show a rapid increase in PrEP use over time. PrEP became the most commonly used HIV prevention strategy by gay and bisexual men with casual partners in 2019. The proportion of gay men with casual male partners who reported PrEP use and condomless anal intercourse was 35.2% in 2021, compared to 15.2% in 2017.

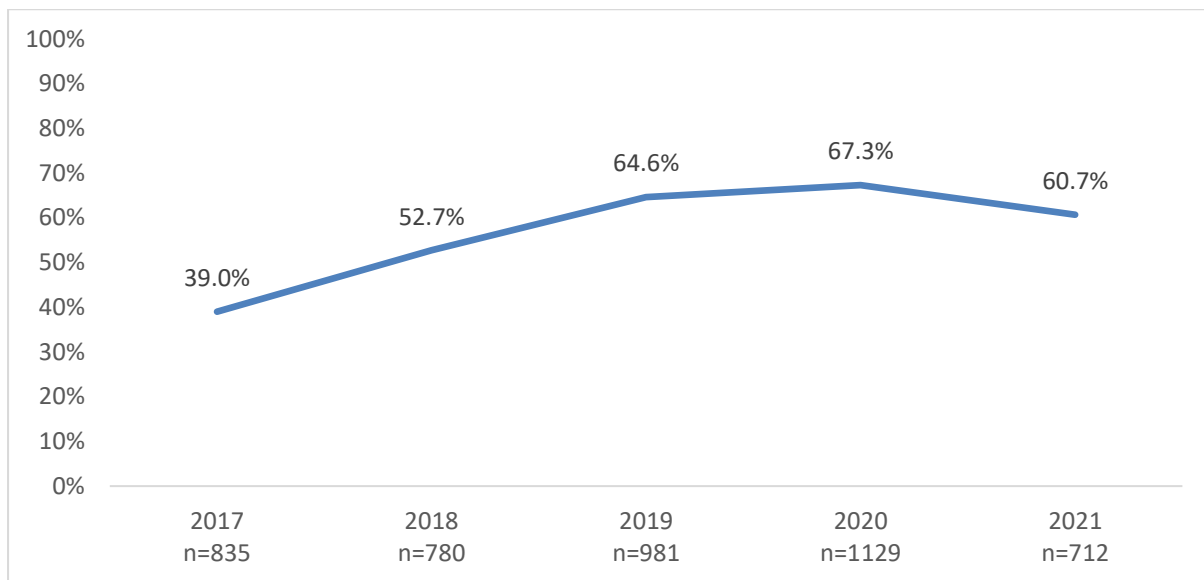
- As PrEP use has increased, consistent condom use has fallen. In 2021, 18.5% of gay men with casual partners reported consistent condom use, compared to 30.8% in 2017.
- The proportion of gay men with casual partners who reported being HIV-positive, having an undetectable viral load and condomless anal intercourse has remained stable between 2017 and 2021 at 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 is also stable and was 1.0% in 2021, compared to 1.1% in 2017.
- In 2021, 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) was 22.9%, compared to 29.7% in 2017. The proportion of gay men who are susceptible to HIV infection has decreased in Sydney as PrEP use has increased, although there was a slight increase in the relative size of this 'at risk' group between 2020 and 2021 (from 20.0% to 22.9%).
- '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 69.3% in 2017 to 76.1% in 2021, although there was a slight fall between 2020 and 2021 (from 79.2% to 76.1%).

- It should be noted that, due to COVID-19, 51.5% of participants reported a reduced number of sex partners in the previous six months. Among current and former PrEP users, 57.7% said they had reduced their use and 8.6% said they had stopped due to COVID-19.

### Sydney Gay Community Periodic Survey – PrEP coverage among gay and bisexual men reporting condomless sex with casual partners

The NSW HIV Strategy includes a target to increase the proportion of PrEP use by gay and bisexual men who have condomless sex with casual partners to 90%. We assess sex with casual male partners and PrEP use in the Sydney Gay Community Periodic Survey.

**Figure 22: Proportion of non-HIV-positive men gay and bisexual men who had condomless sex with casual male partners and were using PrEP in the previous six months, 2017 to 2021**



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

#### Comment on Figure 22

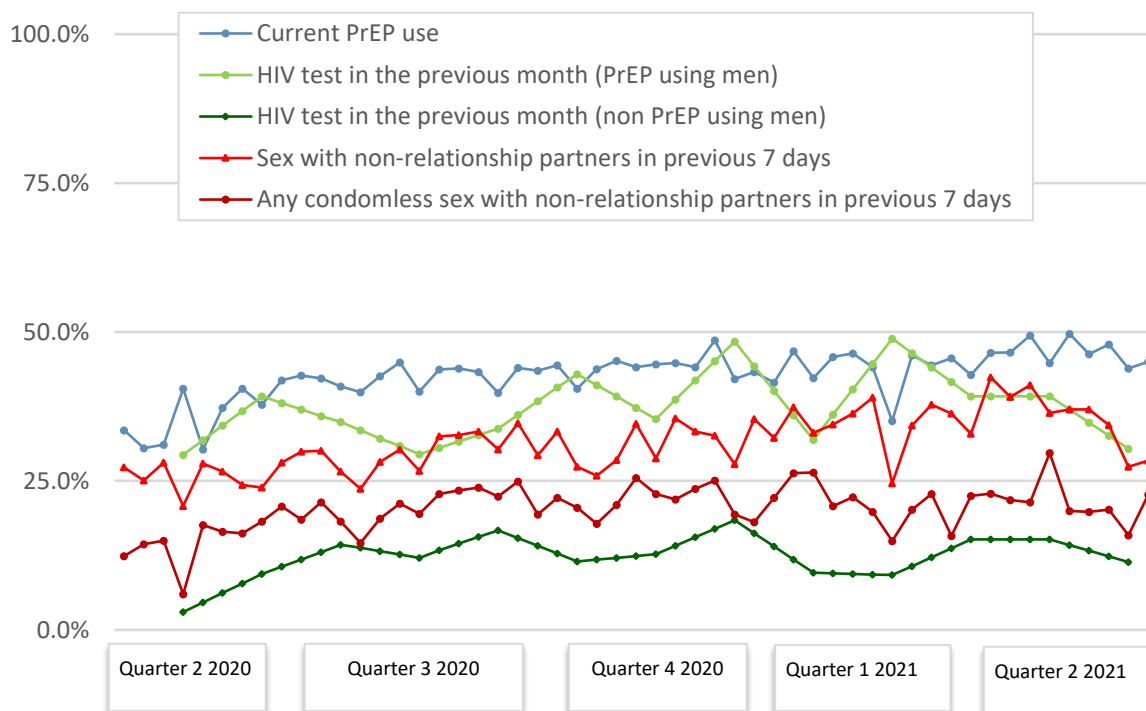
- PrEP use by gay and bisexual men who had condomless sex with casual male partners has increased from 39.0% in 2017 to 60.7% in 2021.
- There was a slight fall in PrEP coverage between 2020 and 2021 (from 67.3% to 60.7%) although this is in the context of COVID-19, with over half the participants in the surveys (57.1%) reporting fewer sex partners and most PrEP users (57.7%) reducing PrEP use due to COVID-19.



### 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. Weekly data collection continued between 3<sup>rd</sup> May 2020 and 8<sup>th</sup> May 2021, after which data collection occurs quarterly, but individual questions refer to the same time periods (previous 7 days, or previous 4 weeks). Figure 17a shows the weekly and quarterly results for sexual behaviour, PrEP use, and HIV testing since 3<sup>rd</sup> May 2020 among NSW respondents.

**Figure 23a: Sex with non-relationship partners, PrEP use and HIV testing (3<sup>rd</sup> May 2020 – 26<sup>th</sup> June 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, 44, 48, 52, and 59.

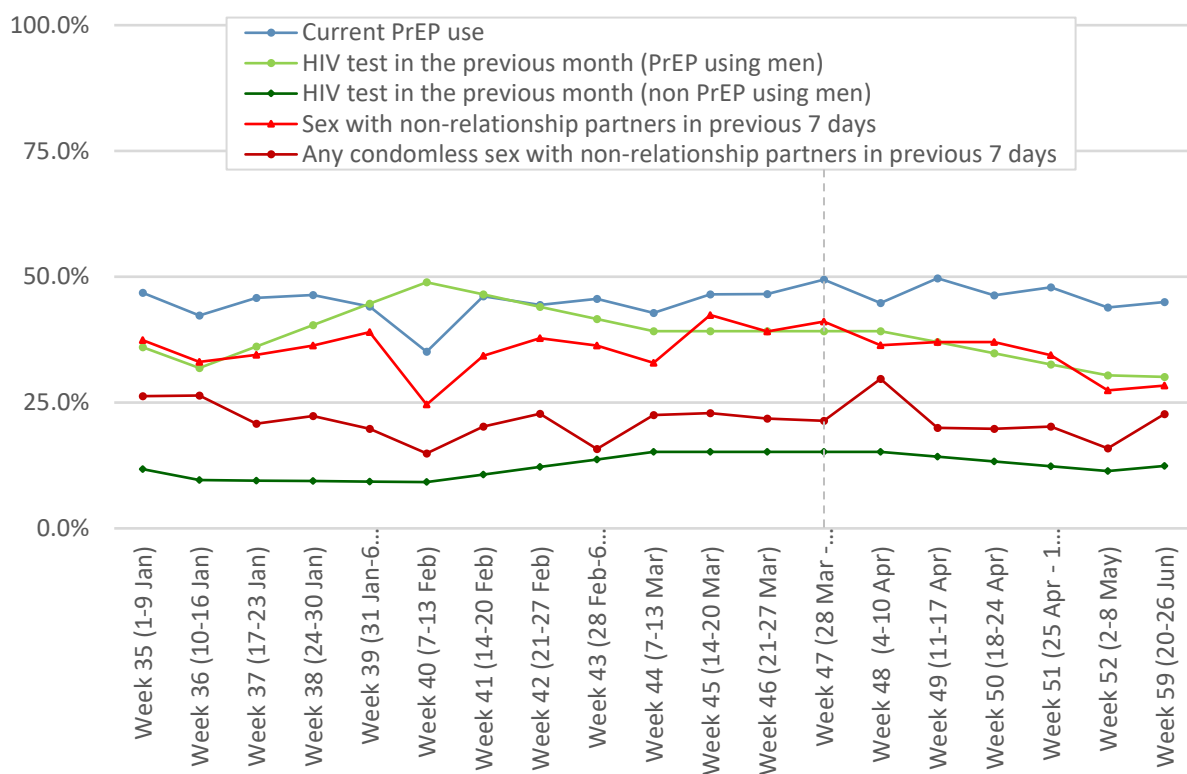
#### Comment on Figure 23a

- Since May 2020, current PrEP use steadily increased between Quarters 2 and 4 of 2020 and has since remained fairly stable.
- Gradual increases were observed for men reporting sex with non-relationship partners in 2020 but have since remained stable.

- Following slight increases in rates of condomless sex with non-relationship partners in 2020, proportions 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 since remained fairly steady.

Figure 23b shows the weekly and quarterly results for sexual behaviour, PrEP use, and HIV testing between 1<sup>st</sup> January 2021 and 26<sup>th</sup> June 2021 among NSW respondents.

**Figure 23b: Sex with non-relationship partners, PrEP use and HIV testing by week (1<sup>st</sup> January 2021 – 26<sup>th</sup> June 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, 44, 48, 52, and 59.

### Comment on Figure 23b

- Current PrEP use has remained fairly stable during quarter two at over 40%, reaching the highest proportion of 49.7% in week 49 (11<sup>th</sup> April 2021 and 17<sup>th</sup> April 2021).
- About one in three men reported sex with non-relationship partners in quarter two, and this proportion has remained fairly stable during this quarter.
- Rates of condomless sex with non-relationship partners has remained steady in quarter two at slightly than one quarter of men other than a single week at 39.2% (week 48).
- HIV and STI testing in the previous 4 weeks was reported every fourth week until week 52, and quarterly thereafter. Rates of testing among non-HIV-positive men using PrEP slightly decreased in quarter two from 39.2% in week 47 to 30.1% in week 59. Among men not currently using PrEP, being tested for HIV remained fairly stable in quarter two 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 July 2020 to June 2021,

- 14,475,864 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)<sup>6</sup>.

<sup>6</sup> Geddes, L, Iversen J, and Maher L. NSW Needle and Syringe Program Enhanced Data Collection Report 2020, The Kirby Institute, UNSW Australia, Sydney 2020.

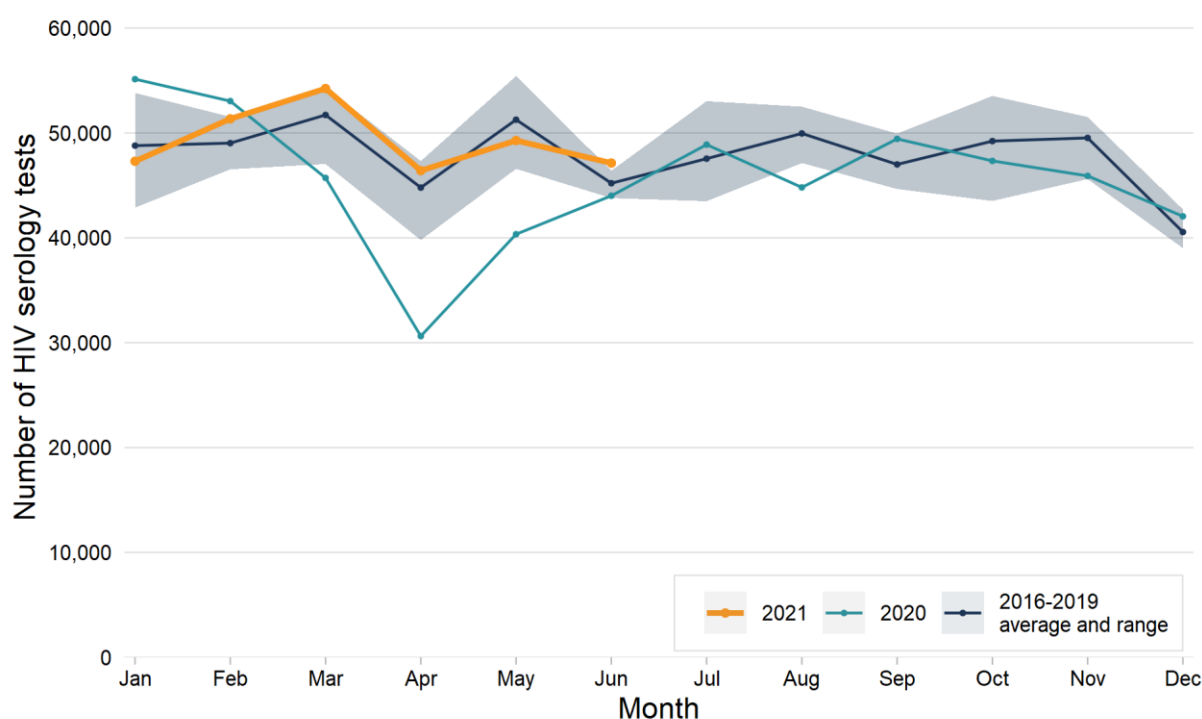
### 3. Increase HIV testing frequency

#### 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 24: Number of HIV serology tests performed in 15 NSW laboratories, January 2016 to June 2021**



Data source: NSW Health denominator data project, out 28 October 2021.

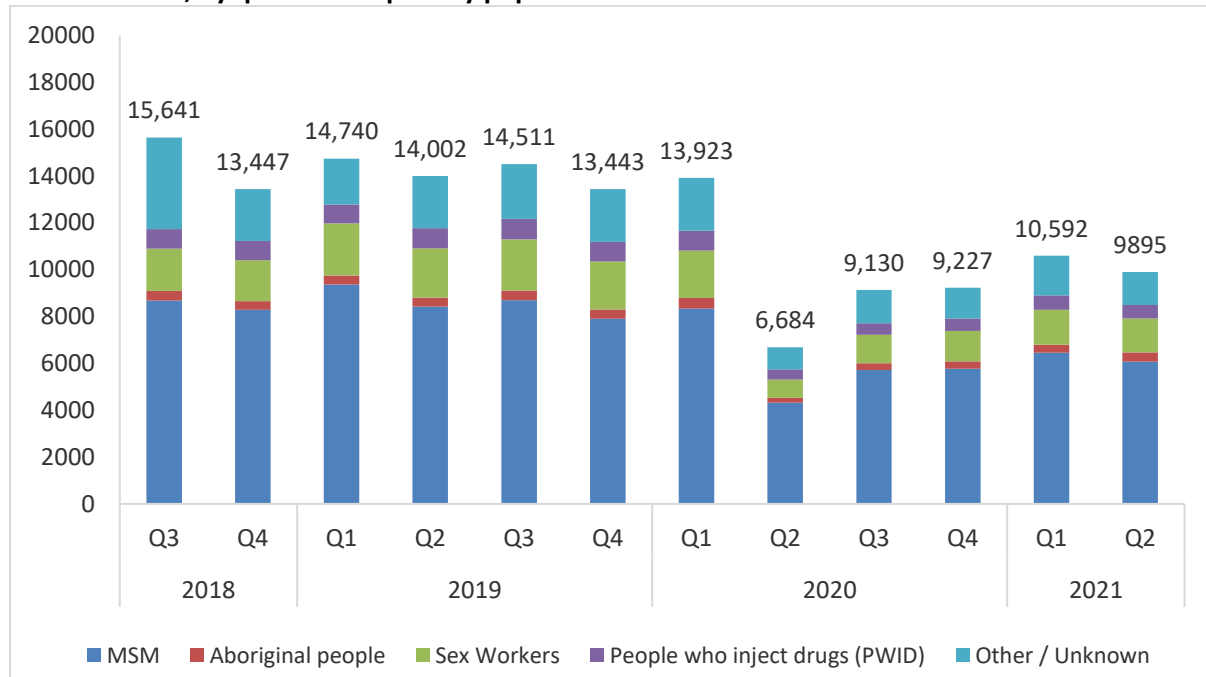
##### Comments on Figure 24

In April to June (Q2) 2021:

- 142,815 HIV serology tests were performed in 15 laboratories in NSW, which was 24% more than Q2 2020 (n=114,984), 4% less than Q2 2019 (n=149,080), 1% less than Q2 2018 (n=144,622), 5% more than Q2 2017 (n=136,185), and 6% more than Q2 2016 (n=135,164).

In January to June 2021:

- 295,700 HIV serology tests were performed in 15 laboratories in NSW, which was 10% more than in 2020 (n=268,868), 4% less than 2019 (n=308,774), 2% less than 2018 (n=301,108), 5% more than 2017 (n=281,659), and 9% more than 2016 (n=271,667).

**Figure 25: Number of HIV tests performed in public sexual health clinics in NSW between July 2018 and June 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 Northern Sydney LHDs has not been included since April 2020 and April 2021 respectively due to data system issues.

### Comments on Figure 25

In April to June 2021:

- The number of HIV tests in PFSHCs (n=9,895) increased by 48% compared to the number of tests conducted in the same period in 2020, during heavier COVID restrictions.
- Compared to Q1 2021, the number of HIV tests in PFSHCs decreased by 6%. This excludes data from CC and NS, which has been missing since Q2 2020 and Q2 2021 respectively due to data system issues. This reduction is partly due to the impact of reduced service capacity due to resources being diverted to COVID-19 and to vaccination.
- Testing remained targeted with 6,069 of 9,895 (61%) HIV tests in PFSHCs done by MSM.
- Of 9,645 tests in PFSHCs where country of birth was recorded, 53% (5,151) were Australian-born, 46% (4,419) overseas-born and 1% (75) unknown<sup>7</sup>.
- The number of HIV tests performed in other public health settings not included in the Figure above includes:
  - 1,120 in Emergency Department;
  - 502 in Mental Health;
  - 378 in Drug and Alcohol;
  - 460 in Needle and Syringe Program, Youth Block, Immunology, Infectious diseases, Liver Clinic, Chest Clinic and Psychiatry Clinic.

<sup>7</sup> This analysis excludes Northern Sydney, Central Coast and Illawarra Shoalhaven LHD, where country of birth data is temporarily unavailable due to data extraction issues.

**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 June 2021**

Recruitment indicators	Q2 2021 (Apr - Jun)	Total (Nov 2016 - Jun 2021)
Number of registrations for DBS test (including Hepatitis C)	1,043	12,191
Number of registrations for DBS requesting HIV testing	990/1,043 (95%)	11,515/12,191 (94%)
Number (%) of people who registered for a HIV DBS kit who had never tested before or had tested over 2 years ago**	503/990 (51%)	5,293/11,515 (46%)
Proportion of returned HIV DBS kits	883/990 (89%)	9,756/10,502 (83%)
Number of HIV DBS tests performed	928	9,696
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 April to June 2021:

- There was a total of 928 HIV DBS tests in NSW.
- 51% 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, 393 (78%) were Australian born and 110 (22%) were overseas born.
- 89% of registrations for DBS requesting HIV testing between January and March 2021 were returned for testing.

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

- 46% people who registered for a HIV DBS test had never previously tested for HIV or had tested more than 2 years ago.
  - Of these 3,876 (73%) were Australian-born and 1,417 (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 June 2021**

Target population	Q2 2021 (Apr - Jun) Total number of HIV tests n = 928	(Nov 2016 – Jun 2021) Total number of HIV tests n = 9,696
MSM ****	153 (17%)	2,215 (23%)
From high prevalence country***	83 (9%)	1,069 (11%)
Partners from Asia/Africa	114 (12%)	1,602 (17%)
Aboriginal people**	259 (28%)	2,625 (27%)
Ever injected drugs**	646 (70%)	5,118 (53%)

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 April to June 2021:

- Of 928 HIV DBS tests, 17% were done by MSM (n=153), which is lower than Q1 2021, when 20% of tests were done by MSM.
  - Of 153 MSM tested, 65% were Australian-born, and 35% were overseas-born MSM.
- 9% of HIV DBS tests were done by people from high prevalence countries.
- 12% of HIV DBS tests were done by people who had partners from Asia/Africa.
- 28% of HIV DBS tests were done by Aboriginal people.
- 70% of tests were done by people who had ever injected drugs.

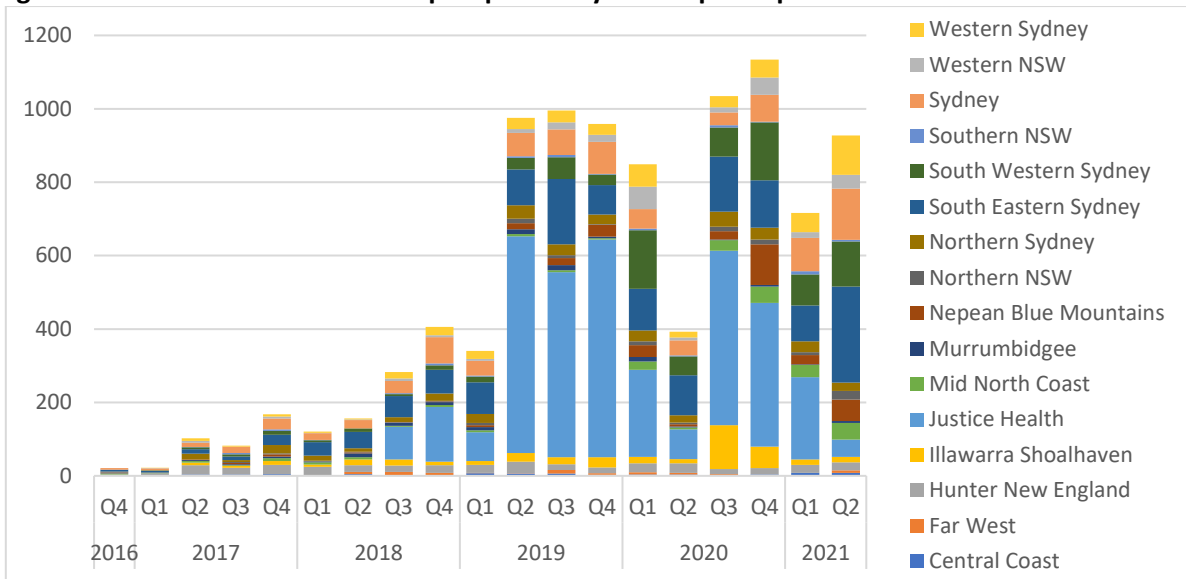
Of non-Justice Health HIV DBS tests (n=881) in Q2 2021:

- 19% were overseas-born (n=171)
- 17% were MSM (n=152)
- 12% had a partner from Asia or Africa (n=110)
- 9% were from a high prevalent country (n=83)
- 27% were by Aboriginal people (n=241)
- 70% were people who have ever injected drugs (n=618)

In November 2016 to Q2 2021 (over the entire pilot):

- Of 9,696 HIV DBS tests, 23% were done by MSM (n=2,215)
  - Of 2,215 MSM tested, 70% were Australian-born MSM and 30% 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.
- 70% of tests were done by people who had ever injected drugs.

**Figure 26: DBS HIV tests conducted per quarter by LHD of participant’s residence**



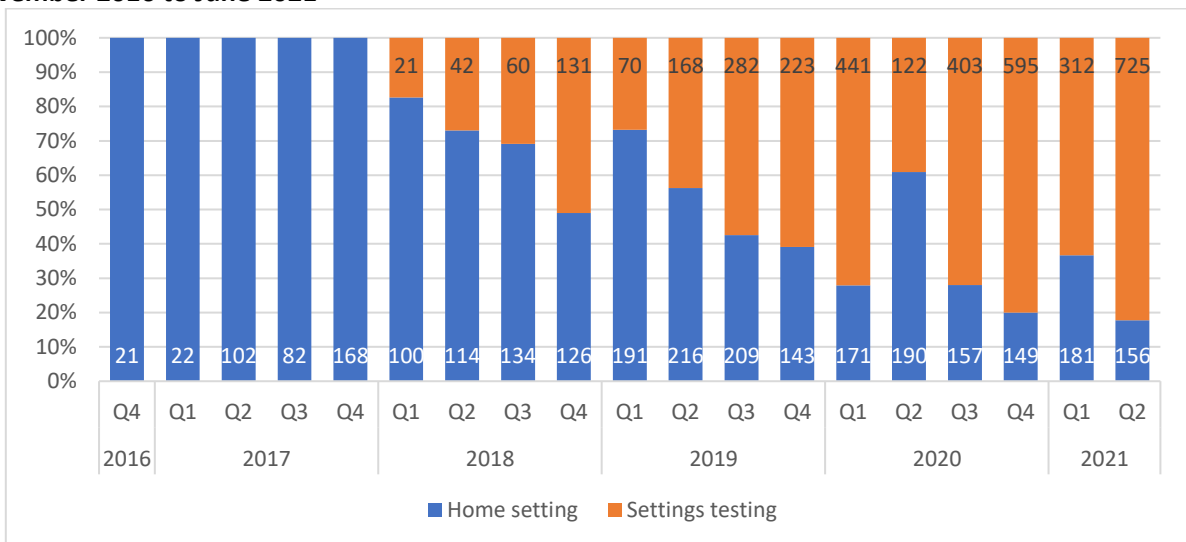
Data Source: NSW DBS Research Database

**Comments on Figure 26**

In April to June 2021:

- There was a total of 928 HIV DBS tests in NSW, which is a 29% increase compared to Q1 2021 (n=716), and a 136% increase compared to Q2 in 2020 (n=393). However, it is important to view this increase in the context of home testing versus settings-based testing (see next Figure).

**Figure 27: HIV DBS tests done at home (ordered online) and settings-based tests per quarter, November 2016 to June 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 27**

In April to June 2021:

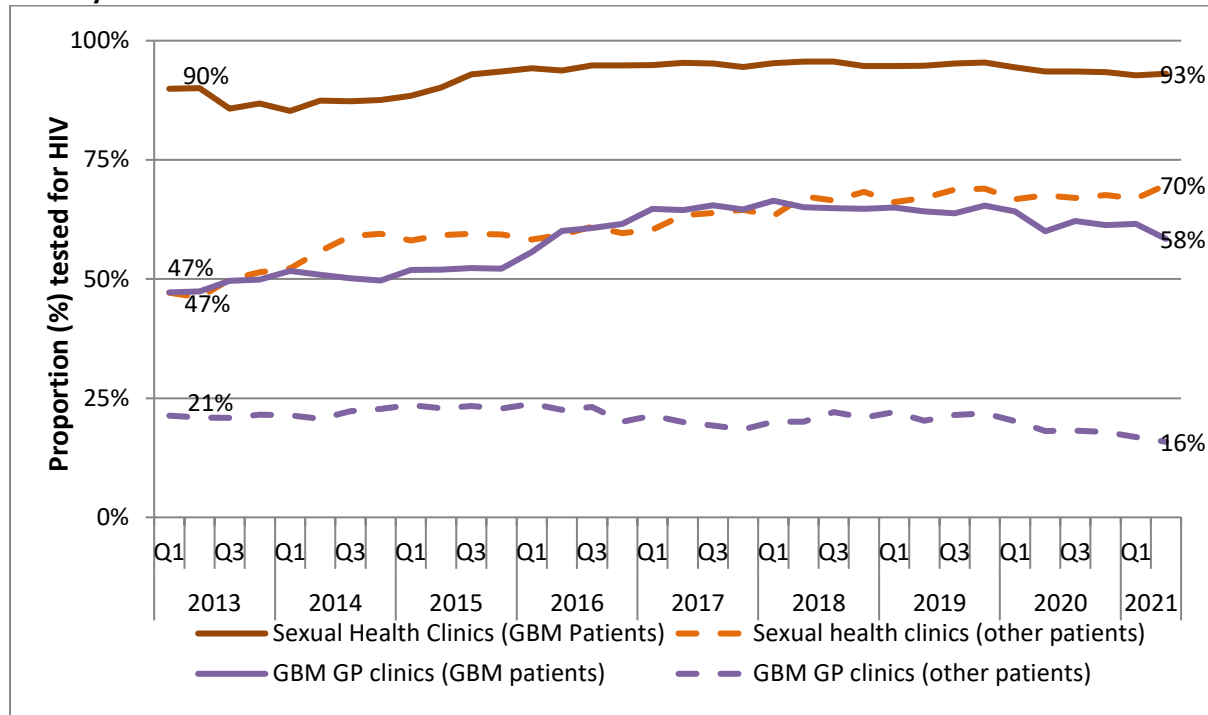
- Home testing decreased by 14% to 156 HIV DBS tests compared to Q1 2021. In 2021, home testing in the first two quarters decreased by 7% compared to the same period in 2020.
- Settings-based testing doubled to 725 HIV DBS tests (excluding Justice Health) compared to Q1 2021. In 2021, settings-based HIV DBS testing (excluding Justice Health) also doubled to 1,037 compared to the same period in 2020.



### 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 28: Proportion of patients<sup>8</sup> attending PFSHCs and GBM GP clinics<sup>9</sup> 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 30 June 2021<sup>10</sup>**



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

#### Comments on Figure 28

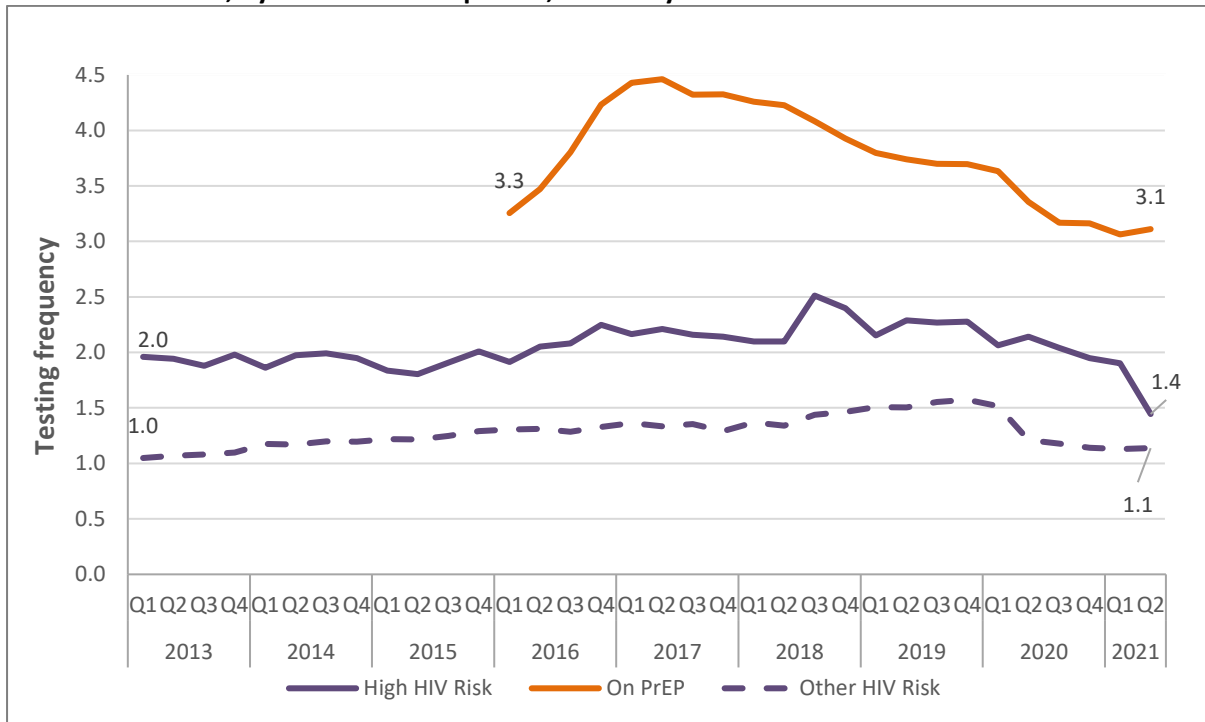
- HIV testing uptake among GBM attending PFSHCs remained consistently high in the second quarter of 2021 (93%).
- Testing uptake increased over time among other patients attending PFSHCs, rising from 47% in Q1 of 2013 to 70% in Q2 of 2021.
- Testing uptake also increased among GBM attending GBM GP clinics (from 47% in Q1 of 2013 to 58% in Q2 of 2021). Testing amongst other patients attending GBM GP clinics stayed relatively consistent from 2013 to end of Q12020. Testing declined in this group from 20% in Q1 2021 to 16% in Q2 2021.

<sup>8</sup> Excludes patients known to be HIV positive

<sup>9</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually;

<sup>10</sup> 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 29: Average number of annual HIV tests among GBM patients<sup>11</sup> attending any clinic in the ACCESS network<sup>12</sup>, by HIV risk<sup>13</sup> and quarter, 1 January 2013 to 30 June 2021**



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

**Comment on Figure 29**

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 hierarchical 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 1.4 at the end of Q2 2021. Drops in testing frequency likely occurred due to various restrictions due to the COVID-19 pandemic over the Q2 2020-Q2 2021 period. Testing stayed relatively consistent among men of other risk profiles from Q1 2013 to Q2 2021.

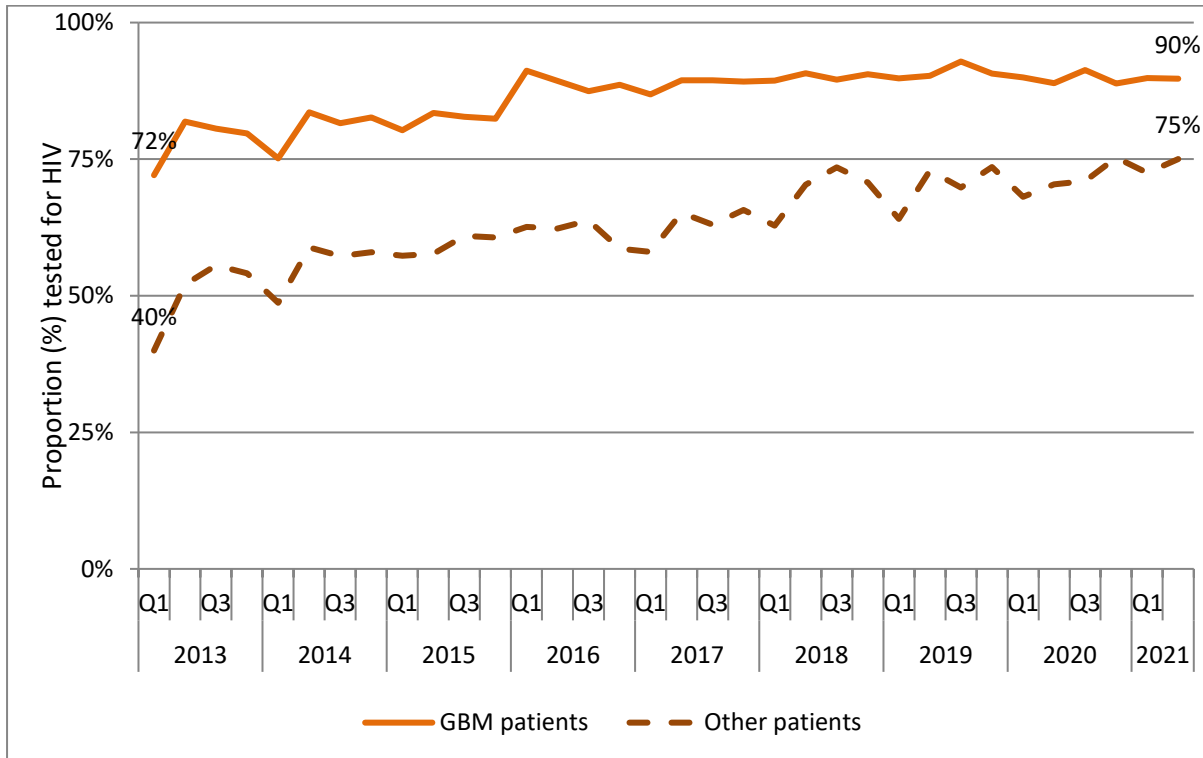
Men identified within ACCESS as having a reason for visit as “PrEP” and/or a PrEP script were considered as on PrEP.

<sup>11</sup>Excludes patients known to be HIV positive

<sup>12</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually

<sup>13</sup> 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 30: Proportion of patients<sup>14</sup> attending PFSHCs and GBM GP clinics<sup>15</sup> combined who received an HIV test at any clinic in the ACCESS network in conjunction with an STI diagnosis<sup>16</sup>, by GBM status and quarter, 1 January 2013 to 30 June 2021**



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

**Comment on Figure 30**

- The proportion of GBM who received an HIV test in conjunction with an STI diagnosis increased over time from 72% in Q1 2013 to 90% in Q2 of 2021.
- Testing in conjunction with STI diagnoses was less common overall among other patients but also increased during this period (40% to 75%).

**Figure 31: Proportion of patients<sup>17</sup> attending PFSHCs and GBM GP clinics<sup>18</sup> who received an HIV test at any clinic in the ACCESS network in conjunction with an STI diagnosis<sup>19</sup>, by service type and quarter, 1 January 2013 to 30 June 2021**

<sup>14</sup> Excludes patients known to be HIV positive

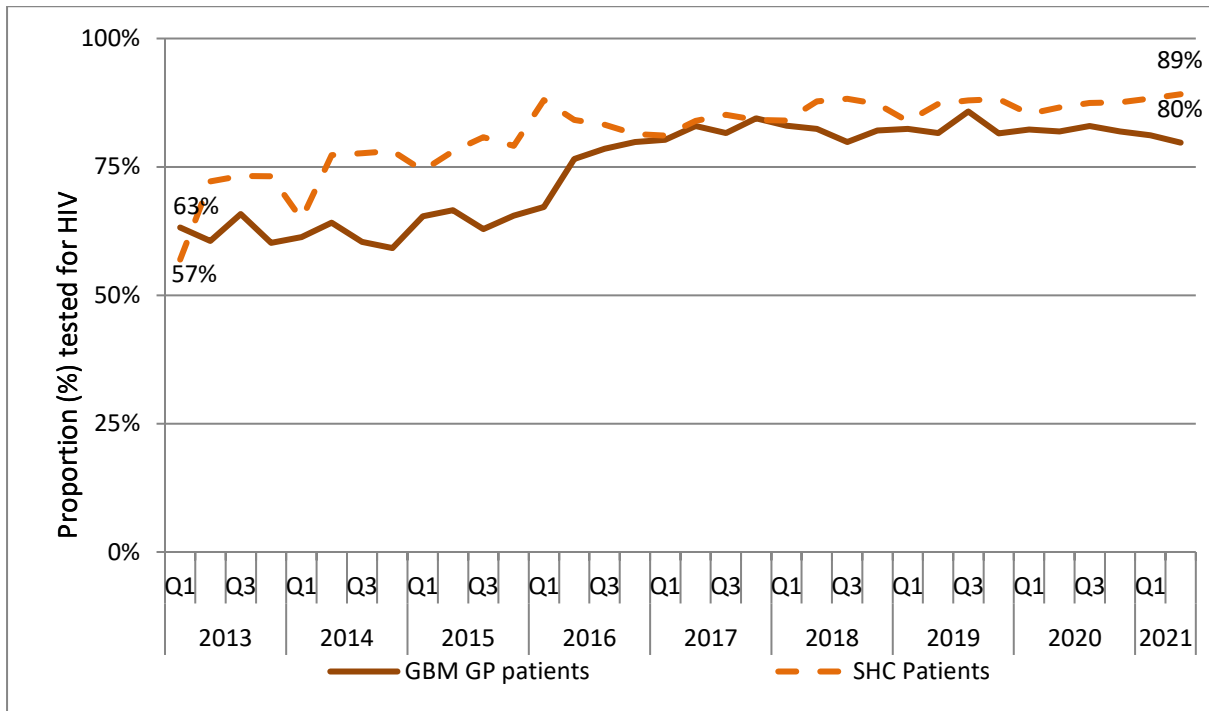
<sup>15</sup> GBM GP clinics defined as general practice clinics serving at least 50 GBM patients annually

<sup>16</sup> 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

<sup>17</sup> Excludes patients known to be HIV positive

<sup>18</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually

<sup>19</sup> 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

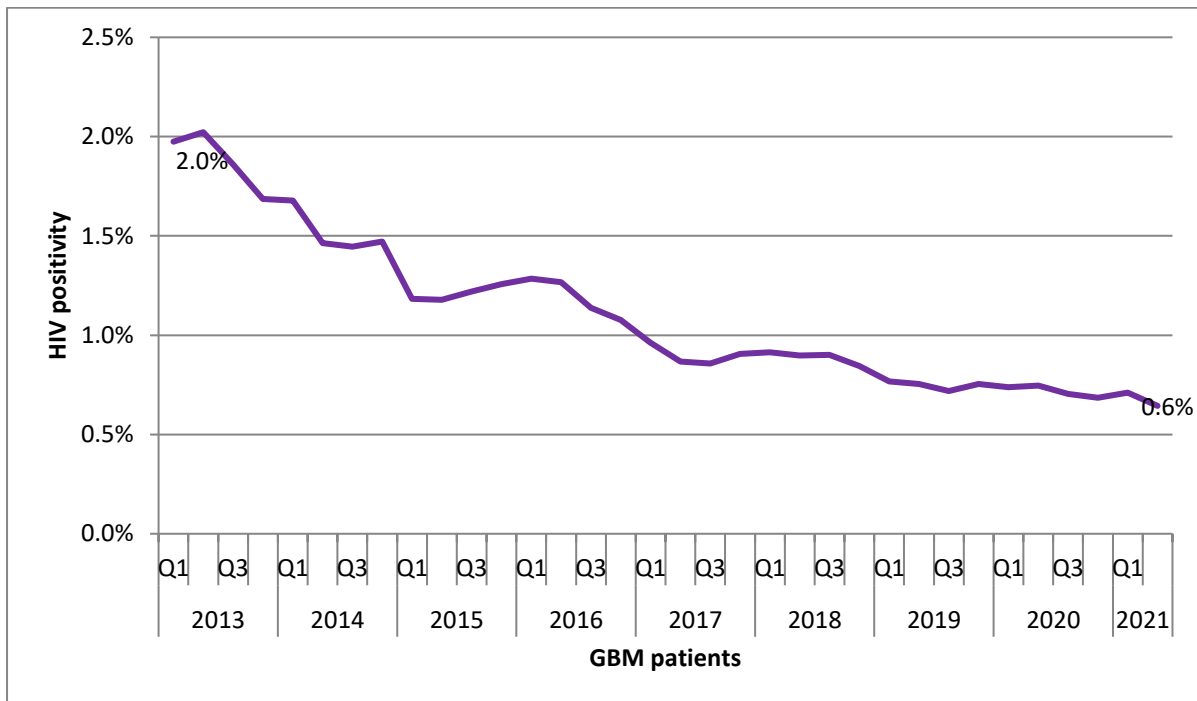


Data source: ACCESS Database, The Kirby Institute and the Burnet Institute

Comment on Figure 31

- Testing in conjunction with STI diagnosis was highest in PFSHCs, increasing from 57% in Q1 2013 to 89% at the end of Q2 2021.
- GBM GP clinics also saw an increase in the proportion of patients tested from 63% in Q1 of 2013 to 80% at the end of Q2 2021.

**Figure 32: Proportion of individual GBM patients<sup>20</sup> tested for HIV with a positive result (HIV positivity<sup>21</sup>) at any clinic in the ACCESS network, by quarter, 1 January 2013 to 30 June 2021**



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

Comment on Figure 32

- Over time, HIV positivity among GBM attending PFSHCs and GBM GP clinics has decreased from 2.0% of Q1 2013 to 0.6% in Q2 2021.

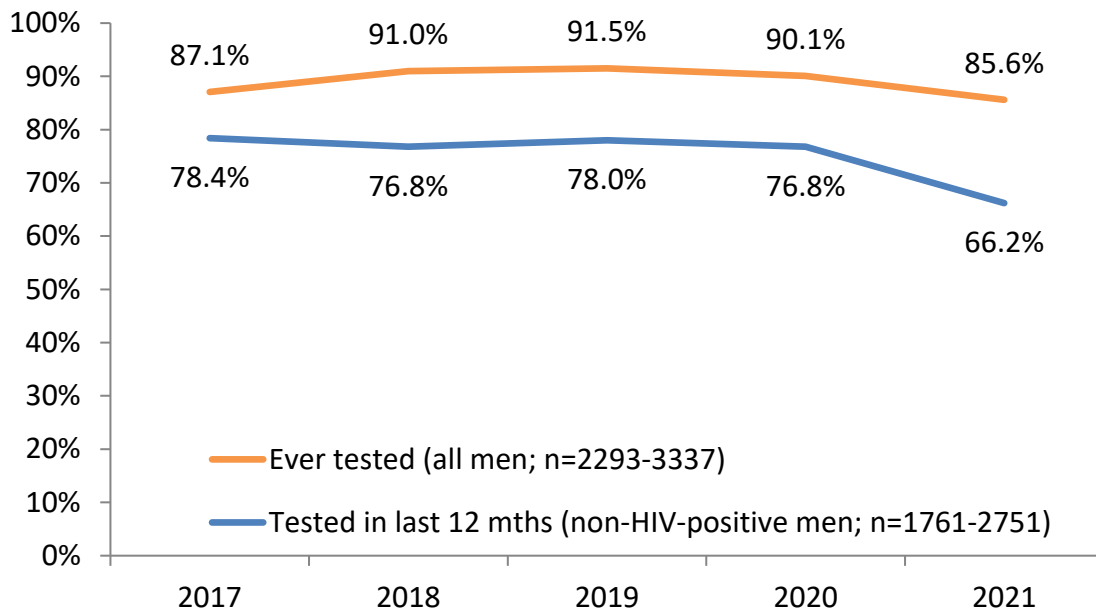
<sup>20</sup> Excludes patients known to be HIV positive

<sup>21</sup> 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**

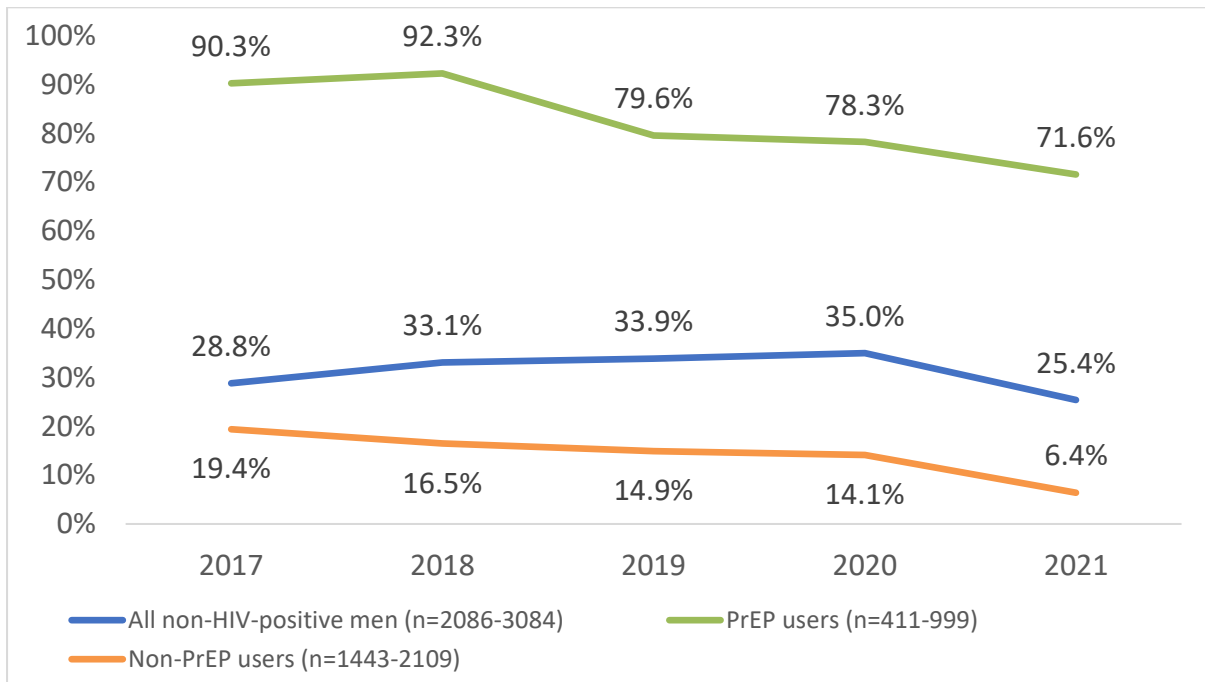
HIV testing history is assessed in the annual Sydney Gay Community Periodic Survey (SGCPS), conducted each year during February/March. In recent years, frequency of testing has been added to the survey alongside lifetime testing and recent testing.

**Figure 33: Lifetime HIV testing and testing in the previous 12 months; Sydney Gay Community Periodic Survey, 2017 to 2021**



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

**Figure 34: 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, 2017 to 2021**



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

Comment on Figure 33 and Figure 34

- The SGPCS data show that lifetime testing (ever having been tested for HIV) is relatively stable, and was 85.6% in 2021 (compared with 87.1% in 2017).
- Testing in the previous 12 months by non-HIV-positive men was stable between 2017 and 2020 (at 77-78%) but decreased to 66.2% in 2021. This is likely to be due to COVID-19.
- Higher frequency testing (three or more HIV tests per year) by non-HIV-positive men had increased from 28.8% in 2017 to 35.0% in 2020, then decreased to 25.4% in 2021.
- Higher frequency testing remains far more common among PrEP users than non-users. Higher frequency testing by PrEP users has decreased over time from 90.3% in 2017 to 71.6% in 2021. Higher frequency testing has become less common among non-HIV-positive men not on PrEP (from 18.9% in 2017 to 6.4% in 2021).

### 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 Apr-Jun 2021**

Non-traditional Settings	Number of RHT	Number of HIV antibody tests	% Unique Positive	% never previously tested	% tested more than 12 months ago <sup>#</sup>	% with > 5 sexual partners in last 3 months*	% overseas-born
<b>Community-based</b>							
aTEST Surry Hills	Not operating due to COVID-19						
aTEST Oxford ST	732	1271	0.24%	11.61%	25.22%	18.21%	57%
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<sup>17</sup>

Note: In Apr-Jun 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 1,330. Some patients at this site have an HIV antibody test without a rapid test, which accounts for the additional HIV antibody tests above.

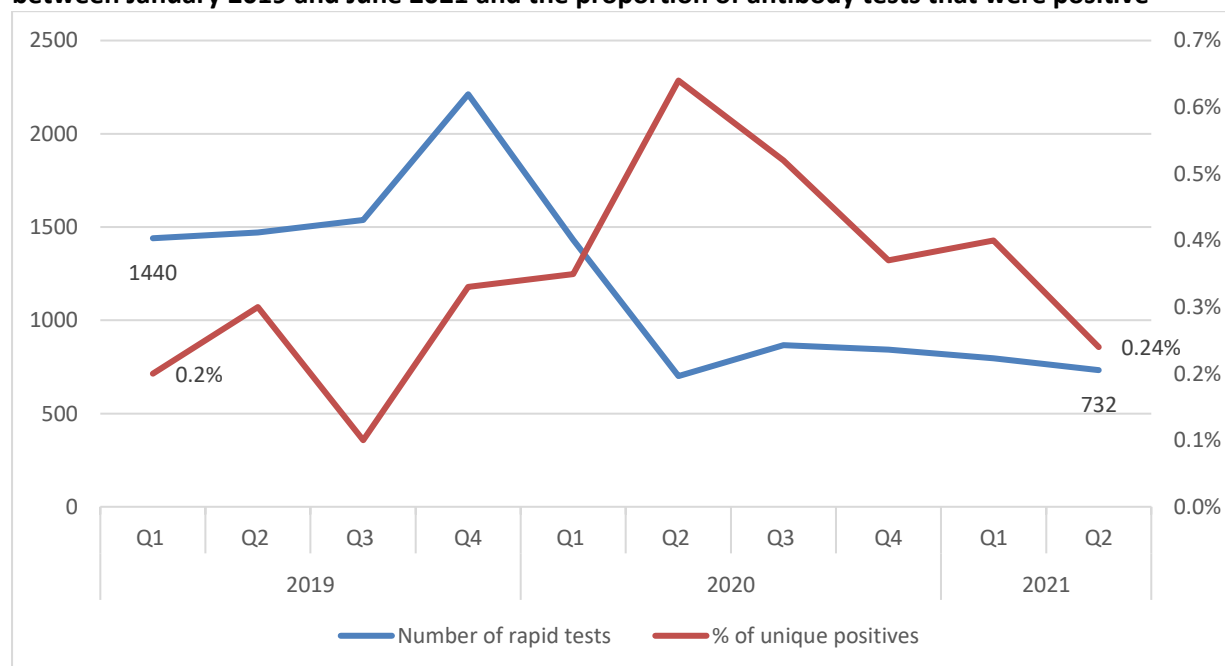
Note: Unique positive is for HIV antibody tests, and incorporates positive results for HIV tests done without a rapid test at Oxford St aTest sites.

Note: Clients' risk behaviour and infrequent testing history is calculated by: total occasions of service at Oxford St (n=1,385); 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 35: The number of unique patients who had a rapid HIV test at a community based site between January 2019 and June 2021 and the proportion of antibody tests that were positive**



Data sources: NSW Health HIV Strategy Monitoring Database<sup>22</sup>

<sup>22</sup> Public sexual health and HIV services data provided by Local Health Districts for the purpose of monitoring the implementation of the NSW HIV Strategy.



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 35

- 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 April to June 2021 at a[TEST] Oxford St:

- 25% of clients tested more than 12 months ago and 18% of clients were classified as high risk, with more than 5 sexual partners in the last 3 months.

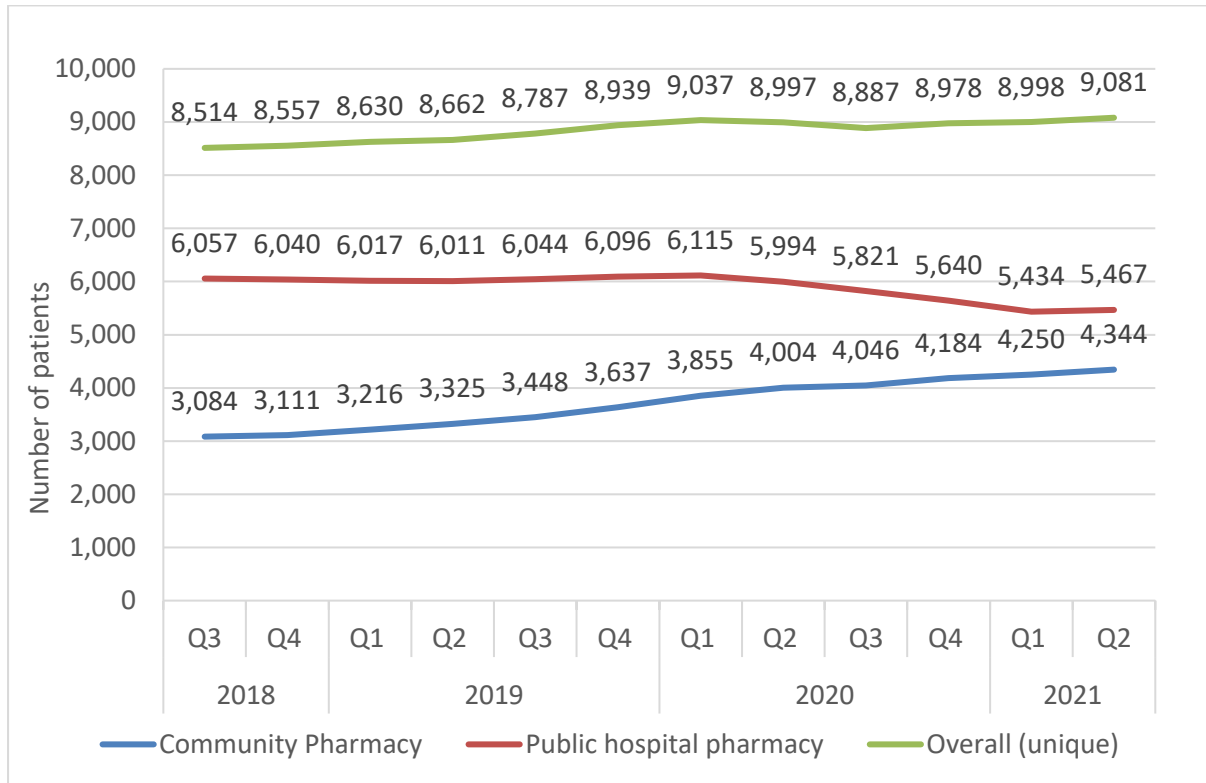
Of 1330 unique clients:

- 57% 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.

## 4. Increase HIV Treatment

### 4.1 How many people in NSW are on antiretroviral therapy?

**Figure 36: 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 July 2020 to 30 June 2021**

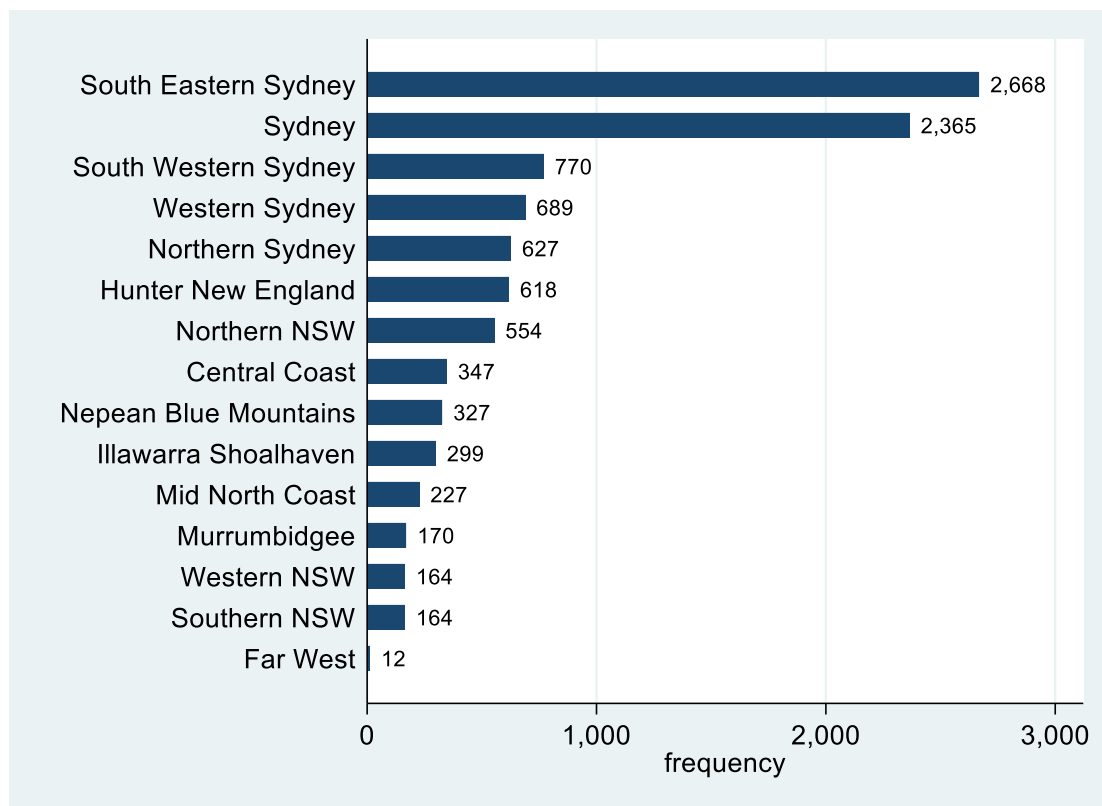


Data source: PBS Highly Specialised Drugs Programme data from 1 July 2018 to 30 June 2021 prepared for NSW Health. Note: The number of patients dispensed via community and public hospital pharmacies may add to a figure greater than the overall unique patients as some patients receive treatment from more 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 36

- Between 1 July 2018 and 30 June 2021, a total of 9,081 (unique number) NSW residents were dispensed ART for HIV at least once within the previous 12 months. Of the 9,081 residents, 43.5% of ART treatment for HIV were dispensed by GP.
- Of the 9,081 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 37: The number of NSW residents dispensed ART for HIV, by the LHD of patient residence, from 1 July to 30 June 2021<sup>23</sup>**



Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme data from 1 July to 30 June 2021

Comments on Figure 37

- 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, Northern Sydney and Hunter New England LHDs.

<sup>23</sup> 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 July 2020 and June 2021 is summarised at Table 5<sup>24</sup>.

**Table 5: Clients who received HIV care in NSW public sexual health and HIV services from 1 July 2020 and 30 June 2021**

Number (%) of patients for whom treatment information was available	5,312
Number (%) on ART	5,244 (99%)

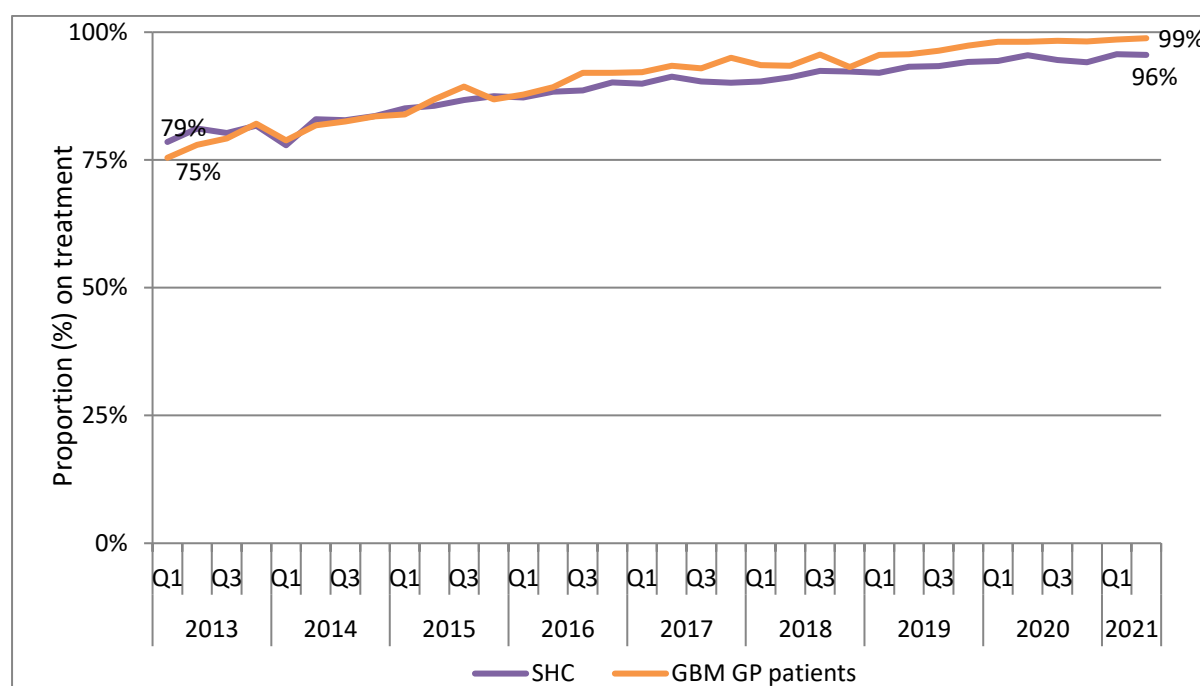
Data sources: NSW Health HIV Strategy Monitoring Database<sup>25</sup>

Note: Data presents here does not include Central Coast and Northern Sydney LHD.

##### Comment on Table 5

- Between July 2020 and June 2021, treatment information was available for 5,312 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 38 Proportion of HIV positive patients<sup>26</sup> attending any clinic in the ACCESS network<sup>27</sup> 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 30 June 2021**



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

<sup>24</sup>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.

<sup>25</sup> Public sexual health and HIV services data provided by Local Health Districts for the purpose of monitoring the implementation of the NSW HIV Strategy.

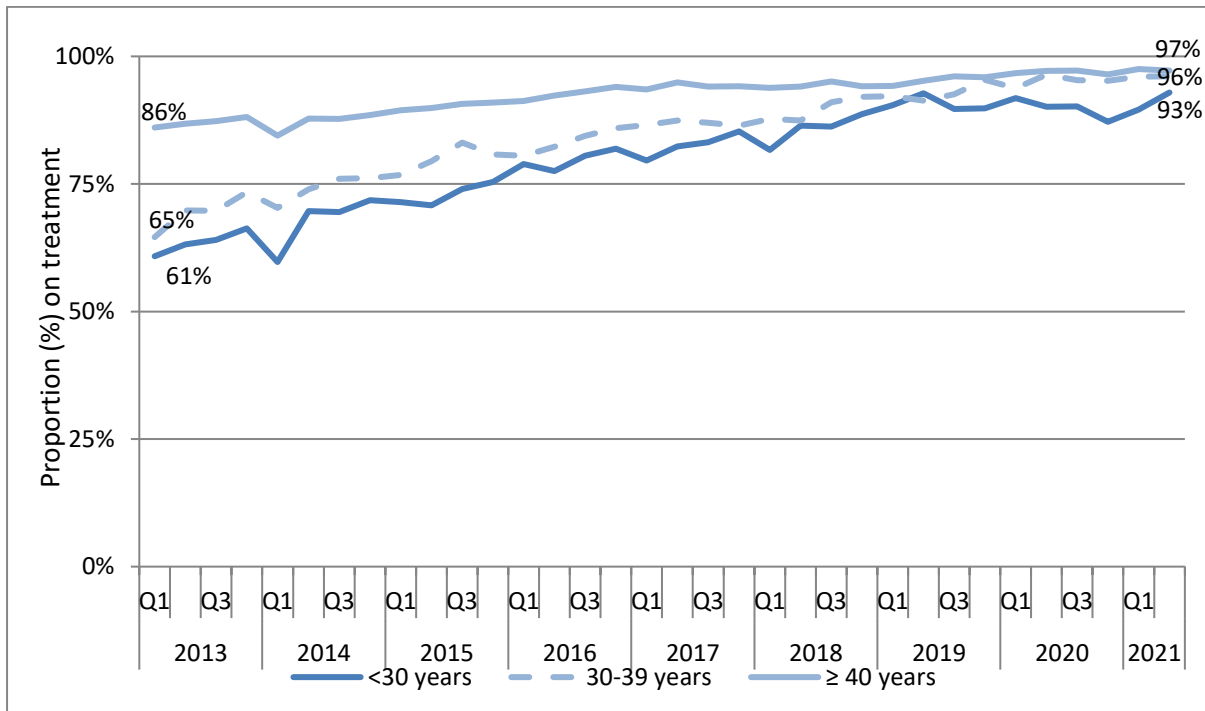
<sup>26</sup> Excludes patients for whom HIV care was recorded as managed elsewhere

<sup>27</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually  
Hospital data were not included in analysis

Comments on Figure 38

- Over time, treatment uptake for people living with HIV increased across service types. Between Q1 2013 and Q2 2021, treatment uptake increased from 79% to 96% and 75% to 99% in PFSHCs and GBM GP clinics, respectively.

**Figure 39 Proportion of HIV positive patients attending any clinic in the ACCESS network <sup>28</sup> 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 30 June 2021**



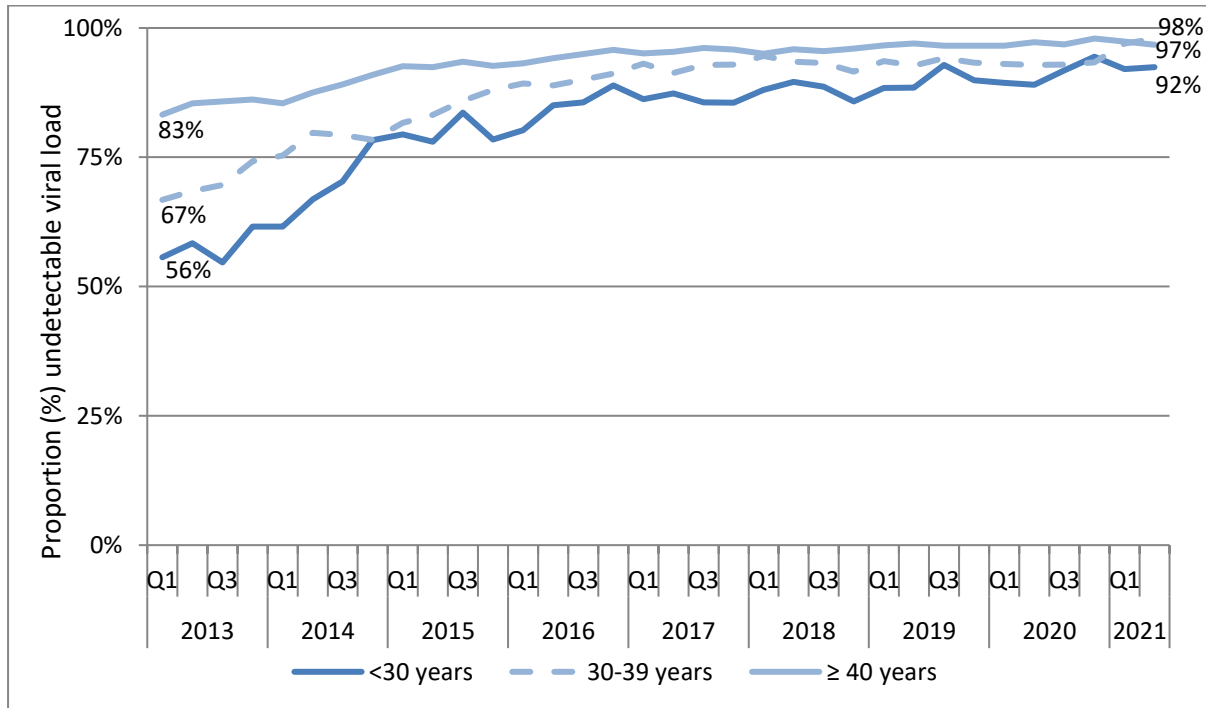
Data source: ACCESS Database, The Kirby Institute and the Burnet Institute

Comments on Figure 39

- 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-Q2 2021.

<sup>28</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually  
Hospital data were not included in analysis

**Figure 40 Proportion of HIV positive patients on treatment at any clinic in the ACCESS network<sup>29</sup> with an 'undetectable'<sup>30</sup> viral load at their most recent test in the previous 12-month period at any clinic in the ACCESS network<sup>31</sup>, by age group and quarter, 1 January 2013 to 30 June 2021**



Comments on Figure 40

- The proportion of HIV positive patients with an undetectable viral load was consistently highest among older patients: 98% of patients 40 years and older had undetectable viral loads in Q2 of 2021.
- Overall, the proportion of patients with an undetectable viral load increased from Q1 2013-Q2 2021

<sup>29</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually

<sup>30</sup> 'Undetectable' defined as <200 RNA copies/mm<sup>3</sup> of blood

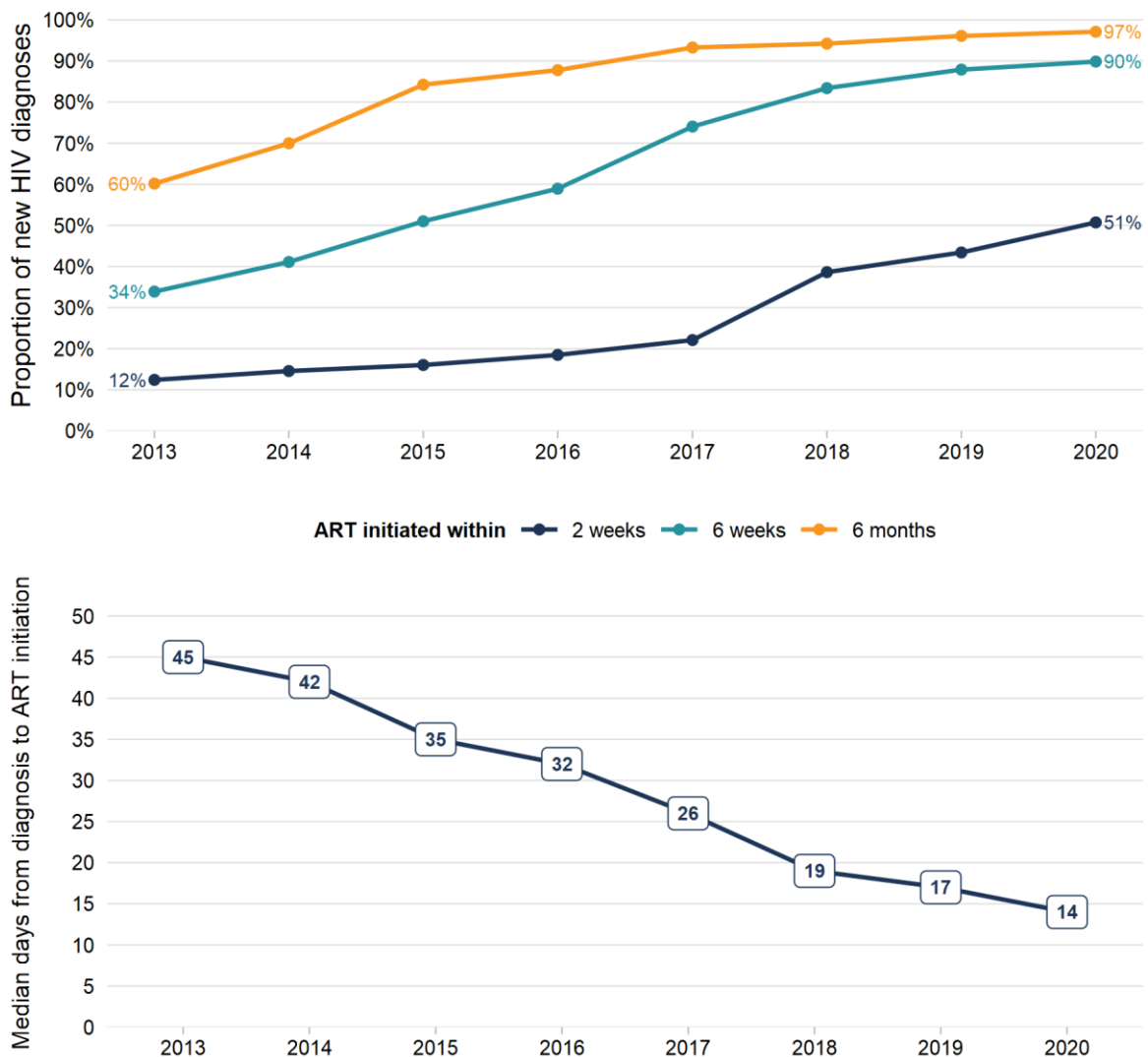
<sup>31</sup> Excludes patients for whom viral load test information was not available

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 Q2 2021 report, the six-month post diagnosis follow-up had been done on NSW residents newly diagnosed from 1 January 2013 to 31 December 2020 (n=2,442). All new diagnoses were included irrespective of whether eligible for follow up and of care outcome.

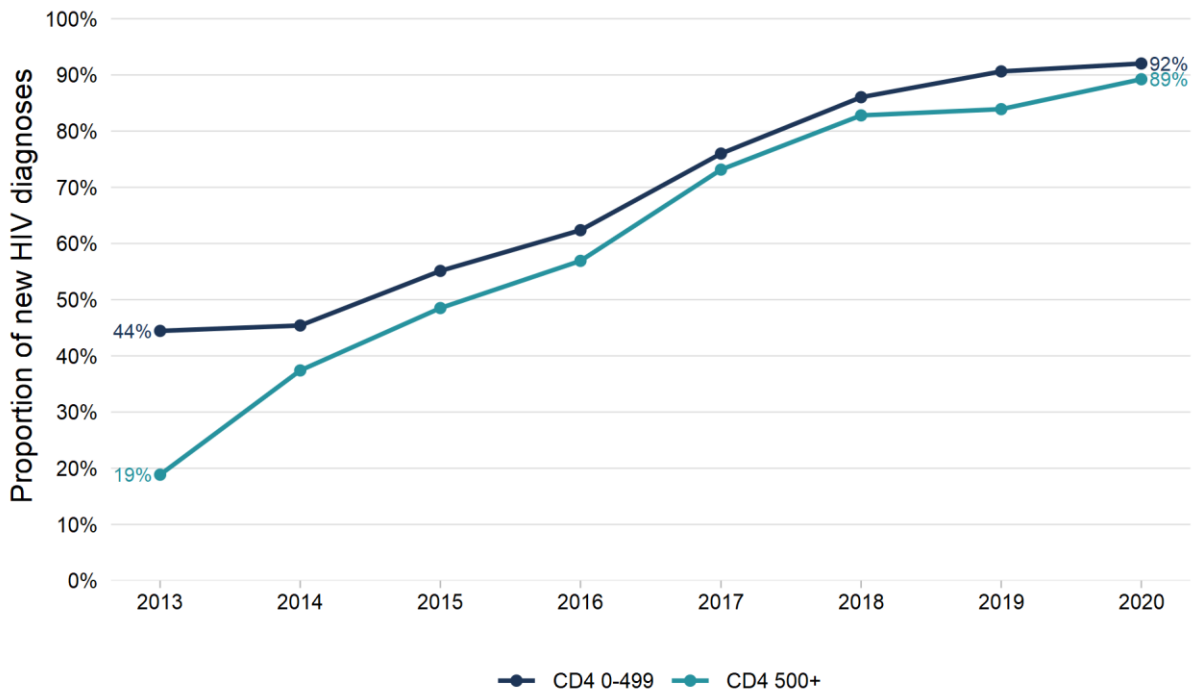
**Figure 41 Time to ART for NSW residents newly diagnosed in January 2013 to December 2020**



Comment on Figure 41

- Of the 207 people newly diagnosed during 2020 and followed up six months post diagnosis, 51% initiated ART within two weeks, 90% within six weeks and 97% within six months of diagnosis. The median time to ART initiation was 14 days. Of the 201 on ART within six months of diagnosis, 172 (86%) were already virally suppressed (VL < 200 copies/mL) at six months follow up.

**Figure 42 CD4 count at diagnosis of NSW residents notified with newly diagnosed HIV infection from January 2013 to December 2020 and % on ART within six weeks of diagnosis**



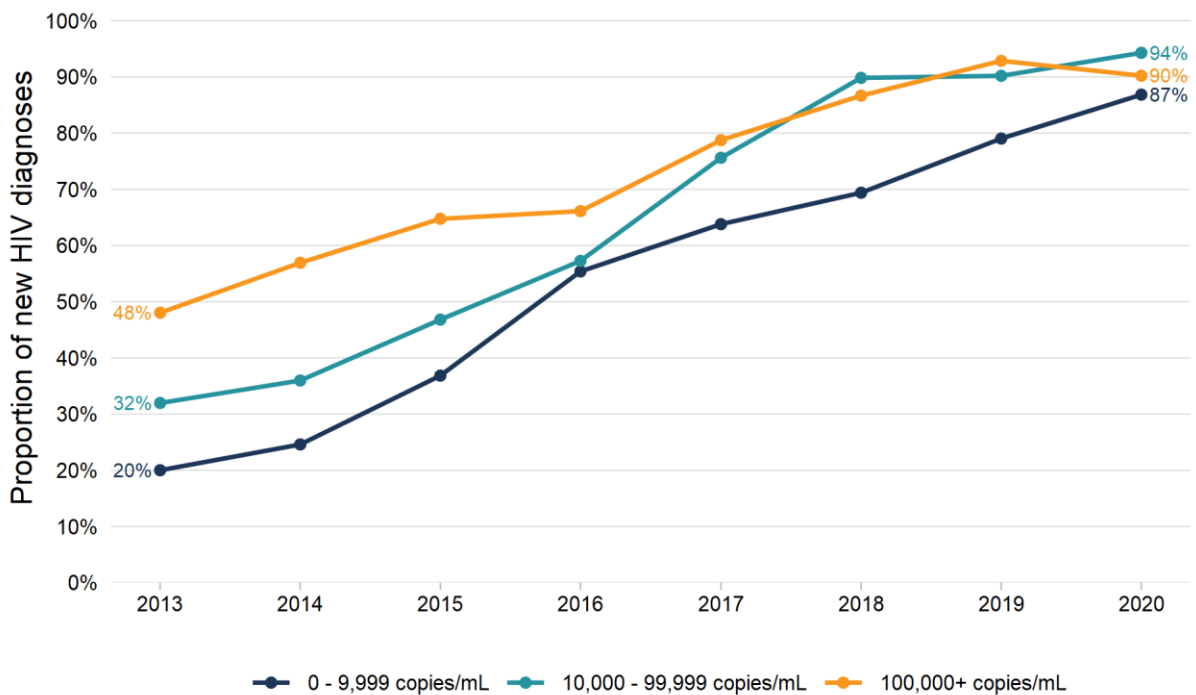
Note: excludes 59 new diagnoses with missing CD4 at diagnosis, some of whom had commenced ART within 6 months.

Comments on Figure 42

- 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 92% of the 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 89% of the 2020 new diagnoses.



**Figure 43 HIV viral load at diagnosis of NSW residents notified with newly diagnosed HIV infection from January 2013 to December 2020 and % on ART within six weeks of diagnosis**



Note: excludes 64 new diagnoses with missing HIV VL at diagnosis, some of whom had commenced ART within 6 months.

Comments on Figure 43

- 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 87% of the 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 94% of the 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 90% of the 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 HIV 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: <a href="http://www.health.nsw.gov.au/Infectious/Pages/notification.aspx">http://www.health.nsw.gov.au/Infectious/Pages/notification.aspx</a>

### 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	Repeated cross-sectional survey of gay and bisexual men recruited at a range of gay community sites in Sydney, with online recruitment across NSW. 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 bisexual men recruited at a range of gay community sites in Sydney, with online recruitment across NSW. 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: <a href="http://www.health.nsw.gov.au/Infectious/Pages/notification.aspx">http://www.health.nsw.gov.au/Infectious/Pages/notification.aspx</a>

## 6. Appendix B: Characteristics of NSW residents notified with newly diagnosed HIV infection 1981 to June 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-Jun 2021	1981-Jun 2021
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
<b>Total (ALL)</b>	<b>333</b>	<b>413</b>	<b>354</b>	<b>343</b>	<b>349</b>	<b>319</b>	<b>312</b>	<b>277</b>	<b>281</b>	<b>207</b>	<b>108</b>	<b>19155</b>
<b>Gender</b>												
<i>Male</i>	312 (93.7%)	376 (91.0%)	324 (91.5%)	317 (92.4%)	320 (91.7%)	293 (91.8%)	282 (90.4%)	254 (91.7%)	252 (89.7%)	182 (87.9%)	95 (88.0%)	17590 (91.8%)
<i>Female</i>	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%)	12 (11.1%)	1254 (6.5%)
<i>Transgender</i>	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 (0.9%)	63 (0.3%)
<i>Unknown</i>	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%)
<b>Aboriginal or Torres Strait Islander person status</b>												
<i>Aboriginal person</i>	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 (0.9%)	221 (1.2%)
<i>Torres Strait Islander</i>	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%)
<i>Non-Aboriginal person</i>	325 (97.6%)	394 (95.4%)	344 (97.2%)	331 (96.5%)	339 (97.1%)	309 (96.9%)	304 (97.4%)	266 (96.0%)	274 (97.5%)	201 (97.1%)	106 (98.1%)	12051 (62.9%)
<i>Not stated</i>	3 (0.9%)	6 (1.5%)	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 (0.9%)	6881 (35.9%)
<b>Age in years at diagnosis</b>												
<i>0-4</i>	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%)
<i>5-9</i>	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%)
<i>10-14</i>	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%)
<i>15-19</i>	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%)
<i>20-24</i>	35 (10.5%)	44 (10.7%)	37 (10.5%)	41 (12.0%)	45 (12.9%)	39 (12.2%)	29 (9.3%)	36 (13.0%)	29 (10.3%)	17 (8.2%)	7 (6.5%)	2304 (12.0%)
<i>25-29</i>	55 (16.5%)	78 (18.9%)	65 (18.4%)	51 (14.9%)	63 (18.1%)	61 (19.1%)	58 (18.6%)	60 (21.7%)	43 (15.3%)	46 (22.2%)	26 (24.1%)	3777 (19.7%)
<i>30-34</i>	65 (19.5%)	71 (17.2%)	48 (13.6%)	64 (18.7%)	62 (17.8%)	64 (20.1%)	57 (18.3%)	50 (18.1%)	67 (23.8%)	44 (21.3%)	18 (16.7%)	3814 (19.9%)
<i>35-39</i>	59 (17.7%)	64 (15.5%)	42 (11.9%)	45 (13.1%)	45 (12.9%)	48 (15.0%)	36 (11.5%)	29 (10.5%)	41 (14.6%)	22 (10.6%)	11 (10.2%)	3120 (16.3%)
<i>40-44</i>	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%)	11 (10.2%)	2304 (12.0%)
<i>45-49</i>	26 (7.8%)	38 (9.2%)	45 (12.7%)	30 (8.7%)	27 (7.7%)	32 (10.0%)	21 (6.7%)	23 (8.3%)	19 (6.8%)	16 (7.7%)	9 (8.3%)	1388 (7.2%)
<i>50-54</i>	25 (7.5%)	28 (6.8%)	24 (6.8%)	25 (7.3%)	28 (8.0%)	18 (5.6%)	19 (6.1%)	18 (6.5%)	19 (6.8%)	14 (6.8%)	6 (5.6%)	869 (4.5%)
<i>55-59</i>	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%)	10 (9.3%)	515 (2.7%)
<i>60-64</i>	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%)	4 (3.7%)	280 (1.5%)
<i>65-69</i>	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%)	4 (3.7%)	161 (0.8%)
<i>70 or over</i>	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%)	2 (1.9%)	102 (0.5%)
<i>Unknown</i>	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-Jun 2021	1981-Jun 2021
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
<b>Total (ALL)</b>	<b>333</b>	<b>413</b>	<b>354</b>	<b>343</b>	<b>349</b>	<b>319</b>	<b>312</b>	<b>277</b>	<b>281</b>	<b>207</b>	<b>108</b>	<b>19155</b>
<b>Reported HIV risk exposure</b>												
<i>MSM</i>	270 (81.1%)	322 (78.0%)	265 (74.9%)	254 (74.1%)	264 (75.6%)	237 (74.3%)	215 (68.9%)	194 (70.0%)	190 (67.6%)	135 (65.2%)	70 (64.8%)	12160 (63.5%)
<i>MSM who injects drugs</i>	11 (3.3%)	15 (3.6%)	16 (4.5%)	20 (5.8%)	21 (6.0%)	25 (7.8%)	17 (5.4%)	25 (9.0%)	26 (9.3%)	20 (9.7%)	9 (8.3%)	650 (3.4%)
<i>HET</i>	41 (12.3%)	58 (14.0%)	61 (17.2%)	50 (14.6%)	52 (14.9%)	48 (15.0%)	68 (21.8%)	51 (18.4%)	56 (19.9%)	40 (19.3%)	26 (24.1%)	1891 (9.9%)
<i>PWID</i>	8 (2.4%)	9 (2.2%)	7 (2.0%)	8 (2.3%)	4 (1.1%)	4 (1.3%)	6 (1.9%)	4 (1.4%)	5 (1.8%)	3 (1.4%)	2 (1.9%)	588 (3.1%)
<i>Blood disorder, blood or tissue recipient</i>	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%)
<i>Vertical transmission</i>	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%)
<i>Other</i>	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%)	2 (1.0%)	0 (0.0%)	56 (0.3%)
<i>Unknown</i>	2 (0.6%)	7 (1.7%)	3 (0.8%)	6 (1.7%)	4 (1.1%)	3 (0.9%)	3 (1.0%)	2 (0.7%)	1 (0.4%)	5 (2.4%)	1 (0.9%)	3477 (18.2%)
<b>LHD of residence</b>												
<i>South Eastern Sydney</i>	124 (37.2%)	150 (36.3%)	126 (35.6%)	112 (32.7%)	129 (37.0%)	84 (26.3%)	92 (29.5%)	85 (30.7%)	73 (26.0%)	50 (24.2%)	32 (29.6%)	5928 (30.9%)
<i>Sydney</i>	89 (26.7%)	113 (27.4%)	91 (25.7%)	84 (24.5%)	86 (24.6%)	95 (29.8%)	71 (22.8%)	63 (22.7%)	61 (21.7%)	36 (17.4%)	16 (14.8%)	3316 (17.3%)
<i>Northern Sydney</i>	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%)	8 (7.4%)	1102 (5.8%)
<i>Western Sydney</i>	31 (9.3%)	25 (6.1%)	27 (7.6%)	26 (7.6%)	20 (5.7%)	24 (7.5%)	27 (8.7%)	24 (8.7%)	30 (10.7%)	25 (12.1%)	8 (7.4%)	861 (4.5%)
<i>South Western Sydney</i>	18 (5.4%)	30 (7.3%)	29 (8.2%)	30 (8.7%)	31 (8.9%)	31 (9.7%)	25 (8.0%)	21 (7.6%)	34 (12.1%)	28 (13.5%)	17 (15.7%)	813 (4.2%)
<i>Hunter New England</i>	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%)	3 (2.8%)	571 (3.0%)
<i>Nepean Blue Mountains</i>	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%)	8 (7.4%)	290 (1.5%)
<i>Illawarra Shoalhaven</i>	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%)	2 (1.9%)	262 (1.4%)
<i>Northern NSW</i>	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%)	5 (4.6%)	244 (1.3%)
<i>Central Coast</i>	4 (1.2%)	10 (2.4%)	5 (1.4%)	8 (2.3%)	5 (1.4%)	11 (3.4%)	12 (3.8%)	5 (1.8%)	2 (0.7%)	5 (2.4%)	2 (1.9%)	233 (1.2%)
<i>Mid North Coast</i>	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%)	162 (0.8%)
<i>Western NSW</i>	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%)	2 (1.9%)	142 (0.7%)
<i>Murrumbidgee-Albury</i>	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%)	117 (0.6%)
<i>Southern NSW</i>	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%)	2 (1.9%)	78 (0.4%)
<i>Far West</i>	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 (0.9%)	12 (0.1%)
<i>Unknown or other</i>	1 (0.3%)	4 (1.0%)	1 (0.3%)	4 (1.2%)	2 (0.6%)	2 (0.6%)	5 (1.6%)	4 (1.4%)	4 (1.4%)	1 (0.5%)	2 (1.9%)	5024 (26.2%)

## 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 <sup>4</sup>
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 <sup>1</sup>	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 <sup>2</sup>	74%	80%	89%	91%	92%	93%	93%	95%	93%	95%	93%	-	-	-
Condoms continue to be an effective way of preventing HIV transmission <sup>3</sup>	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

Meredith Claremont	Advisory Group Chair, 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
Mary Harrod	The NSW Users and AIDS Association (NUAA)

## 10. Appendix F: Postcodes in each area by proportion of male population estimated to be gay

Estimated proportion of adult male population that is gay	Postcode	Suburb(s)
≥20%	2010	Darlinghurst, Surry Hills
	2043	Erskineville
	2015	Beaconsfield, Eveleigh, Alexandria
	2011	Rushcutters Bay, Woolloomooloo, Elizabeth Bay, Potts Point
	2016	Redfern
	2042	Newtown, Enmore
5-19%	2050	Missenden Road, Camperdown
	2017	Waterloo, Zetland
	2044	Tempe, St Peters, Sydenham
	2021	Paddington, Moore Park, Centennial Park
	2008	Chippendale, Darlington
	2797	Garland, Lyndhurst
	2048	Stanmore, Westgate
	2049	Petersham, Lewisham
	2009	Pymont
	2027	Darling Point, Edgecliff, Point Piper
	2205	Wolli Creek, Turrella, Arncliffe
	2037	Forest Lodge, Glebe
	2025	Woollahra
	2204	Marrickville, Marrickville South
	2203	Dulwich Hill
	2028	Double Bay
	2038	Annandale
	2020	Mascot
	2040	Leichhardt, Lilyfield
	2000	The Rocks, Sydney, Millers Point, Haymarket, Barangaroo
	2130	Summer Hill
	2296	Islington
	2007	Ultimo, Broadway
2039	Rozelle	
2022	Queens Park, Bondi Junction	
2060	Waverton, North Sydney, McMahons Point, Lavender Bay	
<5%	All others	All other postcodes